

## Members

Jim Desmond, Chair  
Mayor, City of San Marcos  
(Representing **North County Inland**)

Bill Sandke, Vice Chair  
Councilmember, City of Coronado  
(Representing **South County**)

Georgette Gomez  
Councilmember, **City of San Diego**

Ron Roberts  
Supervisor, **County of San Diego**

Bill Baber  
Councilmember, City of La Mesa  
(Representing **East County**)

Catherine Blakespear  
Mayor, City of Encinitas  
(Representing **North County Coastal**)

David Arambula  
**Metropolitan Transit System**

John Aguilera  
Vice Chair, **North County Transit District**

April Boling  
Director, **San Diego County Regional  
Airport Authority**

Garry Bonelli  
Vice Chair, **San Diego Unified Port District**

## Alternates

Judy Ritter  
Mayor, City of Vista  
(Representing **North County Inland**)

Mary Salas  
Mayor, City of Chula Vista  
(Representing **South County**)

Mark Kersey  
Councilmember, **City of San Diego**

Bill Horn  
Supervisor, **County of San Diego**

Greg Cox  
Supervisor, **County of San Diego**

Jennifer Mendoza  
Councilmember, City of Lemon Grove  
(Representing **East County**)

Jewel Edson  
Councilmember, City of Solana Beach  
(Representing **North County Coastal**)

Lorie Bragg  
**Metropolitan Transit System**

Bill Horn / Mark Packard  
**North County Transit District**

Vacant  
**San Diego County Regional  
Airport Authority**

Michael Zucchet  
Commissioner, **San Diego Unified Port  
District**

## Advisory Members

Tim Gubbins / Ann Fox  
**Caltrans District 11**

Erica Pinto, *Jamul*  
Allen Lawson, *San Pasqual*  
**Southern California Tribal  
Chairmen's Association**

Kim Kawada  
Chief Deputy Executive Director, **SANDAG**



# TRANSPORTATION COMMITTEE AGENDA

Friday, May 4, 2018  
9 a.m. to 12 noon  
**SANDAG Board Room**  
401 B Street, 7th Floor  
San Diego

## AGENDA HIGHLIGHTS

- **TRANSPORTATION PROJECT COST ESTIMATING PROCESS**
- **SPECIALIZED TRANSPORTATION GRANT PROGRAM: UPDATE ON CYCLE 10 CALL FOR PROJECTS**
- **2018 STATE HIGHWAY OPERATION AND PROTECTION PROGRAM**

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# TRANSPORTATION COMMITTEE

Friday, May 4, 2018

| ITEM NO.       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDATION |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| +1.            | <b>APPROVAL OF MEETING MINUTES</b><br><br>The Transportation Committee is asked to review and approve the minutes from its April 20, 2018, meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | APPROVE        |
| 2.             | <b>PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS</b><br><br>Members of the public shall have the opportunity to address the Transportation Committee on any issue within the jurisdiction of the Committee that is not on this agenda. Anyone desiring to speak shall reserve time by completing a "Request to Speak" form and giving it to the Clerk prior to speaking. Public speakers should notify the Clerk if they have a handout for distribution to Committee members. Public speakers are limited to three minutes or less per person. Committee members also may provide information and announcements under this agenda item. |                |
| <b>REPORTS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |
| +3.            | <b><i>TransNet</i> SMART GROWTH INCENTIVE PROGRAM: FUNDING RECOMMENDATION FOR CLIMATE ACTION PLANS AND COMPLETE STREETS POLICY GRANTS (Carolina Ilic)</b><br><br>The Transportation Committee is asked to recommend that the Board of Directors approve the proposed funding recommendation for the City of El Cajon Climate Action Plan grant, funded through the <i>TransNet</i> Smart Growth Incentive Program.                                                                                                                                                                                                                        | RECOMMEND      |
| +4.            | <b>TRANSPORTATION PROJECT COST ESTIMATING PROCESS (Jim Linthicum; Allan Kosup, Caltrans)</b><br><br>An overview will be provided of transportation project cost estimating practices, challenges in managing cost changes, and how changes in cost estimates are communicated with decision-makers.                                                                                                                                                                                                                                                                                                                                       | INFORMATION    |
| +5.            | <b>SPECIALIZED TRANSPORTATION GRANT PROGRAM: UPDATE ON CYCLE 10 CALL FOR PROJECTS (Audrey Porcella)</b><br><br>The Transportation Committee is asked to provide feedback on potential changes to the Specialized Transportation Grant Program evaluation criteria and program requirements.                                                                                                                                                                                                                                                                                                                                               | DISCUSSION     |
| +6.            | <b>FIXING AMERICA'S SURFACE TRANSPORTATION ACT: CONGESTION MITIGATION AND AIR QUALITY PERFORMANCE MANAGEMENT TARGETS (Rachel Kennedy)</b><br><br>The Transportation Committee is asked to provide direction on the Congestion Mitigation and Air Quality performance management targets required by the Fixing America's Surface Transportation Act.                                                                                                                                                                                                                                                                                      | DISCUSSION     |

**+7. 2018 STATE HIGHWAY OPERATION AND PROTECTION PROGRAM (Dawn Vettese; Joe Hull, Caltrans)**

**INFORMATION**

Staff will provide an overview of the 2018 State Highway Operation and Protection Program, which includes nearly \$540 million in funding for projects in the San Diego region.

**8. CONTINUED PUBLIC COMMENTS**

If the five speaker limit for public comments was exceeded at the beginning of this agenda, other public comments will be taken at this time. Subjects of previous agenda items may not again be addressed under public comment.

**9. UPCOMING MEETINGS**

**INFORMATION**

The next meeting of the Transportation Committee is scheduled for Friday, May 18, 2018, at 9 a.m.

**10. ADJOURNMENT**

+ next to an agenda item indicates an attachment



**TRANSPORTATION COMMITTEE  
MAY 4, 2018**

**ACTION REQUESTED: APPROVE**

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**TRANSPORTATION COMMITTEE DISCUSSION AND ACTIONS  
APRIL 20, 2018**

The meeting of the Transportation Committee was called to order by Chair Jim Desmond (North County Inland) at 9 a.m.

**1. APPROVAL OF MEETING MINUTES (APPROVE)**

Action: Upon a motion by Ms. April Boling (San Diego County Airport Authority [SDCRAA]), and a second by Commissioner Garry Bonelli (San Diego Unified Port District [SDUPD]), the Transportation Committee approved the meeting minutes of April 6, 2018. Yes: Chair Desmond, Vice Chair Bill Sandke (South County), Councilmember Georgette Gomez (City of San Diego), Supervisor Bill Horn (County of San Diego), Councilmember Bill Baber (East County), Mayor Catherine Blakespear (North County Coastal), Councilmember David Arambula (Metropolitan Transit System [MTS]), Vice Chair John Aguilera (North County Transit District [NCTD]), Ms. Boling, and Commissioner Bonelli. No: None. Abstain: None. Absent: None.

**2. PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS**

John Wotzka, a member of the public, submitted written comments and spoke about various transportation matters.

**CONSENT**

**3. STATE CAP AND TRADE URBAN GREENING PROGRAM: BALBOA PARK PERSHING BIKEWAY/GREENWAY PROJECT GRANT APPLICATION (ADOPT)**

The Transportation Committee was asked to adopt Resolution No. 2018-16, approving the submission of the Balboa Park Pershing Bikeway/Greenway Project grant application to the California Climate Investments Urban Greening Program.

**4. SPECIALIZED TRANSPORTATION GRANT PROGRAM: PROPOSED 2018 PROGRAM MANAGEMENT PLAN (ADOPT)**

The Transportation Committee was asked to adopt the proposed 2018 Program Management Plan.

5. SPECIALIZED TRANSPORTATION GRANT PROGRAM: QUARTERLY STATUS UPDATE (INFORMATION)

This report provided an update on the progress made by Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310) and *TransNet* Senior Mini-Grant grant recipients.

Action: Upon a motion by NCTD Vice Chair Aguilera, and a second by Councilmember Gomez, the Transportation Committee approved Consent Item Nos. 3 through 5. Yes: Chair Desmond, Vice Chair Sandke, Councilmember Gomez, Supervisor Horn, Councilmember Baber, Mayor Blakespear, Councilmember Arambula, NCTD Vice Chair Aguilera, Ms. Boling, and Commissioner Bonelli. No: None. Abstain: None. Absent: None.

**REPORTS**

6. DRAFT FY 2018 *TransNet* TRIENNIAL PERFORMANCE AUDIT REPORT AND RESPONSES TO RECOMMENDATION (DISCUSSION)

Dustin Fuller, Independent Taxpayer Oversight Committee Chair, Ariana zur Nieden, Senior *TransNet* Program Manager, and Cathy Brady, Sjoberg Evashenk Consulting, Inc. presented the item.

The Transportation Committee discussed the draft FY 2018 *TransNet* Triennial Performance Audit report, including staff responses to recommendations.

Action: This item was presented for discussion.

7. CENTRAL AVENUE BIKEWAY: CALIFORNIA ENVIRONMENTAL QUALITY ACT EXEMPTION (INFORMATION)

Chris Carterette, Associate Regional Planner, presented the item.

Randy Van Vleck, City Heights Community Development Corporation, spoke in support of the item.

Andy Hanshaw, San Diego Bicycle Coalition, spoke in support of the item.

Action: Upon a motion by Mayor Blakespear, and a second by Councilmember Baber, the Transportation Committee approved the California Environmental Quality Act exemption for the Central Avenue Bikeway. Yes: Chair Desmond, Vice Chair Sandke, Councilmember Gomez, Supervisor Horn, Councilmember Baber, Mayor Blakespear, Councilmember Arambula, NCTD Vice Chair Aguilera, Ms. Boling, and Commissioner Bonelli. No: None. Abstain: None. Absent: None.

8. FY 2019 TRANSIT CAPITAL IMPROVEMENT PROGRAM (RECOMMEND)

Kim Monasi, Project Control Manager, presented the item.

Action: Upon a motion by Councilmember Baber, and a second by Vice Chair Sandke, the Transportation Committee recommended that the Board of Directors: (1) approve the submittal of Federal Transit Administration grant applications for the San Diego region;

and (2) adopt Regional Transportation Commission (RTC) Resolution No. RTC-2018-03, approving Amendment No. 11 to the 2016 Regional Transportation Improvement Program. Yes: Chair Desmond, Vice Chair Sandke, Councilmember Gomez, Supervisor Horn, Councilmember Baber, Mayor Blakespear, Councilmember Arambula, NCTD Vice Chair Aguilera, and Commissioner Bonelli. No: None. Abstain: None. Absent: SDCRAA.

9. 2016 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM: AMENDMENT NO. 12 (ADOPT)

Sue Alpert, Associate Project Control Analyst, presented the item.

The 2016 Regional Transportation Improvement Program (2016 RTIP) is the multi-year program of proposed major transportation projects in the San Diego region covering the period FY 2017 to FY 2021.

Action: Upon a motion by Councilmember Baber, and a second by Commissioner Bonelli, the Transportation Committee adopted Resolution No. 2018-17, approving Amendment No. 12 to the 2016 RTIP. Yes: Chair Desmond, Vice Chair Sandke, Councilmember Gomez, Supervisor Horn, Councilmember Baber, Councilmember Arambula, NCTD Vice Chair Aguilera, and Commissioner Bonelli. No: None. Abstain: None. Absent: SDCRAA and North County Coastal.

10. SAN DIEGO FORWARD: THE 2019-2050 REGIONAL PLAN – DEVELOPMENT OF TRANSPORTATION NETWORKS (DISCUSSION)

Muggs Stoll, Director of Land Use and Transportation Planning, presented the item.

Maya Rosas, Circulate San Diego, asked the Transportation Committee to consider two scenarios to include as many projects as possible, with one scenario amending *TransNet* and advancing transit.

The Transportation Committee provided feedback on the proposed process to develop transportation network scenarios for San Diego Forward: The 2019-2050 Regional Plan.

Action: This item was presented for discussion.

11. SANDAG CAPITAL PROGRAM BUDGET: ENVIRONMENTAL AND DESIGN WORK SET-ASIDE (DISCUSSION)

José Nuncio, Director of *TransNet*, presented the item.

Frank Rivera, City of Chula Vista, spoke in support of the item.

The Transportation Committee provided feedback on potential options to include a set-aside dedicated to environmental and design work in the FY 2019 Program Budget.

Action: This item was presented for discussion.

12. CONTINUED PUBLIC COMMENTS

There were no continued public comments.

### 13. UPCOMING MEETINGS

The next meeting of the Transportation Committee is scheduled for Friday, May 4, 2018.

### 14. ADJOURNMENT

Chair Desmond adjourned the meeting at 11:29 a.m.

**CONFIRMED ATTENDANCE  
SANDAG TRANSPORTATION COMMITTEE MEETING  
APRIL 20, 2018**

| JURISDICTION                                | NAME                     | MEMBER / ALTERNATE      | ATTENDING |
|---------------------------------------------|--------------------------|-------------------------|-----------|
| North County Coastal                        | Catherine Blakespear     | Member                  | Yes       |
|                                             | Jewel Edson              | Alternate               | Yes       |
| North County Inland                         | Jim Desmond (Chair)      | Member                  | Yes       |
|                                             | Judy Ritter              | Alternate               | No        |
| East County                                 | Bill Baber               | Member                  | Yes       |
|                                             | Jennifer Mendoza         | Alternate               | Yes       |
| South County                                | Bill Sandke (Vice chair) | Member                  | Yes       |
|                                             | Mary Salas               | Alternate               | No        |
| City of San Diego                           | Georgette Gomez          | Member                  | Yes       |
|                                             | Mark Kersey              | Alternate               | No        |
| County of San Diego                         | Ron Roberts              | Member                  | No        |
|                                             | Bill Horn                | Alternate               | Yes       |
|                                             | Greg Cox                 | Alternate               | No        |
| Metropolitan Transit System                 | David Arambula           | Member                  | Yes       |
|                                             | Lorie Bragg              | Alternate               | Yes       |
| North County Transit District               | John Aguilera            | Member                  | Yes       |
|                                             | Bill Horn                | Alternate               | Yes       |
|                                             | Mark Packard             | Alternate               | No        |
| San Diego County Regional Airport Authority | April Boling             | Member                  | Yes       |
|                                             | VACANT                   | Alternate               | --        |
| San Diego Unified Port District             | Garry Bonelli            | Member                  | Yes       |
|                                             | Michael Zucchet          | Alternate               | No        |
| <b>ADVISORY MEMBERS</b>                     |                          |                         |           |
| Caltrans                                    | Tim Gubbins              | Member                  | No        |
|                                             | Cory Binns               | Alternate               | Yes       |
| SCTCA                                       | Erica Pinto              | Member                  | No        |
|                                             | Allen Lawson             | Member                  | No        |
| Other Attendees                             | Kristina Svensk          | NCTD                    | Yes       |
|                                             | Paul Jablonski           | MTS                     | Yes       |
| Ex Officio                                  | Steve Vaus               | SANDAG Board Vice Chair | Yes       |



**TRANSPORTATION COMMITTEE**

**MAY 4, 2018**

**ACTION REQUESTED: RECOMMEND**

***TransNet* SMART GROWTH INCENTIVE PROGRAM:  
FUNDING RECOMMENDATION FOR CLIMATE ACTION PLANS  
AND COMPLETE STREETS POLICY GRANTS**

File Number 3300100

**Introduction**

The *TransNet* Extension Ordinance provides funding for two SANDAG competitive grant programs: the Smart Growth Incentive Program (SGIP) and the Active Transportation Grant Program (ATGP). Approximately \$30 million is available this cycle — \$27 million for the SGIP and \$3.6 million for the ATGP.

This is the fourth cycle of funding. Two changes are required this cycle based on commitments made in San Diego Forward: The Regional Plan. The new requirements are: (1) a local jurisdiction must have an adopted Climate Action Plan (CAP) and complete streets policy to be eligible to receive SGIP and ATGP funding; and (2) the evaluation criteria must provide greater weight to project proposals that directly reduce greenhouse gas (GHG) emissions. In addition, if a local jurisdiction does not have an adopted CAP or complete streets policy, SANDAG shall make available competitive funding through the grant programs for preparation of a CAP and/or complete streets policy.

On December 15, 2017, the Board of Directors released the [call for projects](#) for the fourth cycle of the *TransNet* SGIP and ATGP. The criteria included a new requirement that local jurisdictions have an adopted CAP and complete streets policy to be eligible for funding.<sup>1</sup> The Board of Directors included up to \$1 million under the SGIP to help jurisdictions meet this new eligibility requirement. Applications were due on March 15, 2018.

**Discussion**

One jurisdiction, the City of El Cajon, submitted an application for CAP funding, and no jurisdictions submitted applications for complete streets policy grants.

**Recommendation**

The Transportation Committee is asked to recommend that the Board of Directors approve the proposed funding recommendation for the City of El Cajon Climate Action Plan grant, funded through the *TransNet* Smart Growth Incentive Program.

<sup>1</sup> This requirement also applies to the *TransNet* Active Transportation Grant Program.

### ***Funding Recommendation***

The City of El Cajon requested \$150,000, accompanied by \$40,000 of matching funds, to prepare its first CAP, conduct a benefit-cost analysis, and complete a California Environmental Quality Act (CEQA) document to meet the requirements of CEQA Guidelines Section 15183.5. The proposal includes a GHG emissions inventory, GHG emissions forecast and reduction targets, GHG emission reduction measures, implementation and monitoring steps, and public outreach efforts, including presence at community events, online media, and a resident leadership academy to support educational and outreach efforts. An eligibility check determined that the application met the eligibility requirements and the 20 percent matching fund requirement. Three evaluators scored the proposal; the proposal averaged a score of 81 percent, and a project ranking of No. 1, given no additional submittals.

On April 11, 2018, the Independent Taxpayer Oversight Committee reviewed and found the proposed El Cajon CAP project consistent with the eligibility requirements of the *TransNet* Extension Ordinance.

### **Next Steps**

On May 4, 2018, the Regional Planning Committee also will be asked to recommend that the Board of Directors approve the funding recommendation for the City of El Cajon CAP project. Pending recommendations from the Regional Planning and Transportation Committees, the Board of Directors is scheduled to consider approval of the funding recommendation on May 25, 2018.

Pending award of the \$150,000 to the City of El Cajon for this project, the remaining \$850,000 would be returned to the SGIP to fund additional projects. The City of El Cajon would have until July 2019 to approve its CAP to be eligible to receive funds from any successful SGIP or ATGP grant application(s) awarded by the Board of Directors in July 2018. If the City of El Cajon does not adopt its CAP by then, funding would be awarded to the next eligible project(s) in ranked order.

CHARLES "MUGGS" STOLL

Director of Land Use and Transportation Planning

Key Staff Contact: Carolina Ilic, (619) 699-1989, carolina.ilic@sandag.org



**TRANSPORTATION COMMITTEE  
MAY 4, 2018**

**ACTION REQUESTED: INFORMATION**

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**TRANSPORTATION PROJECT COST ESTIMATING PROCESS**      File Number 1500000

**Introduction**

The Transportation Committee and Board of Directors have expressed the desire to better understand the cost estimating process for capital transportation projects and the factors that influence the accuracy of those estimates. This report provides an overview of general cost estimating practices that SANDAG and Caltrans use, the challenges in managing and minimizing cost changes, and how changes in cost estimates are communicated with decision-makers.

**Discussion**

Project cost estimates include construction costs, right-of-way acquisition, environmental mitigation, utility relocations, and professional services (support costs for engineering, for example). Since transportation planning can begin up to four decades prior to project construction, staff must use a variety of estimating methodologies and tools to manage the impacts of external cost drivers, project uncertainties, and market volatility.

Developing an estimate requires quantifying the items needed for the project and then estimating unit prices for each item. Those unit prices include materials, equipment, and labor. The ultimate accuracy of this process is affected by many factors, including, but not limited to, market volatility, policy and/or technology changes, litigation, and environmental considerations.

As the project moves from initial planning, to design, and finally to construction, more information is known about specific project features, project risks are better understood and in some cases able to be mitigated, and costs become more certain.

**Project Phases**

**Planning (Feasibility/Project Study Report):** This phase includes developing a range of alternatives to address the identified mobility challenge. The level of design typically is 10 percent when this phase is complete and cost estimates are often expressed as a range, as shown in Attachment 2.

Projects in the planning phase can be especially difficult to accurately estimate because engineering information is limited and construction may be many years away. Planning estimates are often based on a project scope that is still under development and may significantly change as project requirements and stakeholder input is better understood. Most planning level estimates rely heavily on cost data from past similar projects, frequently calculated as dollar per mile.

For these reasons, planning level estimates typically are not used for budgetary purposes and are best used at a program-wide level. For example, cost estimates developed at the planning stage are used to help evaluate and prioritize transportation projects in the latter years of the Regional Transportation Plan, and included in the *TransNet* Major Corridors Plan of Finance to assess financial capacity for the overall program.

**Environmental Studies/Preliminary Engineering:** This phase includes collaboration with project stakeholders (including the public, resource agencies, and local agencies) and typically concludes with the selection of a preferred alternative. When this phase is complete, the level of design typically is 30 percent and cost estimates are often, once again, expressed as a range.

**Design:** In addition to completing engineering, this phase includes assessing constructability, obtaining regulatory permits, developing utility relocation requirements, developing work windows, appraising and negotiating right-of-way acquisition, and completing geotechnical studies. Decisions regarding project phasing, schedule, delivery method, and lifecycle choices also are made during this phase. When this phase is complete, the level of design typically is 100 percent.

**Construction:** This phase typically begins with procurement of the construction contractor. Once procurement is complete, the project estimate consists of the contractor's bid plus a reasonable contingency reserve to address unforeseen field conditions and any necessary construction changes. The actual final cost of the project is established once construction is complete and all outstanding liabilities are settled.

### ***Project Estimating Best Practices***

Construction cost escalation is another factor that affects cost estimates and is subject to significant uncertainty. For example, prior to the early 2000s, construction cost inflation was generally consistent with and mirrored national trends. Beginning in the mid-2000s, there was a significant spike followed by a severe downturn during the Great Recession. We are now seeing another significant spike. These events were unprecedented in magnitude.

SANDAG and Caltrans employ a number of best practices to account for these risks and improve the overall accuracy of estimates both at a program and a project level. These best practices have been developed over time in coordination with national leaders including the Project Management Institute, Federal Transit and Highway Administrations, and American Association of Cost Engineering (AACE). Attachment 1 includes a list of commonly employed Project Cost Estimating Best Practices.

## *Managing Potential Risk*

Since all project estimates have some potential risk, one challenge that agencies face is how much of the potential risk should be addressed in the project budget – frequently referred to as “best case,” “worst case,” and “most likely,” or 3-point estimating. As an example, if a policy decision were made to fund every potential known risk associated with a project (worst case), this would result in focusing the limited funding available on fewer projects. For this reason, some cost risks are managed at a program level (where projects are grouped together within an identified corridor) through an established program contingency budget – with the overall goal of project cost increases balanced by projects coming in lower than budget. This is how the costs on the various Interstate 15 managed lanes projects were managed. Additionally, program decisions can be made to adjust project scope, phasing, and schedules based on regional priority to react to significant changes in construction prices, analogous to how an accordion can be adjusted to achieve desired outcomes.

### **Opportunities for Improvement**

As part of the Plan of Excellence, staff is actively working to simplify reports and increase the frequency of briefings on major capital projects to the Transportation Committee and Board of Directors. As part of this effort, more frequent presentations will be made (at least every six months for large, complex projects), with an emphasis on a description of risks that could impact the cost, scope, or schedule of current projects under way.

Staff also is working to help communicate the dynamic nature of cost estimates so that it is clear throughout the project development process that estimates may and likely will change. The Estimate Classification Matrix shown on Attachment 2 was developed by AACE as a way to communicate the level of certainty for a particular cost estimate. This could be used when adding new projects to the capital budget and when giving project status updates.

JIM LINTHICUM

Director of Mobility Management and Project Implementation

Attachments: 1. Project Cost Estimating: Project Phases, Typical Risks, and Best Practices  
2. Estimate Classification Matrix

Key Staff Contacts: Jim Linthicum, (619) 699-1970, [jim.linthicum@sandag.org](mailto:jim.linthicum@sandag.org)  
Allan Kosup, Caltrans, (619) 688-3611, [allan.kosup@dot.ca.gov](mailto:allan.kosup@dot.ca.gov)

## **Project Cost Estimating: Project Phases, Typical Risks, and Best Practices**

### **Project Delivery Phases**

**Planning (Feasibility/Project Study Report):** This phase includes developing a range of alternatives to address the identified mobility challenge. The level of design is typically 10 percent when this phase is complete and cost estimates are often expressed as a range.

**Environmental Studies/Preliminary Engineering:** Refinement of project requirements occurs through collaboration with project stakeholders (including the public, resource agencies, and local agencies). This phase typically concludes with selection of a preferred alternative. When this phase is complete, the level of design is typically 30 percent and cost estimates are often expressed as a range.

**Design:** In addition to completing engineering, this phase includes assessing constructability, obtaining regulatory permits, developing utility relocation requirements, developing work windows, appraising and negotiating right-of-way acquisition, and completing geotechnical studies. Decisions regarding project phasing, schedule, delivery method, and lifecycle choices are also made during this phase. When this phase is complete, the level of design is typically 100 percent.

**Construction:** This phase typically begins with procurement of the construction contractor. Once procurement is complete the project estimate consists of the contractors bid plus a reasonable contingency reserve to address required changes and unforeseen field conditions. The actual final cost of the project is established once construction is complete and all outstanding liabilities settled.

### **Typical Project and Program Risks**

- Market volatility caused by forces such as industry consolidation, commodity prices (e.g., steel), and competition for resources
- Legislative and public policy changes. Recently, significant changes have included accommodations for sea level rise, changes in water quality requirements, new air emission standards for construction equipment, and tariffs
- Underground utilities and geotechnical conditions
- Impacts of potential technology changes on range of project alternatives
- Right-of-way escalation
- Third party conflicts
- Limited construction access and smaller work windows
- Litigation

## **Cost Estimating Best Practices**

**Risk assessments and project contingencies:** A risk assessment is a structured approach to quantify the probability and impact of potential project risks. Depending on the impact and probability of a risk occurring, potential mitigations can be developed. One such mitigation is establishment of a project contingency. Additionally, many funding agencies establish estimating guidelines that include suggested or required contingencies.

**Independent (Peer) project cost reviews:** For large projects, project teams typically request independent party reviews of costs. Federally-funded projects require this review (cost certification) for highway and rail projects over a certain size.

**Historical price tracking:** Typically, databases of historical bid information for similar projects are referenced as a base for developing future unit prices.

**Cost reporting, change control, and options for amending the project budget:** Current SANDAG business process requires reassessing estimates for planning-level projects every four years during the Regional Transportation Plan update process. Cost estimates for projects under development are updated annually to coincide with the annual Capital Improvement Program update process and at major milestones. Changes to these cost estimates and budgets are communicated to the Transportation Committee and the Board of Directors at project-level and in summary form. In the event that a potential cost increase is identified for projects actively under development, options to amend the project budget could include a request to increase funding for the project, to reduce the scope and phase the project into smaller, usable components that fit the existing budget, or potentially to defer the project until funding is available.

Estimate Classification Matrix

|                     | Estimate Class | Estimate Class Description                                                                                     | Project Phase                             | Purpose of Estimate                                                     | Level of Design (percent complete) | Estimate Basis/Type                                                                                                            | Typical Accuracy* |
|---------------------|----------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Planning            | 5              | No design, little to no project/site specific information                                                      | Pre-Project Studies                       | RTP                                                                     | 0-2                                | Historical, high-level (cost per mile)                                                                                         | -50% to +100%     |
|                     | 4              | Preliminary information to define scope of project                                                             | Project Studies                           | Feasibility/Approval to begin Environmental and Preliminary Engineering | 1-15                               | Mix of historical and engineering; estimated cost of significant items and historical rules of thumb                           | -30% to +50%      |
| Project Development | 3              | Environmental study phase to identify project impacts and determine alternative                                | Environmental Document and Project Report | Refine budget and commit funds                                          | 10-30                              | Mix of historical and engineering; Limited constructability and underground investigation; estimated cost of significant items | -20% to +30%      |
|                     | 2              | Detailed, site specific, plans and specs to determine project features, items, and quantities                  | Plans, Specifications, and Estimates      | Refine budget, address project changes                                  | 30-80                              | Quantity and unit price estimate based on recent low bid similar projects                                                      | -15% to +20%      |
|                     | 1              | Detailed design plans and specifications complete to determine final engineer's estimate and advertise project | Advertisement                             | Refine budget & confirm funding commitment                              | 80-100                             | Engineer's quantity and unit price estimate based on recent low bid similar projects                                           | -15% to +20%      |
| Construction        | 0              | Contractor Bid                                                                                                 | Bid & Award                               | Encumber funds                                                          | 100                                | Awarded contract quantity and unit price                                                                                       | -10% to +15%      |

\* Source: AACE International Recommended Practice 18R-97



**TRANSPORTATION COMMITTEE  
MAY 4, 2018**

**ACTION REQUESTED: DISCUSSION**

**SPECIALIZED TRANSPORTATION GRANT PROGRAM:  
UPDATE ON CYCLE 10 CALL FOR PROJECTS**

File Number 3320200

**Introduction**

The SANDAG Specialized Transportation Grant Program (STGP) funds projects and programs that expand mobility options for seniors and individuals with disabilities. In preparation for the next call for projects, anticipated to be released in summer 2018, staff presented for discussion the draft program goal and objectives to the Transportation Committee on January 19, 2018, and to the Independent Taxpayer Oversight Committee (ITOC) on February 14, 2018. The Transportation Committee and the ITOC also discussed minimum and maximum grant request amounts and the Senior Mini-Grant match requirement. On February 28, 2018, SANDAG hosted a workshop with current grantees and past applicants. In addition to discussing the draft program goal and objectives, minimum and maximum grant request amounts, and Senior Mini-Grant match requirement, workshop attendees discussed cost efficiency and performance indicators as they relate to the evaluation of grant project proposals and monitoring of grant-funded projects.

This report summarizes feedback received to date, outlines potential changes to the evaluation criteria and program requirements in response to feedback received, and provides a brief update on other SANDAG planning efforts related to specialized transportation. The Transportation Committee is asked to discuss potential changes to the evaluation criteria and program requirements.

**Discussion**

***Feedback Received***

Feedback received from the Transportation Committee, the ITOC, and public stakeholders is summarized in Attachment 1. Generally, feedback highlighted the value of service providers of different sizes and maximizing cost efficiency.

***Potential Changes to Program Requirements and Evaluation Criteria***

Prior to each competitive process, released every two years, evaluation criteria and other program requirements are assessed and adjusted based on lessons learned and input from the Board of Directors, Transportation Committee, ITOC, and public stakeholders. In response to the recent feedback received, four questions have been identified for the Transportation Committee's consideration.

### *1. Create Large and Small Categories based upon Amount of Grant Funding Requested?*

To address feedback on competition between large and small agencies for funding, SANDAG could establish large and small categories within the STGP. Two other SANDAG grant programs, the *TransNet* Active Transportation Grant Program (ATGP) and the *TransNet* Environmental Mitigation Program's Land Management Grant Program, separate projects into large and small categories based on the grant request dollar amount. A percentage of available funding is designated towards each category and projects compete against like-sized projects. Evaluators have flexibility to recommend funding awards across categories to ensure all available funding is awarded and to minimize partial funding awards.

While establishing large and small categories within the STGP call for projects may "level the playing field" between large and small agencies, it may unintentionally conflict with an underlying objective of the grant program to maximize the number of riders served and the number of trips provided. An analysis of grant-funded projects from previous cycles shows that agencies requesting greater grant amounts operate transportation programs that serve more people and provide more trips at a lower cost. Establishing large and small categories and separate pools of funding for each will limit the number of large projects that receive funding and in turn, reduce the STGP's overall reach and efficiency. For this reason, it is recommended to maintain the current structure of the STGP whereby all projects, regardless of size, compete against each other for the same pool of funding.

### *2. Constrain Eligible Matching Funds?*

Currently, Senior Mini-Grant funds are an eligible match source for Section 5310 projects and Section 5310 funds are an eligible match source for Senior Mini-Grant funds. In previous cycles, many projects have been successful in receiving grant awards through both funding sources, making the project whole. In an effort to promote longer-term operational sustainability, SANDAG could prohibit this matching of funds. This change would require applicants to secure other funds for match. However, the change could result in a reduction of service. Applicants that rely on both grant funding sources to make their project whole may not be able to secure enough match funds to support current service levels and would need to reduce service to afford to sustain their transportation programs. To avoid service reductions, applicants could pursue other funding sources to use as match. Guidance from the Transportation Committee is sought on this potential change.

### *3. Add Criteria on Project Readiness?*

To address feedback on project readiness, SANDAG could incorporate a project readiness eligibility criterion and/or evaluation criterion. The intent of the new criterion would be to ensure applicants are prepared to implement proposed projects and have the technical capacity to manage a grant. Start-up costs associated with developing project materials, hiring project staff, and advertising the project can drive up the cost of service provision. An eligibility and/or evaluation criterion on project readiness would either require or encourage applicants to achieve a base level of readiness to be able to provide service immediately following a grant award and in a cost-efficient manner.

Initially, when the STGP began distributing funds in 2006, the grants provided start-up or seed monies to several new transportation projects. Projects that benefited from these early start-up grants are now part of the robust social services transportation network that exists in the region today. As the STGP continues to mature, much of the grant funding goes towards sustaining existing transportation services. Prioritizing readiness through an eligibility and/or evaluation criterion may limit innovation and the development of new services in areas identified as transportation gaps. In lieu of or in combination with a project readiness criterion, SANDAG could set aside funding to support planning projects or pilot services that expand the current network and test innovative service provision. Alternatively, the grant program would not pay for the costs to start up the proposed service, but would start funding once the program began in earnest. For reference, the *TransNet* ATGP and SGIP include project readiness criteria for capital grants, but not for planning/non-capital grants. Guidance from the Transportation Committee is also being sought on these options.

#### *4. Incorporate Cost Control Measures?*

To address feedback on cost efficiency, the Transportation Committee is also asked to consider the incorporation of cost control measures both in the evaluation criteria and oversight of grant-funded operating projects. Currently, cost efficiency is measured using a cost per trip metric. A quantitative criterion evaluates cost per trip using a matrix that assumes applicants achieve greater efficiencies over time, as measured by number of years the applicant has been providing transportation services. This criterion could be updated to include a scale of cost per trip ranges as percent reductions of the average regional cost of a paratransit trip provided by Metropolitan Transit System and North County Transit District. A project would be awarded more points for a proposed cost per trip that represents a greater reduction from the regional average cost per paratransit trip. This change would provide a direct relationship for specialized transportation trips within the transportation industry and encourage applicants to propose projects that exhibit greater cost efficiencies.

Cost per trip is also evaluated through a qualitative criterion, which seeks to evaluate the reasonableness of the proposed cost per trip given the parameters or context of the proposed service. Justification for a proposed cost per trip may include service area (urban or rural setting); average miles per trip (higher mileage increases cost per trip); trip grouping (which reduces the cost per trip); or reference to comparable services among other factors. Evaluators have discretion to award points based on applicants' justification. This evaluation criterion could be adjusted to provide evaluators with clearer direction on how to allocate points based on factors affecting cost per trip.

Finally, SANDAG could also establish cost control measures within the oversight and management of grant-funded projects. Like all SANDAG grant programs, STGP funds are distributed to grantees through reimbursement of actual, eligible expenses. SANDAG could continue to distribute STGP funds in this manner, but establish a reimbursement cap using the cost per trip rate identified in the project scope of work. Grantees would receive grant funds equal to the reimbursable expenses or the number of one-way passenger trips provided in a reporting period multiplied by the project's approved cost per trip rate, whichever is less.

### ***Related Planning Efforts***

SANDAG currently has three planning efforts underway addressing specialized transportation in the region that are helping to inform this call for projects to some degree. These planning efforts, which include the Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan), the Flexible Transportation Services for Seniors planning study, and the Specialized Transportation Strategic Plan, as described in Attachment 2, focus on assessing specialized transportation demand and strategies for meeting the needs of seniors and individuals with disabilities. These planning efforts are anticipated to conclude in fall 2018, and therefore, will inform future funding cycles.

### **Next Steps**

Over the next few months, work will continue with stakeholders to review and refine the draft STGP evaluation criteria. Proposed revisions will be brought to the Transportation Committee and the ITOC this summer in anticipation of the Board of Director’s approval of the Cycle 10 call for projects.

CHARLES “MUGGS” STOLL

Director of Land Use and Transportation Planning

Attachments: 1. Summary of Feedback Received  
2. Summary of Current Specialized Transportation Planning Efforts

Key Staff Contact: Audrey Porcella, (619) 699-1961, [audrey.porcella@sandag.org](mailto:audrey.porcella@sandag.org)

### ***Summary of Feedback Received***

To date, feedback on the Specialized Transportation Grant Program (STGP) has been received from the Transportation Committee, the Independent Taxpayer Oversight Committee (ITOC), and public stakeholders consisting of current grantees and past grant applicants.

#### *Transportation Committee*

Comments from the Transportation Committee on January 19, 2018, included:

- Seek the greatest benefit from program funds or “biggest bang for the buck” by emphasizing cost efficiency
- Support trips to social, recreational, and civic activities (which are as important as medical trips in contributing to the health and well-being of seniors and individuals with disabilities) by not limiting trips to a particular trip purpose
- Evaluate the impact of reducing the maximum grant request amount per agency.

Since presenting to the Transportation Committee, a review of the results from the previous funding cycle (Cycle 9) was conducted to determine the impact that lowering the \$500,000 funding cap per agency would have on the funding recommendations. Two scenarios were analyzed: reducing the cap to \$400,000 and \$300,000 per agency. In both cases, there was no change in the mix of large and small grantees that would receive grant funds.

#### *ITOC*

Comments from ITOC on February 14, 2018, included:

- Emphasize cost efficiency and maximize geographic coverage of specialized transportation services
- Evaluate projects based on a comparison of the amount of dollars requested to the service area covered
- Incorporate the concept of project readiness and milestone achievement into the objectives of the grant program
- Consider raising or eliminating the maximum grant request per agency to allow program funds to be awarded to one or two providers that, given greater economies of scale, have the capacity to serve more people or a larger service area at a lower cost
- Evaluate the effectiveness of the grant program and consider alternatives such as issuing a request for proposals for one provider to expend the entire sum of funds, or subsidizing on-demand services, like Uber and Lyft, to provide transportation to seniors
- Support non-profits and local agencies, which have a unique bond with the community and clients they serve
- Determine whether SANDAG has a role in assisting service providers in seeking outside funding to ensure the stability and sustainability of their transportation programs

## *Public Stakeholders*

Feedback from workshop attendees on February 28, 2018, consisting of current grantees, past applicants, and Vice Chair Bill Sandke, included:

- Refine the draft goal and objectives to capture the variety of specialized transportation services and encourage operational sustainability and continuous improvement in service provision
- Maintain current minimum and maximum grant request amounts
- Consider adjusting the match requirement for the Senior Mini-Grant program to be a sliding scale in which applicants that request more grant funds are required to provide matching funds at a higher percentage of the total project cost
- Support both small and large agencies given varying areas of specialty both in terms of type of service provided and specific clients served
- Evaluate the degree to which the STGP should support services that go beyond basic transportation, such as door-through-door services
- Consider alternative metrics to measuring cost efficiency and measuring the overall performance of grant projects such as cost per mile, level of service provided, fulfillment of ride requests, client feedback, and health outcomes among other metrics
- Explore opportunities for coordination such as a coordinated dispatch software and insurance coverage
- Consider incorporating interviews as a part of the project evaluation process
- Develop a regional brand identity for specialized transportation services funded through SANDAG

### ***Summary of Current Specialized Transportation Planning Efforts***

#### *Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan)*

The Coordinated Plan is a federally mandated planning document that SANDAG updates every two years. The Coordinated Plan assesses available transportation services, including services funded through the Specialized Transportation Grant Program; assesses transportation needs of seniors, individuals with disabilities, and persons with limited means; addresses gaps between current service and needs; and identifies funding priorities for service implementation. Staff has been conducting focus groups to seek input on the update. It is anticipated that this effort will conclude in summer 2018. This effort could help inform where the largest gaps in services exist and how SANDAG may want to focus limited grant funds.

#### *Flexible Transportation Services for Seniors*

SANDAG was awarded a Caltrans Transportation Planning grant to study how technology can enhance specialized transportation service provision and provide on-demand transportation for seniors. The study is looking at how other regions have tapped into on-demand transportation services such as Uber, Lyft, taxis, and other third-party transportation providers to supplement paratransit service or provide first-mile and last-mile connections to fixed-route. This study could help inform how such services could be considered in SANDAG grant programs. Work is expected to conclude in summer 2018.

#### *Specialized Transportation Strategic Plan*

Identified as a near term action in San Diego Forward: The Regional Plan, this effort intends to forecast demand for specialized transportation services out to 2050 and develop a comprehensive set of strategies for the region to meet this demand. The strategies will consider coordination with federal, state, and local plans and policies; public-private partnerships; phasing; funding sources; and opportunities for pilot projects. Similar to the other planning efforts, this work will help inform SANDAG's role in the future, both in terms of the grant programs and other transportation planning, including the development of San Diego Forward: The 2019-2050 Regional Plan. Work is expected to conclude in fall 2018.



**TRANSPORTATION COMMITTEE**

**MAY 4, 2018**

**ACTION REQUESTED: DISCUSSION**

**FIXING AMERICA'S SURFACE TRANSPORTATION ACT:  
CONGESTION MITIGATION AND AIR QUALITY PERFORMANCE  
MANAGEMENT TARGETS**

File Number 3100400

**Introduction**

Since 2015, the Federal Highway Administration (FHWA) has issued a number of Final Rules that establish performance requirements under the Moving Ahead for Progress in the 21st Century legislation and are continued under the Fixing America's Surface Transportation Act. The Performance Management 3 (PM 3) rule focuses on reliable travel for people and freight, travel delay, mode share, and emissions reductions.

States and Metropolitan Planning Organizations (MPOs), such as SANDAG, are required to set targets for the performance measures in this rule, which would be reported in the next Regional Plan update and future Regional Transportation Improvement Programs. The data sources and methodologies used for calculating the performance measures, shown in Table 1, are specified in the final rule and federal guidance. The PM 3 rule does not include adverse funding consequences for not achieving significant progress toward state or MPO PM 3 targets (23 CFR 490.109).

The seven performance measures included in PM 3 have varying dates for establishing targets. Staff is seeking direction on possible approaches to setting targets for three performance measures. For each performance measure, options have been identified for consideration. The Transportation Committee is asked to discuss the options and provide direction on which option SANDAG should use to set targets for the San Diego region for inclusion in the next Regional Plan. Target setting for the remaining four performance measures in PM 3 will be discussed with the Transportation Committee at a future meeting.

**Discussion**

Caltrans is leading a multi-agency effort, including the FHWA, MPOs, and other stakeholders, to develop targets for PM 3. The PM 3 final rule requires that states and MPOs containing urban areas with populations of over one million people establish consistent targets for the percent of non-single occupancy vehicle (non-SOV) travel and annual hours of peak-hour excessive delay performance measures by May 20, 2018. Two and four-year targets also need to be established for the total emissions reductions measure submitted to Caltrans via a Congestion Mitigation and Air Quality (CMAQ) Performance Report.

| Table 1                                            |                                                                                                                                  |                      |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------|
| PM 3: Performance Measures                         |                                                                                                                                  |                      |
| Category                                           | Performance Measure                                                                                                              | Target Setting Dates |
| <b>Congestion Mitigation and Air Quality</b>       | Percent of non-SOV travel                                                                                                        | May 20, 2018         |
|                                                    | Annual Hours of Peak-Hour Excessive Delay Per Capita                                                                             | May 20, 2018         |
|                                                    | Total Emissions Reduction                                                                                                        | September 15, 2018   |
| <b>National Highway Performance Program (NHPP)</b> | Percent of person-miles traveled on the Interstate that are reliable                                                             | November 2018        |
|                                                    | Percent of person-miles traveled on the non-Interstate System that are reliable                                                  |                      |
|                                                    | Greenhouse gas performance for the National Highway System (NHS) (delayed implementation and pending repeal)                     |                      |
| <b>Freight Movement on the Interstate System</b>   | Percent of the Interstate System Mileage providing for Reliable Truck Travel Times or Truck Travel Time Reliability (TTTR) Index |                      |

***Percent of non-single occupancy vehicle (non-SOV) travel (commute trips)***

Caltrans and SANDAG must establish mutually agreed upon two and four-year targets for the percent of non-SOV work trips. This measure evaluates the number of work trips made by carpool, public transportation, walk, bike, and work at home (telework) divided by the total work trips. This measure applies to the San Diego urban area as defined by the 2010 Census (Attachment 1) and utilizes data from the five-year average estimate from the American Community Survey (ACS). Data from the 2016 ACS will be used as the baseline data for this performance measure.

Based on a review of data from the 2015 Regional Plan and the ACS, two options are included for discussion. Modeling efforts for the 2015 Regional Plan included regional mode share projections for peak-period work trips and indicated an estimated increase in non-SOV mode share of 1.9 percent between 2012 and 2020. In option 1, shown in Table 2 below, an annual growth rate was applied to the 2016 baseline, in-line with the non-SOV mode share growth estimated in the 2015 Regional Plan between 2012 and 2020. Data from the ACS shows the percent of non-SOV commute-to-work mode share for the San Diego County region has been stable. Between 2012 and 2016, the ACS data shows 23.6 percent to 23.8 percent of trips being made by non-SOV modes. Option 2 includes a flat target,

in line with the historic ACS data, which has not shown substantial change in non-SOV mode share over the past five years.

**Table 2: Percent of Non-SOV Travel Options**

| Percent of Non-SOV Travel    | 2016 Baseline <sup>1</sup> | Two-Year Target (2020) | Four-Year Target (2022) |
|------------------------------|----------------------------|------------------------|-------------------------|
| Option 1: 2015 Regional Plan | 23.8%                      | 24.8%                  | 25.2%                   |
| Option 2: Historic ACS data  | 23.8%                      | 23.8%                  | 23.8%                   |

### ***Annual hours of peak hour excessive delay per capita***

The annual hours of peak hour excessive delay per capita metric<sup>2</sup> includes all roadways in the National Highway System (Attachment 2). For the first reporting period, Caltrans and SANDAG need to establish a four-year target for this measure. Caltrans currently is working to compile the data needed for calculating this performance measure.

As the data needed to calculate this metric is not currently available, staff reviewed data from the State of the Commute Report<sup>3</sup>, which monitors vehicle delay on a number of regional corridors. Attachment 3 highlights annual freeway vehicle delay and population data from 2006-2016. Over this period, delay generally has tracked with economic conditions with a lessening of delay during the 2008-2010 recession and an increase in delay as the economy recovered. The State of the Commute network and calculation methodologies are similar but not the same as this federal performance measure. Therefore, the values of delay for each year will be different; however, the changes over time are anticipated to be similar.

Initial discussions with Caltrans staff have indicated the possibility of establishing a four-year target, which would include a modest decrease in delay, which could be made possible as a result of projects funded with Senate Bill 1 (Beall, 2017). Other ideas raised in coordination meetings with Caltrans and other MPOs were challenges with completing projects with enough impact to affect the MPO urbanized area by 2022.

<sup>1</sup> Data Source: American Community Survey 2016.

<sup>2</sup> Defined as the sum of annual excessive delay, where the speed is less than 20 miles per hour or 60 percent of the posted speed limit. This is weighted by the vehicle class, average vehicle occupancy, and peak hour traffic volume. The primary data sources used to calculate this metric are the National Performance Measure Research Data Set (NPMRDS), and the Highway Performance Monitoring System (HPMS).

<sup>3</sup> Data was reviewed from the 2005, 2010, 2011, 2012, 2013, 2014, and 2015-16 State of the Commute Reports.

**Table 3: Annual Hours of Peak-Hour Excessive Delay per Capita Target Options**

| Annual Hours of Peak-Hour Excessive Delay Per Capita | Four-Year Target              |
|------------------------------------------------------|-------------------------------|
| Option 1: Maintain 2017 Baseline                     | No Change                     |
| Option 2: Modest decrease in delay                   | Modest decrease (improvement) |

**Total on-road emission reduction from CMAQ funded projects**

This performance measure<sup>4</sup> only includes emissions reductions from projects that are funded in part or in full with CMAQ funds. The benefits from this fund source are highly variable due to the varied annual project mix which may be funded with CMAQ dollars and the ability to leverage CMAQ funds for portions of large projects that leads to emissions benefits for the entire project.

The San Diego region receives CMAQ funds in conjunction with its carbon monoxide (CO) maintenance and Ozone non-attainment status. San Diego region CO emissions have been significantly reduced to levels below the federal standard. In June 2018 the CO maintenance designation will end and the region will reach attainment for the federal CO standard. As a result, the annual average CMAQ allotment is expected to be reduced by approximately \$650,000 per year from \$33.4 million starting in FY 2019. Although the San Diego region will no longer be considered a maintenance area for CO, SANDAG will need to continue to set a target for CO for this initial round of target setting. Targets also will be needed for volatile organic compounds (VOC) and nitrogen oxide (NOx) as precursors of ozone. Based on anticipated CMAQ funds, proposed targets are included in Table 4.

**Table 4: Total On-Road Emissions Reduction for CMAQ Projects Target Options**

| Total On-Road Emission Reduction from CMAQ Funded Projects | Two-Year Target |     |                 | Four-Year Target |     |    |
|------------------------------------------------------------|-----------------|-----|-----------------|------------------|-----|----|
|                                                            | VOC             | NOx | CO <sup>5</sup> | VOC              | NOx | CO |
| Option 1 – Proposed Targets(kilograms/day)                 | 170             | 180 | 0               | 340              | 360 | 0  |

<sup>4</sup> Defined to measure the cumulative emissions reductions in kilograms per day for CMAQ funded projects. Criteria pollutants or applicable precursors for the San Diego region include NOx, VOCs, and CO. The required data source is the CMAQ Public Access System.

<sup>5</sup> The CO maintenance period for the San Diego region will end of June 1, 2018. SANDAG will no longer be able to include CO emissions reductions for the purposes of this performance measure.

## **Next Steps**

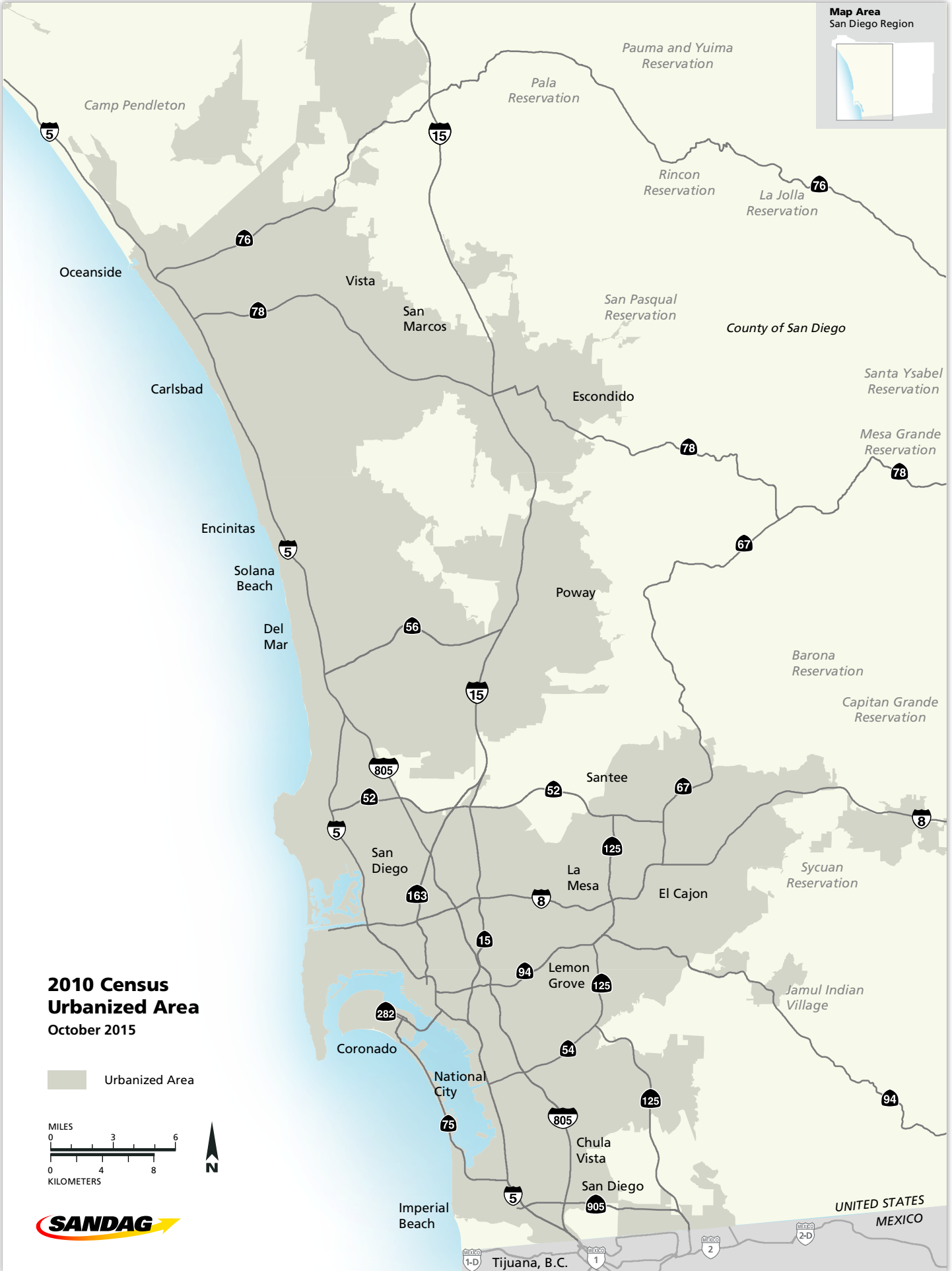
Staff will continue to coordinate with Caltrans and other MPOs on PM 3 target setting and seek the Transportation Committee's input on establishing targets for the remaining PM 3 performance measures in summer/fall 2018.

CHARLES "MUGGS" STOLL

Director of Land Use and Transportation Planning

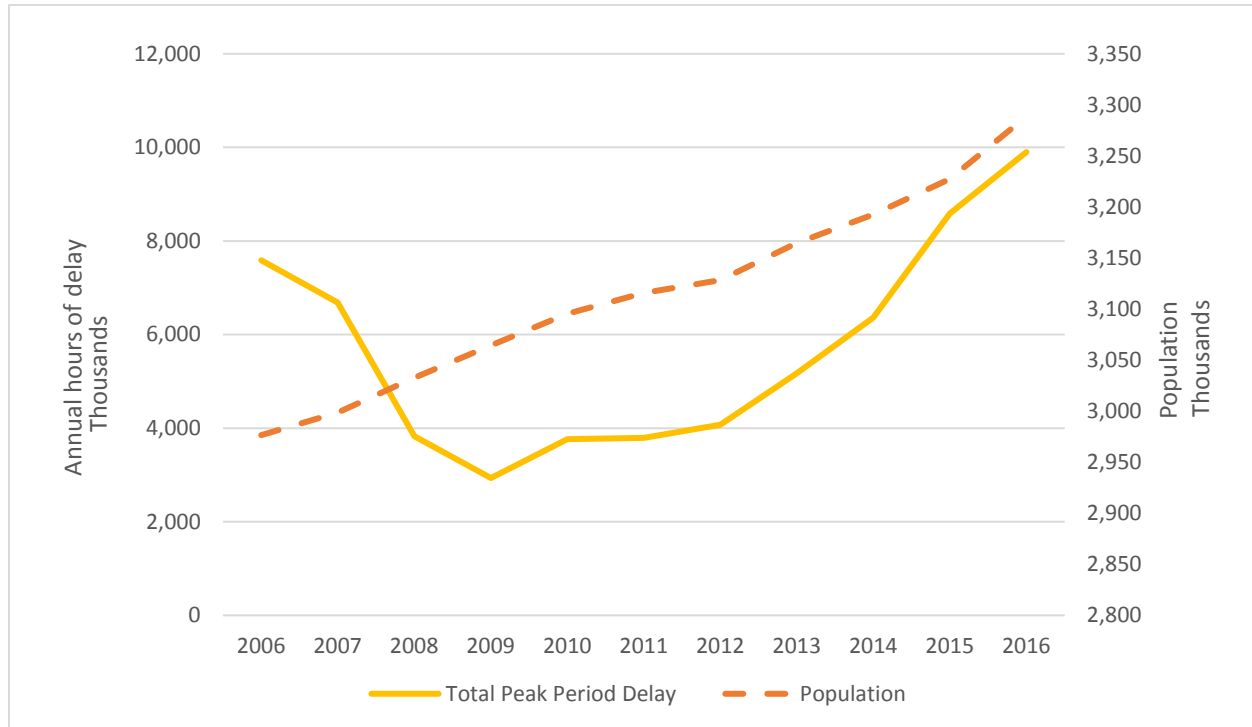
Attachments: 1. Map – 2010 Census Urbanized Area  
2. Map – National Highway System  
3. Annual Freeway Vehicle Delay and Population – State of the Commute

Key Staff Contact: Rachel Kennedy, (619) 699-1929, [rachel.kennedy@sandag.org](mailto:rachel.kennedy@sandag.org)





### Annual Freeway Vehicle Delay and Population State of the Commute





**TRANSPORTATION COMMITTEE  
MAY 4, 2018**

**ACTION REQUESTED: INFORMATION**

**2018 STATE HIGHWAY OPERATION AND  
PROTECTION PROGRAM**

File Number 1500000

**Introduction**

On March 22, 2018, the California Transportation Commission adopted the 2018 State Highway Operation and Protection Program (SHOPP), a four-year program of projects (FY 2019 - FY 2022) to protect, preserve, and rehabilitate state highway system infrastructure. The 2018 SHOPP includes nearly \$540 million in funding for projects in the San Diego region, with more than \$375 million in capital funds.

**Discussion**

The SHOPP is California's "fix-it-first" program that funds repair, preservation, emergency repairs, safety improvements, and some highway operational improvements on the state highway system. Caltrans is mandated to prepare and implement the SHOPP under state law.

With the enactment of Senate Bill 1 (Beall, 2017), \$6.4 billion of programming capacity (an increase of approximately 55%) was added to the four-year 2018 SHOPP funding cycle, for a total of nearly \$18 billion statewide.

***SHOPP Projects in the San Diego Region***

Caltrans District 11 identified 50 projects totaling nearly \$540 million to address various needs within the San Diego region (Attachment 1). In general, these projects make improvements to reduce collisions, raise the condition of pavement and other roadway, bridge, and roadside assets; and provide transportation management systems to more efficiently use the existing infrastructure and relieve congestion. These projects also reflect Caltrans District 11's first effort towards meeting the new performance goals and objectives identified in the Caltrans District 11's Transportation Asset Management Plan.

JOSÉ A. NUNCIO  
TransNet Department Director

Attachment: 1. Caltrans 2018 SHOPP Project List

Key Staff Contacts: Dawn Vettese, (619) 595-5346, dawn.vettese@sandag.org  
Joe Hull, (619) 688-3611, joe.hull@dot.ca.gov

**2018 SHOPP Project List  
San Diego  
(\$1,000)**

Attachment 1



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS | Location/Description | EA<br>Prog Year | Capital | Support | COS<br>Allocation<br>FY | Milestones |
|-------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|
|-------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|

**COLLISION REDUCTION**

|                  |                                                                                                  |         |                            |                |       |                       |
|------------------|--------------------------------------------------------------------------------------------------|---------|----------------------------|----------------|-------|-----------------------|
| 11-San Diego-Var | At various locations, on Routes 5, 8, 15, 52, 54, 56, 67, 75, 76, 78, 94, 125, 163, 805 and 905. | 42490   | R/W: \$0                   | PA&ED: \$498   | 18-19 | PA&ED: 11/18/2019     |
| 1200             | Upgrade and install curve warning signs.                                                         | 2020-21 | Const: \$2,350             | PS&E: \$561    | 19-20 | R/W Cert: 12/15/2020  |
| 1116000094       |                                                                                                  |         |                            | R/W Sup: \$0   |       | RTL: 1/15/2021        |
|                  |                                                                                                  |         |                            | Con Sup: \$497 | 20-21 | Begin Con: 10/15/2021 |
|                  |                                                                                                  |         | Subtotal: \$2,350          | \$1,556        |       |                       |
|                  |                                                                                                  |         | <b>Total Project Cost:</b> | <b>\$3,906</b> |       |                       |

**Program Code** 201.015 Collision Severity Reduction

**Performance Measure** 30 Collision(s) reduced

*New*

|                |                                                                                                               |         |                            |                |       |                      |
|----------------|---------------------------------------------------------------------------------------------------------------|---------|----------------------------|----------------|-------|----------------------|
| 11-San Diego-5 | Near Oceanside, from Fallbrook Overhead to 1.0 mile south of San Onofre Bridge. Install cable safety barrier. | 43001   | R/W: \$11                  | PA&ED: \$660   | 18-19 | PA&ED: 1/22/2019     |
| R55.6/R70.0    |                                                                                                               | 2020-21 | Const: \$5,917             | PS&E: \$917    | 18-19 | R/W Cert: 8/9/2020   |
| 1265           |                                                                                                               |         |                            | R/W Sup:       |       | RTL: 9/9/2020        |
| 1117000116     |                                                                                                               |         |                            | Con Sup: \$988 | 20-21 | Begin Con: 5/24/2021 |
|                |                                                                                                               |         | Subtotal: \$5,928          | \$2,565        |       |                      |
|                |                                                                                                               |         | <b>Total Project Cost:</b> | <b>\$8,493</b> |       |                      |

**Program Code** 201.015 Collision Severity Reduction

**Performance Measure** 56 Collision(s) reduced

*New*

|                |                                                                                                                                                                                                      |         |                            |                |       |                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------|----------------|-------|----------------------|
| 11-San Diego-8 | In San Diego County, on Routes 8, 67, 79, and 94 at various locations. Widen and grade existing hinges at end treatment platforms and to upgrade guardrails and end treatments to current standards. | 42460   | R/W: \$0                   | PA&ED: \$526   | 18-19 | PA&ED: 7/12/2019     |
| 1189           |                                                                                                                                                                                                      | 2020-21 | Const: \$4,552             | PS&E: \$1,046  | 19-20 | R/W Cert: 10/16/2020 |
| 1116000075     |                                                                                                                                                                                                      |         |                            | R/W Sup: \$0   |       | RTL: 11/20/2020      |
|                |                                                                                                                                                                                                      |         |                            | Con Sup: \$824 | 20-21 | Begin Con: 5/4/2021  |
|                |                                                                                                                                                                                                      |         | Subtotal: \$4,552          | \$2,396        |       |                      |
|                |                                                                                                                                                                                                      |         | <b>Total Project Cost:</b> | <b>\$6,948</b> |       |                      |

**Program Code** 201.015 Collision Severity Reduction

**Performance Measure** 43 Collision(s) reduced

*New*

|                 |                                                                                                                                            |         |                            |                  |       |                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------|------------------|-------|----------------------|
| 11-San Diego-52 | In the city of San Diego and Santee, from Route 5 to Route 125. Construct rumble strips, enhance pavement delineation and install barrier. | 42030   | R/W:                       | PA&ED: \$478     | Prior | PA&ED: 3/28/2018     |
| 0.0/14.8        |                                                                                                                                            | 2019-20 | Const: \$4,121             | PS&E: \$1,015    | Prior | R/W Cert: 7/2/2019   |
| 1135            |                                                                                                                                            |         |                            | R/W Sup:         |       | RTL: 7/15/2019       |
| 1115000026      |                                                                                                                                            |         |                            | Con Sup: \$1,317 | 19-20 | Begin Con: 3/16/2020 |
|                 |                                                                                                                                            |         | Subtotal: \$4,121          | \$2,810          |       |                      |
|                 |                                                                                                                                            |         | <b>Total Project Cost:</b> | <b>\$6,931</b>   |       |                      |

**Program Code** 201.015 Collision Severity Reduction

**Performance Measure** 90 Collision(s) reduced

*Carryover*

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS        | Location/Description                                                                                                                                                                                                                | EA<br>Prog Year  | Capital                               | Support                                                         | COS<br>Allocation<br>FY          |                                                                                    | Milestones |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|-----------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------|------------|
| 11-San Diego-VAR<br><br>1168<br>1115000134       | In San Diego County, on various routes at various locations. Construct maintenance vehicle pullouts, pave areas beyond the gore, upgrade crash cushions, reduce maintenance intensive landscaping and relocate irrigation controls. | 41134<br>2018-19 | R/W: \$3<br>Const: \$3,618            | PA&ED: \$409<br>PS&E: \$1,469<br>R/W Sup: \$2<br>Con Sup: \$522 | Prior<br>18-19<br>18-19<br>18-19 | PA&ED: 5/4/2018<br>R/W Cert: 3/29/2019<br>RTL: 5/10/2019<br>Begin Con: 9/20/2019   |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Subtotal: \$3,621                     | \$2,402                                                         |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Total Project Cost:                   |                                                                 | \$6,023                          |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Roadside Safety Improvements/ Freeway |                                                                 |                                  |                                                                                    |            |
| Carryover                                        |                                                                                                                                                                                                                                     |                  | Program Code                          | 201.235 Maintenance Access                                      |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Performance Measure                   | 21 Location(s)                                                  |                                  |                                                                                    |            |
| 11-San Diego-8<br>2.8/5.0<br>1165<br>1114000118  | In the city of San Diego, from east of Route 163 to east of Route 805; also on Route 805, from north of Adams Avenue to south of Route 8 (PM 17.3/17.5). Roadside safety improvements.                                              | 41131<br>2018-19 | R/W: \$3<br>Const: \$5,209            | PA&ED: \$603<br>PS&E: \$2,167<br>R/W Sup: \$3<br>Con Sup: \$770 | Prior<br>18-19<br>18-19<br>18-19 | PA&ED: 5/18/2018<br>R/W Cert: 4/19/2019<br>RTL: 6/7/2019<br>Begin Con: 10/18/2019  |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Subtotal: \$5,212                     | \$3,543                                                         |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Total Project Cost:                   |                                                                 | \$8,755                          |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Roadside Safety Improvements/ Freeway |                                                                 |                                  |                                                                                    |            |
| Carryover                                        |                                                                                                                                                                                                                                     |                  | Program Code                          | 201.235 Maintenance Access                                      |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Performance Measure                   | 48 Location(s)                                                  |                                  |                                                                                    |            |
| 11-San Diego-8<br>5.0/6.0<br>1166<br>1115000132  | In the city of San Diego, from east of Route 805 to east of Route 15; also on Route 15 from north of Adams Avenue to north of Route 8 (PM M5.8/R6.3). Roadside safety improvements.                                                 | 41132<br>2018-19 | R/W: \$3<br>Const: \$3,278            | PA&ED: \$371<br>PS&E: \$1,330<br>R/W Sup: \$2<br>Con Sup: \$474 | Prior<br>Prior<br>Prior<br>18-19 | PA&ED: 4/13/2018<br>R/W Cert: 2/14/2019<br>RTL: 4/12/2019<br>Begin Con: 10/18/2019 |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Subtotal: \$3,281                     | \$2,177                                                         |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Total Project Cost:                   |                                                                 | \$5,458                          |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Roadside Safety Improvements/ Freeway |                                                                 |                                  |                                                                                    |            |
| Carryover                                        |                                                                                                                                                                                                                                     |                  | Program Code                          | 201.235 Maintenance Access                                      |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Performance Measure                   | 25 Location(s)                                                  |                                  |                                                                                    |            |
| 11-San Diego-8<br>6.0/12.0<br>1167<br>1115000133 | In the city of San Diego and La Mesa, from west of Mission Gorge Road to west of Route 125. Roadside safety improvements.                                                                                                           | 41133<br>2019-20 | R/W: \$3<br>Const: \$4,959            | PA&ED: \$565<br>PS&E: \$2,029<br>R/W Sup: \$3<br>Con Sup: \$721 | Prior<br>18-19<br>18-19<br>19-20 | PA&ED: 7/27/2018<br>R/W Cert: 1/17/2020<br>RTL: 3/6/2020<br>Begin Con: 7/17/2020   |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Subtotal: \$4,962                     | \$3,318                                                         |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Total Project Cost:                   |                                                                 | \$8,280                          |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Roadside Safety Improvements/ Freeway |                                                                 |                                  |                                                                                    |            |
| Carryover                                        |                                                                                                                                                                                                                                     |                  | Program Code                          | 201.235 Maintenance Access                                      |                                  |                                                                                    |            |
|                                                  |                                                                                                                                                                                                                                     |                  | Performance Measure                   | 64 Location(s)                                                  |                                  |                                                                                    |            |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS           | Location/Description                                                                                                                                                                                                                                                      | EA<br>Prog Year  | Capital                               | Support                                                           | COS<br>Allocation<br>FY |                                                                                   | Milestones |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|-------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------|------------|
| 11-San Diego-8<br>13.0/17.4<br>1146<br>1112000145   | In El Cajon, at various locations, from 0.5 mile east of Grossmont Boulevard Overcrossing to Second Street Undercrossing. Construct Maintenance Vehicle Pullouts (MVPs), pave beyond gore areas, relocate irrigation controllers and reduce high maintenance landscaping. | 41160<br>2020-21 | R/W: \$0<br>Const: \$4,740            | PA&ED: \$444<br>PS&E: \$1,202<br>R/W Sup: \$0<br>Con Sup: \$1,009 | 18-19<br>18-19<br>20-21 | PA&ED: 3/13/2019<br>R/W Cert: 10/1/2020<br>RTL: 1/21/2021<br>Begin Con: 7/13/2021 |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Subtotal: \$4,740                     | \$2,655                                                           |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                   |                                                                   | \$7,395                 |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Roadside Safety Improvements/ Freeway |                                                                   |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Program Code                          | 201.235 Maintenance Access                                        |                         |                                                                                   |            |
| New                                                 |                                                                                                                                                                                                                                                                           |                  | Performance Measure                   | 84 Location(s)                                                    |                         |                                                                                   |            |
| 11-San Diego-8<br>R18.7/R20.4<br>1250<br>1112000159 | In and near El Cajon, at various locations, from Greenfield Drive to 0.4 mile east of Los Coches Road Undercrossing. Pave beyond gore areas, reduce high maintenance landscaping and relocate irrigation components.                                                      | 41210<br>2021-22 | R/W: \$0<br>Const: \$1,896            | PA&ED: \$346<br>PS&E: \$536<br>R/W Sup: \$0<br>Con Sup: \$448     | 19-20<br>20-21<br>21-22 | PA&ED: 7/30/2020<br>R/W Cert: 5/28/2021<br>RTL: 7/16/2021<br>Begin Con: 1/7/2022  |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Subtotal: \$1,896                     | \$1,330                                                           |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                   |                                                                   | \$3,226                 |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Roadside Safety Improvements/ Freeway |                                                                   |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Program Code                          | 201.235 Maintenance Access                                        |                         |                                                                                   |            |
| New                                                 |                                                                                                                                                                                                                                                                           |                  | Performance Measure                   | 5 Location(s)                                                     |                         |                                                                                   |            |
| 11-San Diego-8<br>49.0<br>1085<br>1112000043        | Near Pine Valley, at Buckman Springs Safety Roadside Rest Area (SRRA). Rehabilitate SRRA sewer and water systems.                                                                                                                                                         | 40910<br>2018-19 | R/W: \$20<br>Const: \$3,275           | PA&ED: \$698<br>PS&E: \$1,251<br>R/W Sup:<br>Con Sup: \$1,034     | Prior<br>Prior<br>18-19 | PA&ED: 3/30/2016<br>R/W Cert: 5/7/2019<br>RTL: 6/28/2019<br>Begin Con: 11/26/2019 |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Subtotal: \$3,295                     | \$2,983                                                           |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                   |                                                                   | \$6,278                 |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Roadside Safety Improvements/ Freeway |                                                                   |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Program Code                          | 201.235 Maintenance Access                                        |                         |                                                                                   |            |
| Carryover                                           |                                                                                                                                                                                                                                                                           |                  | Performance Measure                   | 1 Location(s)                                                     |                         |                                                                                   |            |
| 11-San Diego-52<br>0.4/5.5<br>1219<br>1112000155    | In the city of San Diego, from 0.1 mile east of Route 5 to 0.1 mile east of Convoy Street. Construct Maintenance Vehicle Pullouts (MVPs), pave slopes under bridge structures, pave narrow areas and beyond gores.                                                        | 41180<br>2020-21 | R/W: \$0<br>Const: \$3,296            | PA&ED: \$394<br>PS&E: \$1,118<br>R/W Sup: \$0<br>Con Sup: \$539   | 18-19<br>19-20<br>20-21 | PA&ED: 7/31/2019<br>R/W Cert: 8/30/2020<br>RTL: 9/30/2020<br>Begin Con: 7/30/2021 |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Subtotal: \$3,296                     | \$2,051                                                           |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                   |                                                                   | \$5,347                 |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Roadside Safety Improvements/ Freeway |                                                                   |                         |                                                                                   |            |
|                                                     |                                                                                                                                                                                                                                                                           |                  | Program Code                          | 201.235 Maintenance Access                                        |                         |                                                                                   |            |
| New                                                 |                                                                                                                                                                                                                                                                           |                  | Performance Measure                   | 28 Location(s)                                                    |                         |                                                                                   |            |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS           | Location/Description                                                                                                                                                                                                                                                                                                                                                                                                             | EA<br>Prog Year  | Capital                               | Support                                                            | COS<br>Allocation       |                                                                                    | Milestones |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|--------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|------------|
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |                                       |                                                                    | FY                      |                                                                                    |            |
| 11-San Diego-56<br>0.3/9.7<br>1251<br>1112000157    | In the city of San Diego, from El Camino Real Undercrossing to Route 56/15 Separation. Pave beyond gore areas, relocate irrigation control valve boxes, construct rumble strip.                                                                                                                                                                                                                                                  | 41190<br>2021-22 | R/W: \$0<br>Const: \$2,007            | PA&ED: \$284<br>PS&E: \$629<br>R/W Sup: \$0<br>Con Sup: \$429      | 19-20<br>20-21<br>21-22 | PA&ED: 2/11/2020<br>R/W Cert: 8/2/2021<br>RTL: 10/8/2021<br>Begin Con: 1/27/2022   |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$2,007                     | \$1,342                                                            |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:                   |                                                                    | \$3,349                 |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Roadside Safety Improvements/ Freeway |                                                                    |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Program Code                          | 201.235 Maintenance Access                                         |                         |                                                                                    |            |
| New                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure                   | 106 Location(s)                                                    |                         |                                                                                    |            |
| 11-San Diego-94<br>4.4/7.3<br>1253<br>1112000160    | In the cities of San Diego and Lemon Grove, at various locations from 0.2 mile west of 47th Street Overcrossing to 0.6 mile west of College Avenue Undercrossing. Construct Maintenance Vehicle Pullouts (MVPs), pave areas beyond gore, upgrade guardrail, install concrete barrier/crash cushions, relocate irrigation/electrical equipment and upgrade curb ramps to current Americans with Disabilities Act (ADA) Standards. | 41220<br>2020-21 | R/W: \$0<br>Const: \$2,973            | PA&ED: \$340<br>PS&E: \$901<br>R/W Sup: \$0<br>Con Sup: \$858      | 18-19<br>19-20<br>20-21 | PA&ED: 8/16/2019<br>R/W Cert: 11/22/2020<br>RTL: 1/27/2021<br>Begin Con: 9/17/2021 |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$2,973                     | \$2,099                                                            |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:                   |                                                                    | \$5,072                 |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Roadside Safety Improvements/ Freeway |                                                                    |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Program Code                          | 201.235 Maintenance Access                                         |                         |                                                                                    |            |
| New                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure                   | 38 Location(s)                                                     |                         |                                                                                    |            |
| 11-San Diego-125<br>9.6/13.2<br>1141<br>1112000143  | In the cities of Lemon Grove and San Diego, from 0.1 mile south of Elkeltan Place Undercrossing to Route 94/125 Separation. Construct Maintenance Vehicle Pullouts (MVPs), pave beyond gore areas, replace crash cushions, guardrail with concrete barrier, install access gates, relocate irrigation equipment and remove high maintenance landscaping.                                                                         | 41140<br>2020-21 | R/W: \$0<br>Const: \$5,074            | PA&ED: \$431<br>PS&E: \$864<br>R/W Sup: \$0<br>Con Sup: \$1,660    | 18-19<br>19-20<br>20-21 | PA&ED: 6/6/2019<br>R/W Cert: 7/17/2020<br>RTL: 8/20/2020<br>Begin Con: 5/17/2021   |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$5,074                     | \$2,955                                                            |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:                   |                                                                    | \$8,029                 |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Roadside Safety Improvements/ Freeway |                                                                    |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Program Code                          | 201.235 Maintenance Access                                         |                         |                                                                                    |            |
| New                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure                   | 103 Location(s)                                                    |                         |                                                                                    |            |
| 11-San Diego-805<br>20.7/23.5<br>1142<br>1112000144 | In the city of San Diego, at various locations, from Linda Vista Road Overcrossing to Route 805/52 Separation. Construct Maintenance Vehicle Pullouts (MVPs), install access gates, pave beyond gore areas, reduce high maintenance landscaping, relocate irrigation controls, and upgrade crash cushions.                                                                                                                       | 41150<br>2020-21 | R/W: \$50<br>Const: \$6,542           | PA&ED: \$453<br>PS&E: \$1,033<br>R/W Sup: \$26<br>Con Sup: \$1,038 | 18-19<br>19-20<br>20-21 | PA&ED: 3/14/2019<br>R/W Cert: 1/8/2021<br>RTL: 1/21/2021<br>Begin Con: 7/13/2021   |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$6,592                     | \$2,550                                                            |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:                   |                                                                    | \$9,142                 |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Roadside Safety Improvements/ Freeway |                                                                    |                         |                                                                                    |            |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Program Code                          | 201.235 Maintenance Access                                         |                         |                                                                                    |            |
| New                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure                   | 97 Location(s)                                                     |                         |                                                                                    |            |

**2018 SHOPP Project List  
San Diego  
(\$1,000)**



| Dist-Co-Rte<br>Post Mile<br>PPNO<br>EFIS | Location/Description | EA<br>Prog Year | Capital | Support | COS<br>Allocation<br>FY | Milestones |
|------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|
|------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|

**MANDATES**

|                                                     |                                                                                                                                                                                                                                       |                  |                              |                                                                |                                  |                                                                                    |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|----------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------|
| 11-San Diego-75<br>10.0/11.2<br>1204<br>1115000034  | In Imperial Beach, from Georgia Street to 0.2 mile north of Rainbow Drive. Relinquish roadway to Imperial Beach. Financial Contribution Only (FCO).                                                                                   | 42040<br>2018-19 | R/W: \$0<br>Const: \$5,276   | PA&ED: \$348<br>PS&E: \$0<br>R/W Sup: \$0<br>Con Sup: \$0      | 18-19                            | PA&ED: 9/28/2018<br>R/W Cert:<br>RTL:<br>Begin Con:                                |
|                                                     |                                                                                                                                                                                                                                       |                  | Subtotal: \$5,276            | \$348                                                          |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Total Project Cost:</b>   | <b>\$5,624</b>                                                 |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  |                              |                                                                |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Program Code</b>          | 201.160 Relinquishments                                        |                                  |                                                                                    |
| <i>New</i>                                          |                                                                                                                                                                                                                                       |                  | <b>Performance Measure</b>   | 1.2 Centerline mile(s)                                         |                                  |                                                                                    |
| 11-San Diego-5<br>R31.8/R32.2<br>1203<br>1115000173 | In the city of San Diego, from Carmel Mountain Road Undercrossing to 0.05 mile west of Route 5/56 Separation. Stabilize existing slopes and landscaping from further erosion and sediment deposition into the Los Penasquitos Lagoon. | 42200<br>2020-21 | R/W: \$0<br>Const: \$1,533   | PA&ED: \$283<br>PS&E: \$632<br>R/W Sup: \$0<br>Con Sup: \$892  | 18-19<br>19-20<br>20-21          | PA&ED: 8/21/2019<br>R/W Cert: 7/16/2020<br>RTL: 8/20/2020<br>Begin Con: 3/4/2021   |
|                                                     |                                                                                                                                                                                                                                       |                  | Subtotal: \$1,533            | \$1,807                                                        |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Total Project Cost:</b>   | <b>\$3,340</b>                                                 |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  |                              |                                                                |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Program Code</b>          | 201.335 Storm Water Mitigation                                 |                                  |                                                                                    |
| <i>New</i>                                          |                                                                                                                                                                                                                                       |                  | <b>Performance Measure</b>   | 10 Acre(s) treated/pollutant                                   |                                  |                                                                                    |
| 11-San Diego-5<br>R34.6/R35.1<br>1164<br>1114000028 | In the city of San Diego, from 0.8 mile to 1.0 mile north of Del Mar Heights Road. Repair and enhance detention basin and regrade overflow channel and access road.                                                                   | 41750<br>2019-20 | R/W: \$0<br>Const: \$1,875   | PA&ED: \$241<br>PS&E: \$526<br>R/W Sup: \$0<br>Con Sup: \$702  | Prior<br>18-19<br>19-20          | PA&ED: 7/20/2018<br>R/W Cert: 8/2/2019<br>RTL: 9/20/2019<br>Begin Con: 2/14/2020   |
|                                                     |                                                                                                                                                                                                                                       |                  | Subtotal: \$1,875            | \$1,469                                                        |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Total Project Cost:</b>   | <b>\$3,344</b>                                                 |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  |                              |                                                                |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Program Code</b>          | 201.335 Storm Water Mitigation                                 |                                  |                                                                                    |
| <i>Carryover</i>                                    |                                                                                                                                                                                                                                       |                  | <b>Performance Measure</b>   | 73 Acre(s) treated/pollutant                                   |                                  |                                                                                    |
| 11-San Diego-78<br>2.5/2.7<br>1125<br>1114000027    | In Oceanside, from 0.8 mile to 0.6 mile west of College Boulevard. Stormwater mitigation and slope erosion repair.                                                                                                                    | 41740<br>2018-19 | R/W: \$120<br>Const: \$3,547 | PA&ED: \$276<br>PS&E: \$651<br>R/W Sup: \$50<br>Con Sup: \$984 | Prior<br>18-19<br>18-19<br>18-19 | PA&ED: 1/29/2018<br>R/W Cert: 12/20/2018<br>RTL: 1/29/2019<br>Begin Con: 9/25/2019 |
|                                                     |                                                                                                                                                                                                                                       |                  | Subtotal: \$3,667            | \$1,961                                                        |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Total Project Cost:</b>   | <b>\$5,628</b>                                                 |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  |                              |                                                                |                                  |                                                                                    |
|                                                     |                                                                                                                                                                                                                                       |                  | <b>Program Code</b>          | 201.335 Storm Water Mitigation                                 |                                  |                                                                                    |
| <i>Carryover</i>                                    |                                                                                                                                                                                                                                       |                  | <b>Performance Measure</b>   | 4.3 Acre(s) treated/pollutant                                  |                                  |                                                                                    |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS          | Location/Description                                                                                                                                                                                                                                                                                             | EA<br>Prog Year  | Capital                      | Support                                                             | COS<br>Allocation<br>FY                                |  |                                                                                    | Milestones |  |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|---------------------------------------------------------------------|--------------------------------------------------------|--|------------------------------------------------------------------------------------|------------|--|
| 11-San Diego-Var<br><br>1127<br>1114000056         | In San Diego County, on routes 5, 15, 75 and 163 at various locations. Construct and upgrade curb ramps, driveways and sidewalks to comply with Americans with Disabilities Act (ADA) Standards.                                                                                                                 | 41810<br>2019-20 | R/W: \$110<br>Const: \$2,766 | PA&ED: \$881<br>PS&E: \$2,425<br>R/W Sup: \$101<br>Con Sup: \$1,658 | Prior<br>18-19<br>18-19<br>19-20                       |  | PA&ED: 7/6/2018<br>R/W Cert: 12/9/2019<br>RTL: 1/15/2020<br>Begin Con: 6/30/2020   |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$2,876            | \$5,065                                                             |                                                        |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:          |                                                                     | \$7,941                                                |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Program Code                 |                                                                     | 201.361 Americans with Disabilities Act New Curb Ramps |  |                                                                                    |            |  |
| Carryover                                          |                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure          |                                                                     | 108 Curb ramp(s)                                       |  |                                                                                    |            |  |
| 11-San Diego-8<br>3.0/8.5<br>1227<br>1116000154    | In the city of San Diego, from Mission Center Road to College Avenue. Construct and upgrade pedestrian curb ramps to meet Americans with Disabilities Act (ADA) Standards. Replaced damaged sidewalk and install accessible pedestrian signals.                                                                  | 42710<br>2021-22 | R/W: \$25<br>Const: \$1,107  | PA&ED: \$326<br>PS&E: \$1,148<br>R/W Sup: \$0<br>Con Sup: \$545     | 19-20<br>20-21<br>21-22                                |  | PA&ED: 7/15/2020<br>R/W Cert: 7/21/2021<br>RTL: 11/15/2021<br>Begin Con: 7/15/2022 |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$1,132            | \$2,019                                                             |                                                        |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:          |                                                                     | \$3,151                                                |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Program Code                 |                                                                     | 201.361 Americans with Disabilities Act New Curb Ramps |  |                                                                                    |            |  |
| New                                                |                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure          |                                                                     | 18 Curb ramp(s)                                        |  |                                                                                    |            |  |
| 11-San Diego-94<br>2.6/R11.1<br>1191<br>1116000077 | In and near the cities of San Diego and Lemon Grove, from 32nd Street Undercrossing to Bancroff Drive Undercrossing. Construct and upgrade pedestrian curb ramps and sidewalks to meet current standards.                                                                                                        | 42510<br>2020-21 | R/W: \$465<br>Const: \$2,660 | PA&ED: \$776<br>PS&E: \$1,847<br>R/W Sup: \$714<br>Con Sup: \$833   | 18-19<br>19-20<br>19-20<br>20-21                       |  | PA&ED: 7/1/2019<br>R/W Cert: 4/17/2020<br>RTL: 8/28/2020<br>Begin Con: 12/30/2020  |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$3,125            | \$4,170                                                             |                                                        |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:          |                                                                     | \$7,295                                                |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Program Code                 |                                                                     | 201.361 Americans with Disabilities Act New Curb Ramps |  |                                                                                    |            |  |
| New                                                |                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure          |                                                                     | 51 Curb ramp(s)                                        |  |                                                                                    |            |  |
| 11-San Diego-805<br>3.5/13.1<br>1248<br>1117000045 | In various cities, from Main Street/Auto Park Drive Undercrossing to Market Street Overcrossing. Construct and upgrade pedestrian curb ramps to meet Americans with Disabilities Act (ADA) Standards. Replace pedestrian signal heads, push buttons and relocate pull boxes, light poles and controller cabinet. | 42900<br>2021-22 | R/W: \$12<br>Const: \$3,098  | PA&ED: \$843<br>PS&E: \$1,960<br>R/W Sup: \$0<br>Con Sup: \$1,189   | 19-20<br>20-21<br>21-22                                |  | PA&ED: 7/15/2020<br>R/W Cert: 7/21/2021<br>RTL: 11/15/2021<br>Begin Con: 7/15/2022 |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Subtotal: \$3,110            | \$3,992                                                             |                                                        |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Total Project Cost:          |                                                                     | \$7,102                                                |  |                                                                                    |            |  |
|                                                    |                                                                                                                                                                                                                                                                                                                  |                  | Program Code                 |                                                                     | 201.361 Americans with Disabilities Act New Curb Ramps |  |                                                                                    |            |  |
| New                                                |                                                                                                                                                                                                                                                                                                                  |                  | Performance Measure          |                                                                     | 49 Curb ramp(s)                                        |  |                                                                                    |            |  |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist-Co-Rte<br>Post Mile<br>PPNO<br>EFIS | Location/Description | EA<br>Prog Year | Capital | Support | COS<br>Allocation<br>FY | Milestones |
|------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|
|------------------------------------------|----------------------|-----------------|---------|---------|-------------------------|------------|

**BRIDGE PRESERVATION**

|                                             |                                                                                                                                |                  |                              |                                                               |                         |                                                                                   |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|---------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------|
| 11-San Diego-8<br>2.2<br>1256<br>1116000045 | In the city of San Diego, at the east Route 8 to south Route 163 Connector Overcrossing No. 57-0355G. Bridge rail replacement. | 26410<br>2020-21 | R/W: \$426<br>Const: \$1,441 | PA&ED: \$374<br>PS&E: \$969<br>R/W Sup: \$0<br>Con Sup: \$848 | 18-19<br>19-20<br>20-21 | PA&ED: 7/2/2019<br>R/W Cert: 10/26/2020<br>RTL: 11/6/2020<br>Begin Con: 3/11/2021 |
|                                             |                                                                                                                                |                  | Subtotal: \$1,867            | \$2,191                                                       |                         |                                                                                   |
|                                             |                                                                                                                                |                  | <b>Total Project Cost:</b>   | <b>\$4,058</b>                                                |                         |                                                                                   |

**Program Code** 201.112 Bridge Rail Replacement and Upgrade

**Performance Measure** 318.0 Linear feet

*New*

|                                                   |                                                                                                                                                                                                                                 |                  |                                  |                                                                         |       |                                                                                 |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------|-------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------|
| 11-San Diego-805<br>8.4/8.8<br>1280<br>1117000215 | In and near Chula Vista, from 0.2 mile south of Sweetwater River Bridge No. 57-0638R/L to Route 54. Upgrade bridge rails, widen bridges to make standard, and repair approach slabs, joint seals, gore pavement, and shoulders. | 43018<br>2018-19 | R/W: \$18,367<br>Const: \$18,367 | PA&ED: \$5,023<br>PS&E: \$5,023<br>R/W Sup: \$5,023<br>Con Sup: \$5,023 | 18-19 | PA&ED: 8/31/2017<br>R/W Cert: 6/1/2018<br>RTL: 6/15/2018<br>Begin Con: 1/3/2019 |
|                                                   |                                                                                                                                                                                                                                 |                  | Subtotal: \$18,367               | \$5,023                                                                 |       |                                                                                 |
|                                                   |                                                                                                                                                                                                                                 |                  | <b>Total Project Cost:</b>       | <b>\$23,390</b>                                                         |       |                                                                                 |

**Program Code** 201.112 Bridge Rail Replacement and Upgrade

**Performance Measure** 2000.0 Linear feet

*New*

|                                        |                                                                                                                                                         |                  |                                |                                                                 |                |                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------|-----------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|
| 11-San Diego-VAR<br>1221<br>1116000144 | In San Diego County, at various locations. Apply methacrylate to bridge decks, replace joint seals, repair unsound concrete and replace approach slabs. | 42690<br>2018-19 | R/W: \$3,542<br>Const: \$3,542 | PA&ED: \$663<br>PS&E: \$663<br>R/W Sup: \$733<br>Con Sup: \$733 | Prior<br>18-19 | PA&ED: 12/15/2016<br>R/W Cert: 12/5/2018<br>RTL: 12/7/2018<br>Begin Con: 4/5/2019 |
|                                        |                                                                                                                                                         |                  | Subtotal: \$3,542              | \$1,396                                                         |                |                                                                                   |
|                                        |                                                                                                                                                         |                  | <b>Total Project Cost:</b>     | <b>\$4,938</b>                                                  |                |                                                                                   |

**Program Code** 201.119 Bridge Preventative Maintenance

**Performance Measure** 35 Bridge(s)

*Carryover*

**ROADWAY PRESERVATION**

|                                                  |                                                                                                                                                                                                                                 |                  |                               |                                                                    |                                  |                                                                                  |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------|--------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------|
| 11-San Diego-54<br>0.0/6.4<br>1188<br>1116000068 | In and near National City and Chula Vista, from Route 54/5 Separation to the Route 54/125 Junction. Rehabilitate flexible and rigid pavement on the traveled way, shoulders, ramps and connectors, upgrade guard rail and dike. | 42480<br>2021-22 | R/W: \$297<br>Const: \$21,329 | PA&ED: \$709<br>PS&E: \$2,260<br>R/W Sup: \$24<br>Con Sup: \$2,513 | 18-19<br>19-20<br>19-20<br>21-22 | PA&ED: 2/3/2020<br>R/W Cert: 8/27/2021<br>RTL: 10/20/2021<br>Begin Con: 5/5/2022 |
|                                                  |                                                                                                                                                                                                                                 |                  | Subtotal: \$21,626            | \$5,506                                                            |                                  |                                                                                  |
|                                                  |                                                                                                                                                                                                                                 |                  | <b>Total Project Cost:</b>    | <b>\$27,132</b>                                                    |                                  |                                                                                  |

**Program Code** 201.121 Pavement Rehabilitation (CAPM)

**Performance Measure** 43.2 Lane mile(s)

*New*

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS            | Location/Description                                                                                                                                                                                                                                                                                                                                | EA<br>Prog Year  | Capital                         | Support                                                                 | COS<br>Allocation                      |                                                                                     | Milestones |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------|-------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------|------------|
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  |                                 |                                                                         | FY                                     |                                                                                     |            |
| 11-San Diego-78<br>N17.6/R21.4<br>1162<br>1115000042 | In and near Escondido, from west of North<br>Broadway to Teepee Drive. Pavement<br>rehabilitation.                                                                                                                                                                                                                                                  | 41930<br>2019-20 | R/W: \$3,136<br>Const: \$17,731 | PA&ED: \$1,180<br>PS&E: \$2,790<br>R/W Sup: \$2,168<br>Con Sup: \$2,643 | Prior<br>18-19<br>18-19<br>19-20       | PA&ED: 7/13/2018<br>R/W Cert: 1/7/2020<br>RTL: 1/23/2020<br>Begin Con: 9/2/2020     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Subtotal: \$20,867              | \$8,781                                                                 |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Total Project Cost:             |                                                                         | \$29,648                               |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  |                                 |                                                                         |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Program Code                    |                                                                         | 201.121 Pavement Rehabilitation (CAPM) |                                                                                     |            |
| Carryover                                            |                                                                                                                                                                                                                                                                                                                                                     |                  | Performance Measure             |                                                                         | 13.9 Lane mile(s)                      |                                                                                     |            |
| 11-San Diego-94<br>R10.4/14.9<br>1177<br>1115000041  | In the city of San Diego, from Spring Street to<br>Route 54. Pavement rehabilitation.                                                                                                                                                                                                                                                               | 42000<br>2019-20 | R/W: \$159<br>Const: \$11,312   | PA&ED: \$505<br>PS&E: \$1,252<br>R/W Sup: \$10<br>Con Sup: \$1,537      | Prior<br>Prior<br>Prior<br>19-20       | PA&ED: 1/19/2018<br>R/W Cert: 10/28/2019<br>RTL: 11/26/2019<br>Begin Con: 6/16/2020 |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Subtotal: \$11,471              | \$3,304                                                                 |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Total Project Cost:             |                                                                         | \$14,775                               |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  |                                 |                                                                         |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Program Code                    |                                                                         | 201.121 Pavement Rehabilitation (CAPM) |                                                                                     |            |
| Carryover                                            |                                                                                                                                                                                                                                                                                                                                                     |                  | Performance Measure             |                                                                         | 21.2 Lane mile(s)                      |                                                                                     |            |
| 11-San Diego-125<br>13.0/22.3<br>1257<br>1116000061  | Near La Mesa and in Santee, from 0.2 mile<br>south of Route 125/94 Separation to Mission<br>Gorge Road. Rehabilitate pavement by grinding<br>and replacing concrete slabs and cold plane and<br>overlay shoulders with Rubberized Hot Mix<br>Asphalt (RHMA-G).                                                                                      | 42380<br>2021-22 | R/W: \$252<br>Const: \$34,185   | PA&ED: \$1,383<br>PS&E: \$2,541<br>R/W Sup: \$53<br>Con Sup: \$3,863    | Prior<br>19-20<br>19-20<br>21-22       | PA&ED: 12/2/2019<br>R/W Cert: 9/30/2021<br>RTL: 11/9/2021<br>Begin Con: 6/8/2022    |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Subtotal: \$34,437              | \$7,840                                                                 |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Total Project Cost:             |                                                                         | \$42,277                               |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  |                                 |                                                                         |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Program Code                    |                                                                         | 201.121 Pavement Rehabilitation (CAPM) |                                                                                     |            |
| Carryover                                            |                                                                                                                                                                                                                                                                                                                                                     |                  | Performance Measure             |                                                                         | 49.5 Lane mile(s)                      |                                                                                     |            |
| 11-San Diego-8<br>R31.8/R41.7<br>1255<br>1116000059  | Near Alpine, from Viejas Creek Bridge to Pine<br>Valley Creek Bridge. Grind, remove and<br>replace Jointed Plain Concrete Pavement (JPCP)<br>lanes, remove and replace asphalt concrete<br>outside shoulders and cold plane and overlay<br>inside shoulders. Upgrade guardrail, replace<br>approach/departure slabs and construct rumble<br>strips. | 42370<br>2021-22 | R/W:<br>Const: \$43,768         | PA&ED: \$936<br>PS&E: \$3,276<br>R/W Sup:<br>Con Sup: \$5,479           | Prior<br>19-20<br>21-22                | PA&ED: 12/4/2019<br>R/W Cert: 9/21/2021<br>RTL: 11/3/2021<br>Begin Con: 3/14/2022   |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Subtotal: \$43,768              | \$9,691                                                                 |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Total Project Cost:             |                                                                         | \$53,459                               |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  |                                 |                                                                         |                                        |                                                                                     |            |
|                                                      |                                                                                                                                                                                                                                                                                                                                                     |                  | Program Code                    |                                                                         | 201.122 Roadway Rehabilitation (2R)    |                                                                                     |            |
| Carryover                                            |                                                                                                                                                                                                                                                                                                                                                     |                  | Performance Measure             |                                                                         | 22.8 Lane mile(s)                      |                                                                                     |            |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS               | Location/Description                                                                                                                                                                                                                                              | EA<br>Prog Year  | Capital                      | Support                                                                 | COS<br>Allocation<br>FY          | Milestones                                                                          |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|-------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| 11-San Diego-Var<br><br>1134<br>1114000063              | In San Diego County, on various routes at various locations. Culvert rehabilitation.                                                                                                                                                                              | 41820<br>2018-19 | R/W: \$483<br>Const: \$2,646 | PA&ED: \$568<br>PS&E: \$988<br>R/W Sup: \$418<br>Con Sup: \$718         | Prior<br>18-19<br>18-19<br>18-19 | PA&ED: 7/20/2018<br>R/W Cert: 5/22/2019<br>RTL: 6/3/2019<br>Begin Con: 10/18/2019   |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | Subtotal: \$3,129                                                       | \$2,692                          |                                                                                     |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | <b>Total Project Cost:</b>                                              | <b>\$5,821</b>                   |                                                                                     |
| <b>Program Code</b> 201.151 Drainage System Restoration |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| <b>Performance Measure</b> 7 Culvert(s) (ea)            |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| 11-San Diego-8<br>L0.7/R23.0<br>1246<br>1117000028      | In San Diego County, at various locations, from 0.5 mile west of Midway Drive Undercrossing to 0.6 mile west of Flinn Springs Road Undercrossing. Repair, rehabilitate and replace culvert systems.                                                               | 42810<br>2019-20 | R/W: \$80<br>Const: \$8,367  | PA&ED: \$1,173<br>PS&E: \$1,590<br>R/W Sup: \$2,020<br>Con Sup: \$2,020 | Prior<br>18-19<br>19-20<br>19-20 | PA&ED: 11/26/2018<br>R/W Cert: 2/4/2020<br>RTL: 3/30/2020<br>Begin Con: 10/8/2020   |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | Subtotal: \$8,447                                                       | \$4,783                          |                                                                                     |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | <b>Total Project Cost:</b>                                              | <b>\$13,230</b>                  |                                                                                     |
| <b>Program Code</b> 201.151 Drainage System Restoration |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| <b>Performance Measure</b> 100 Culvert(s) (ea)          |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| 11-San Diego-8<br>R23.0/R61.3<br>1194<br>1115000178     | In San Diego County, from 0.7 mile west of Flinn Springs Road Undercrossing to 0.2 mile east of Crestwood Road Undercrossing. Rehabilitate culverts and energy dissipaters.                                                                                       | 42210<br>2019-20 | R/W: \$75<br>Const: \$11,773 | PA&ED: \$1,077<br>PS&E: \$2,346<br>R/W Sup: \$519<br>Con Sup: \$2,836   | Prior<br>Prior<br>Prior<br>19-20 | PA&ED: 2/2/2018<br>R/W Cert: 5/23/2019<br>RTL: 7/24/2019<br>Begin Con: 3/20/2020    |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | Subtotal: \$11,848                                                      | \$6,778                          |                                                                                     |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | <b>Total Project Cost:</b>                                              | <b>\$18,626</b>                  |                                                                                     |
| <b>Program Code</b> 201.151 Drainage System Restoration |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| <b>Performance Measure</b> 43 Culvert(s) (ea)           |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| 11-San Diego-78<br>0.0/R16.5<br>1247<br>1115000180      | In San Diego County, at various locations from 0.1 mile east of Route 78/5 Separation to Route 15/78 Separation. Rehabilitate and replace culverts including invert paving, joint repair grouting, Cured-in-Place Pipeliner (CIPP) and drainage inlet lid repair. | 42230<br>2021-22 | R/W: \$204<br>Const: \$8,519 | PA&ED: \$811<br>PS&E: \$1,469<br>R/W Sup: \$212<br>Con Sup: \$2,047     | Prior<br>19-20<br>19-20<br>21-22 | PA&ED: 3/18/2020<br>R/W Cert: 12/10/2021<br>RTL: 12/10/2021<br>Begin Con: 6/13/2022 |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | Subtotal: \$8,723                                                       | \$4,539                          |                                                                                     |
|                                                         |                                                                                                                                                                                                                                                                   |                  |                              | <b>Total Project Cost:</b>                                              | <b>\$13,262</b>                  |                                                                                     |
| <b>Program Code</b> 201.151 Drainage System Restoration |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |
| <b>Performance Measure</b> 65 Culvert(s) (ea)           |                                                                                                                                                                                                                                                                   |                  |                              |                                                                         |                                  |                                                                                     |

**2018 SHOPP Project List  
San Diego  
(\$1,000)**



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS        | Location/Description                                                                                                           | EA<br>Prog Year  | Capital                    | Support                                                     | COS<br>Allocation                         |  |                                                                                    | Milestones |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|-------------------------------------------------------------|-------------------------------------------|--|------------------------------------------------------------------------------------|------------|
|                                                  |                                                                                                                                |                  |                            |                                                             | FY                                        |  |                                                                                    |            |
| 11-San Diego-5<br>0.4/72.4<br>1237<br>1116000097 | In San Diego County, at various locations on various routes. Replace aging roadside sign panels with retroreflective sheeting. | 42550<br>2019-20 | R/W: \$0<br>Const: \$1,962 | PA&ED: \$0<br>PS&E: \$355<br>R/W Sup: \$0<br>Con Sup: \$325 | \$0<br>18-19<br>\$0<br>19-20              |  | PA&ED: 6/30/2016<br>R/W Cert: 7/16/2019<br>RTL: 11/21/2019<br>Begin Con: 7/14/2020 |            |
|                                                  |                                                                                                                                |                  | Subtotal: \$1,962          |                                                             | \$680                                     |  |                                                                                    |            |
|                                                  |                                                                                                                                |                  | Total Project Cost:        |                                                             | \$2,642                                   |  |                                                                                    |            |
|                                                  |                                                                                                                                |                  |                            |                                                             |                                           |  |                                                                                    |            |
|                                                  |                                                                                                                                |                  |                            | Program Code                                                | 201.170 Signs and Lighting Rehabilitation |  |                                                                                    |            |
| New                                              |                                                                                                                                |                  |                            | Performance Measure                                         | 936 Sign(s)                               |  |                                                                                    |            |

**MOBILITY**

|                                                     |                                                                                                                                                                |                  |                                                                |                 |                                         |                                    |                                                                                    |                                                                                   |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------|-----------------|-----------------------------------------|------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 11-San Diego-5<br>R28.6/R29.3<br>1136<br>1114000074 | In the city of San Diego, from north of La Jolla Village Drive to south of Genesee Avenue, on southbound. Construct a 0.5 mile auxiliary lane.                 | 2T215<br>2018-19 | R/W:<br>Const:                                                 | \$5,000         | PA&ED:<br>PS&E:<br>R/W Sup:<br>Con Sup: | \$1,000<br>Prior<br>18-19          | PA&ED: 6/30/2011<br>R/W Cert: 7/5/2018<br>RTL: 10/12/2018<br>Begin Con: 1/31/2019  |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Subtotal:                                                      | \$5,000         | \$1,750                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Total Project Cost:                                            |                 | \$6,750                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Program Code 201.310 Operational Improvements                  |                 |                                         |                                    |                                                                                    |                                                                                   |
| Carryover                                           |                                                                                                                                                                |                  | Performance Measure 1271 Daily vehicle hour(s) of delay (DVHD) |                 |                                         |                                    |                                                                                    |                                                                                   |
| 11-San Diego-5<br>R47.0/R48.0<br>1279<br>1117000206 | In Carlsbad, from Palomar Airport Road to Cannon Road. Construct auxiliary lane in southbound direction for operational efficiency.                            | 43017<br>2021-22 | R/W:<br>Const:                                                 | \$23<br>\$5,501 | PA&ED:<br>PS&E:<br>R/W Sup:<br>Con Sup: | \$207<br>\$1,052<br>\$0<br>\$1,243 | 18-19<br>19-20<br>21-22                                                            | PA&ED: 2/25/2020<br>R/W Cert: 3/30/2021<br>RTL: 6/30/2021<br>Begin Con: 2/18/2022 |
|                                                     |                                                                                                                                                                |                  | Subtotal:                                                      | \$5,524         | \$2,502                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Total Project Cost:                                            |                 | \$8,026                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Program Code 201.310 Operational Improvements                  |                 |                                         |                                    |                                                                                    |                                                                                   |
| New                                                 |                                                                                                                                                                |                  | Performance Measure 77 Daily vehicle hour(s) of delay (DVHD)   |                 |                                         |                                    |                                                                                    |                                                                                   |
| 11-San Diego-Var<br>1171<br>1115000057              | In San Diego County, on various routes at various locations. Replace Changeable Message Signs (CMS) panels with Advanced Variable Message Signs (AVMS) panels. | 42070<br>2019-20 | R/W:<br>Const:                                                 | \$4,401         | PA&ED:<br>PS&E:<br>R/W Sup:<br>Con Sup: | \$585<br>Prior<br>19-20            | PA&ED: 6/19/2015<br>R/W Cert: 10/14/2019<br>RTL: 12/12/2019<br>Begin Con: 9/4/2020 |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Subtotal:                                                      | \$4,401         | \$1,471                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Total Project Cost:                                            |                 | \$5,872                                 |                                    |                                                                                    |                                                                                   |
|                                                     |                                                                                                                                                                |                  | Program Code 201.315 Transportation Management Systems         |                 |                                         |                                    |                                                                                    |                                                                                   |
| Carryover                                           |                                                                                                                                                                |                  | Performance Measure 25 Field element(s)                        |                 |                                         |                                    |                                                                                    |                                                                                   |

**2018 SHOPP Project List**  
**San Diego**  
(\$1,000)



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS           | Location/Description                                                                                                                                                                                                                                                                      | EA<br>Prog Year  | Capital                                                | Support                                                            | COS<br>Allocation<br>FY         |                                  | Milestones                                                                          |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------|--------------------------------------------------------------------|---------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| 11-San Diego-Var<br><br>1174<br>1115000060          | In San Diego County, on various routes at various locations. Replace Changeable Message Signs (CMS) panels with Advanced Variable Message Signs (AVMS) panels.                                                                                                                            | 42080<br>2018-19 | R/W:<br>Const: \$4,586                                 | PA&ED: \$389<br>PS&E: \$585<br>R/W Sup:<br>Con Sup: \$886          | \$389<br>\$585<br><br>\$886     | Prior<br>Prior<br><br>18-19      | PA&ED: 3/24/2017<br>R/W Cert: 2/22/2018<br>RTL: 5/25/2018<br>Begin Con: 1/23/2019   |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Subtotal: \$4,586                                      | \$1,860                                                            |                                 |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                                    |                                                                    | \$6,446                         |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Program Code 201.315 Transportation Management Systems |                                                                    |                                 |                                  |                                                                                     |
| Carryover                                           |                                                                                                                                                                                                                                                                                           |                  | Performance Measure 25 Field element(s)                |                                                                    |                                 |                                  |                                                                                     |
| 11-San Diego-Var<br><br>1262<br>1117000102          | In San Diego County, at various locations. Repair and install Vehicle Detection Station (VDS) elements including Microwave Vehicle Detection Systems (MVDS) and loop detectors.                                                                                                           | 42970<br>2019-20 | R/W:<br>Const: \$11,535                                | PA&ED: \$911<br>PS&E: \$2,160<br>R/W Sup:<br>Con Sup: \$2,264      | \$911<br>\$2,160<br><br>\$2,264 | Prior<br>18-19<br><br>19-20      | PA&ED: 8/22/2018<br>R/W Cert: 11/15/2019<br>RTL: 12/13/2019<br>Begin Con: 5/15/2020 |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Subtotal: \$11,535                                     | \$5,335                                                            |                                 |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                                    |                                                                    | \$16,870                        |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Program Code 201.315 Transportation Management Systems |                                                                    |                                 |                                  |                                                                                     |
| Carryover                                           |                                                                                                                                                                                                                                                                                           |                  | Performance Measure 239 Field element(s)               |                                                                    |                                 |                                  |                                                                                     |
| 11-San Diego-5<br>R0.3/R15.2<br>1241<br>1116000177  | In San Diego County, at various locations; also on Route 905 (PM 2.5/5.4) and Route 805 (PM 0.2/14.0). Install fiber optic communication lines to improve regional traffic operations and mobility near the United States/Mexico border.                                                  | 42750<br>2020-21 | R/W: \$375<br>Const: \$19,827                          | PA&ED: \$818<br>PS&E: \$1,721<br>R/W Sup: \$62<br>Con Sup: \$4,404 | \$818<br>\$1,721<br><br>\$4,404 | Prior<br>18-19<br>18-19<br>20-21 | PA&ED: 2/8/2019<br>R/W Cert: 4/10/2020<br>RTL: 7/3/2020<br>Begin Con: 3/29/2021     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Subtotal: \$20,202                                     | \$7,005                                                            |                                 |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                                    |                                                                    | \$27,207                        |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Program Code 201.315 Transportation Management Systems |                                                                    |                                 |                                  |                                                                                     |
| Carryover                                           |                                                                                                                                                                                                                                                                                           |                  | Performance Measure 13.8 Mile(s) of cable              |                                                                    |                                 |                                  |                                                                                     |
| 11-San Diego-5<br>R19.5/R55.4<br>1281<br>1116000101 | In San Diego County, from 0.6 mile south of Route 5/8 Separation to 1.5 miles north of Route 5/76 Separation. Install Vehicle Detection Stations (VDS), Changeable Message Signs (CMS), Closed Circuit Television (CCTV), Ramp Metering, Traffic Signal and Fiber Optic Network elements. | 42560<br>2019-20 | R/W: \$3<br>Const: \$19,621                            | PA&ED: \$1,497<br>PS&E: \$122<br>R/W Sup: \$2,995<br>Con Sup:      | \$1,497<br>\$122<br>\$2,995     | Prior<br>Prior<br>19-20          | PA&ED: 10/23/2013<br>R/W Cert: 8/2/2019<br>RTL: 3/17/2020<br>Begin Con: 6/16/2020   |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Subtotal: \$19,624                                     | \$4,614                                                            |                                 |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Total Project Cost:                                    |                                                                    | \$24,238                        |                                  |                                                                                     |
|                                                     |                                                                                                                                                                                                                                                                                           |                  | Program Code 201.315 Transportation Management Systems |                                                                    |                                 |                                  |                                                                                     |
| Carryover                                           |                                                                                                                                                                                                                                                                                           |                  | Performance Measure 103 Field element(s)               |                                                                    |                                 |                                  |                                                                                     |

**2018 SHOPP Project List  
San Diego  
(\$1,000)**



| Dist-Co-Rte<br>Post Mile<br>PPNO<br>EFIS           | Location/Description                                                                                                                                            | EA<br>Prog Year  | Capital                    | Support                                             | COS<br>Allocation<br>FY          | Milestones                                                                       |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|-----------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------|
| 11-San Diego-15<br>11.5/31.2<br>1263<br>1117000103 | In San Diego County, at various locations.<br>Update Microwave Vehicle Detection System<br>(MVDS) elements for traffic flow monitoring<br>and data collections. | 42980<br>2018-19 | R/W:<br>Const: \$3,324     | PA&ED:<br>PS&E: \$865<br>R/W Sup:<br>Con Sup: \$654 | \$372<br>Prior<br>Prior<br>18-19 | PA&ED: 4/18/2018<br>R/W Cert: 3/8/2019<br>RTL: 5/8/2019<br>Begin Con: 12/13/2019 |
|                                                    |                                                                                                                                                                 |                  | Subtotal: \$3,324          | \$1,891                                             |                                  |                                                                                  |
|                                                    |                                                                                                                                                                 |                  | <b>Total Project Cost:</b> | <b>\$5,215</b>                                      |                                  |                                                                                  |

Carryover

**Program Code** 201.315 Transportation Management Systems  
**Performance Measure** 62 Field element(s)

**ROADSIDE PRESERVATION**

|                                                   |                                                                                                                                                                                                                                             |                  |                              |                                                                   |                                  |                                                                                 |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|-------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------|
| 11-San Diego-5<br>R0.3/R5.0<br>1245<br>1117000039 | In the city of San Diego, from Camino de la<br>Plaza Overcrossing to Otay River Bridge; also<br>on Route 805, from Route 805/5 Separation to<br>San Ysidro Boulevard Undercrossing. Convert<br>potable irrigation system to recycled water. | 42890<br>2020-21 | R/W: \$40<br>Const: \$10,670 | PA&ED: \$384<br>PS&E: \$1,243<br>R/W Sup: \$3<br>Con Sup: \$1,361 | 18-19<br>19-20<br>19-20<br>20-21 | PA&ED: 1/9/2020<br>R/W Cert: 12/2/2020<br>RTL: 1/8/2021<br>Begin Con: 7/20/2021 |
|                                                   |                                                                                                                                                                                                                                             |                  | Subtotal: \$10,710           | \$2,991                                                           |                                  |                                                                                 |
|                                                   |                                                                                                                                                                                                                                             |                  | <b>Total Project Cost:</b>   | <b>\$13,701</b>                                                   |                                  |                                                                                 |

New

**Program Code** 201.210 Highway Planting Restoration  
**Performance Measure** 132 Acre(s)

|                                                 |                                                                                                                                                                           |                  |                            |                                                               |                                  |                                                                                |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|---------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------|
| 11-San Diego-5<br>3.4/5.0<br>1205<br>1114000115 | In the city of San Diego, from Iris Street<br>Overcrossing to Otay River Bridge. Replace<br>deteriorated water supply lines and plant<br>landscaping for erosion control. | 41880<br>2020-21 | R/W: \$0<br>Const: \$1,320 | PA&ED: \$304<br>PS&E: \$564<br>R/W Sup: \$0<br>Con Sup: \$534 | 18-19<br>19-20<br>19-20<br>20-21 | PA&ED: 7/9/2019<br>R/W Cert: 6/3/2020<br>RTL: 7/8/2020<br>Begin Con: 1/19/2021 |
|                                                 |                                                                                                                                                                           |                  | Subtotal: \$1,320          | \$1,402                                                       |                                  |                                                                                |
|                                                 |                                                                                                                                                                           |                  | <b>Total Project Cost:</b> | <b>\$2,722</b>                                                |                                  |                                                                                |

New

**Program Code** 201.210 Highway Planting Restoration  
**Performance Measure** 4.6 Acre(s)

|                                                   |                                                                                                                                                                                                                                                                        |                  |                             |                                                                   |                                  |                                                                                   |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|-------------------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------|
| 11-San Diego-805<br>0.7/3.3<br>1244<br>1117000038 | In the city of San Diego, from San Ysidro<br>Boulevard Undercrossing to Otay River Bridge;<br>also on Route 905, from 0.3 mile east of Picador<br>Boulevard Undercrossing to Caliente Avenue<br>Overcrossing. Convert potable irrigation<br>systems to recycled water. | 42880<br>2020-21 | R/W: \$30<br>Const: \$8,220 | PA&ED: \$327<br>PS&E: \$1,149<br>R/W Sup: \$3<br>Con Sup: \$1,174 | 18-19<br>19-20<br>19-20<br>20-21 | PA&ED: 10/10/2019<br>R/W Cert: 9/3/2020<br>RTL: 10/9/2020<br>Begin Con: 4/23/2021 |
|                                                   |                                                                                                                                                                                                                                                                        |                  | Subtotal: \$8,250           | \$2,653                                                           |                                  |                                                                                   |
|                                                   |                                                                                                                                                                                                                                                                        |                  | <b>Total Project Cost:</b>  | <b>\$10,903</b>                                                   |                                  |                                                                                   |

New

**Program Code** 201.210 Highway Planting Restoration  
**Performance Measure** 139 Acre(s)

**2018 SHOPP Project List  
San Diego  
(\$1,000)**



| Dist- Co-Rte<br>Post Mile<br>PPNO<br>EFIS         | Location/Description                                                                                                                                   | EA<br>Prog Year | Capital             | Support | COS<br>Allocation |         | Milestones |            |           |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|---------|-------------------|---------|------------|------------|-----------|
|                                                   |                                                                                                                                                        |                 |                     |         | FY                |         |            |            |           |
| 11-San Diego-805<br>3.4/5.1<br>1243<br>1117000037 | In Chula Vista, from 0.3 mile south of Main Street Undercrossing to Palomar Street Overcrossing. Convert potable irrigation systems to recycled water. | 42870           | R/W:                | \$20    | PA&ED:            | \$284   | 18-19      | PA&ED:     | 7/11/2019 |
|                                                   |                                                                                                                                                        | 2020-21         | Const:              | \$4,097 | PS&E:             | \$721   | 19-20      | R/W Cert:  | 6/5/2020  |
|                                                   |                                                                                                                                                        |                 |                     |         | R/W Sup:          | \$3     | 19-20      | RTL:       | 7/10/2020 |
|                                                   |                                                                                                                                                        |                 |                     |         | Con Sup:          | \$888   | 20-21      | Begin Con: | 1/21/2021 |
|                                                   |                                                                                                                                                        |                 |                     |         |                   |         |            |            |           |
|                                                   |                                                                                                                                                        |                 | Subtotal:           | \$4,117 |                   | \$1,896 |            |            |           |
|                                                   |                                                                                                                                                        |                 | Total Project Cost: |         |                   | \$6,013 |            |            |           |
|                                                   |                                                                                                                                                        |                 |                     |         |                   |         |            |            |           |
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**MULTIPLE OBJECTIVE**

|                |                                                     |         |                            |         |          |                |       |            |            |
|----------------|-----------------------------------------------------|---------|----------------------------|---------|----------|----------------|-------|------------|------------|
| 11-San Diego-5 | In the city of San Diego, from Sorrento Valley      | 42650   | R/W:                       | \$0     | PA&ED:   | \$471          | 18-19 | PA&ED:     | 9/1/2019   |
| R30.2/R34.2    | Road to Del Mar Heights Road. Construct             | 2020-21 | Const:                     | \$3,824 | PS&E:    | \$1,304        | 19-20 | R/W Cert:  | 10/13/2021 |
| 1218           | rumble strips on both shoulders, rehabilitate       |         |                            |         | R/W Sup: | \$40           | 19-20 | RTL:       | 10/30/2020 |
| 1116000125     | bike path, install fiber optic cable/Closed Circuit |         |                            |         | Con Sup: | \$678          | 20-21 | Begin Con: | 4/30/2021  |
|                | Television (CCTV) and rehabilitate 48 inch          |         |                            |         |          |                |       |            |            |
|                | culvert. Asset Management Pilot Project.            |         |                            |         |          |                |       |            |            |
|                |                                                     |         | Subtotal:                  | \$3,824 |          | \$2,493        |       |            |            |
|                |                                                     |         | <b>Total Project Cost:</b> |         |          | <b>\$6,317</b> |       |            |            |
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| San Diego County |  |  |                                   |                   |  |  |
|------------------|--|--|-----------------------------------|-------------------|--|--|
|                  |  |  | R/W: \$6,428                      | PA&ED: \$24,657   |  |  |
|                  |  |  | Const: \$372,537                  | PS&E: \$62,202    |  |  |
|                  |  |  |                                   | R/W Sup: \$4,538  |  |  |
|                  |  |  |                                   | Con Sup: \$69,233 |  |  |
|                  |  |  | Subtotal: \$378,965               | \$160,630         |  |  |
|                  |  |  | <b>Total (Capital + Support):</b> | <b>\$539,595</b>  |  |  |

# Transportation Project Cost Estimating Process

Transportation Committee Item 4 | May 4, 2018



## Components of an Estimate

- Construction
- Right of way acquisition
- Environmental mitigation
- Utility relocations
- Professional services
- Risk
- Contingency

# Project Estimating Process



## Stakeholder influence

- Stakeholder input on scope
- Environmental permits
- Alternative selection

## Design drivers

- Utility impacts
- Foundations
- R/W settlements
- Differing site conditions
- Constructability
- Access

## External pressures

- Unprecedented economic volatility
- Local market factors
- Public policy changes

3

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# Estimate Classification Matrix

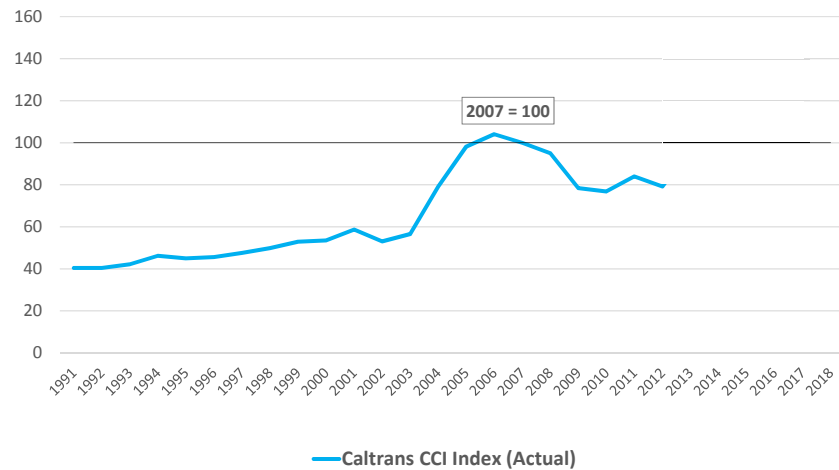
|                     | Estimate Class | Estimate Class Description                                                                                     | Project Phase                             | Purpose of Estimate                                                     | Level of Design (% complete) | Estimate Basis/Type                                                                                                            | Typical Accuracy* |
|---------------------|----------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Planning            | 5              | No design, little to no project/site specific information                                                      | Pre-Project Studies                       | RTP                                                                     | 0-2                          | Historical, high-level (cost per mile)                                                                                         | -50% to +100%     |
|                     | 4              | Preliminary information to define scope of project                                                             | Project Studies                           | Feasibility/Approval to begin Environmental and Preliminary Engineering | 1-15                         | Mix of historical and engineering; estimated cost of significant items and historical rules of thumb                           | -30% to +50%      |
| Project Development | 3              | Environmental study phase to identify project impacts and determine alternative                                | Environmental Document and Project Report | Refine budget and commit funds                                          | 10-30                        | Mix of historical and engineering; Limited constructability and underground investigation; estimated cost of significant items | -20% to +30%      |
|                     | 2              | Detailed, site specific, plans and specs to determine project features, items, and quantities                  | Plans, Specifications, and Estimates      | Refine budget, address project changes                                  | 30-80                        | Quantity and unit price estimate based on recent low bid similar projects                                                      | -15% to +20%      |
|                     | 1              | Detailed design plans and specifications complete to determine final engineer's estimate and advertise project | Advertisement                             | Refine budget & confirm funding commitment                              | 80-100                       | Engineer's quantity and unit price estimate based on recent low bid similar projects                                           | -15% to +20%      |
| Construction        | 0              | Contractor Bid                                                                                                 | Bid & Award                               | Encumber funds                                                          | 100                          | Awarded contract quantity and unit price                                                                                       | -10% to +15%      |

\*Source: AACE International Recommended Practice 18R-97

4

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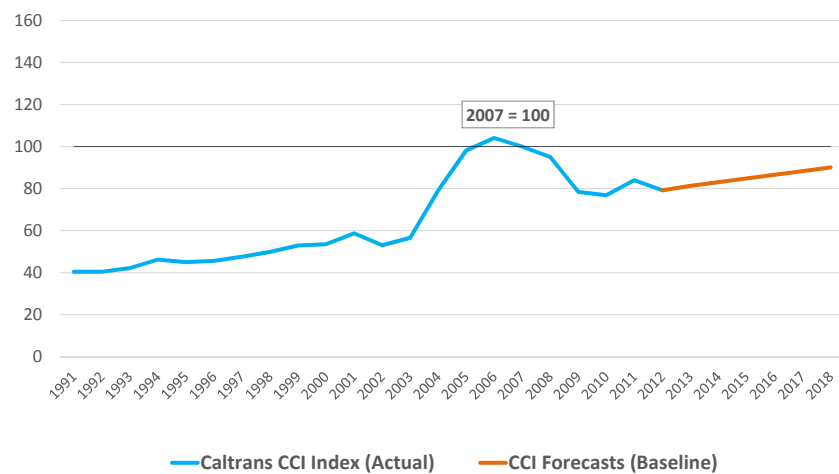
## Construction Cost Index: Actual vs. Forecast



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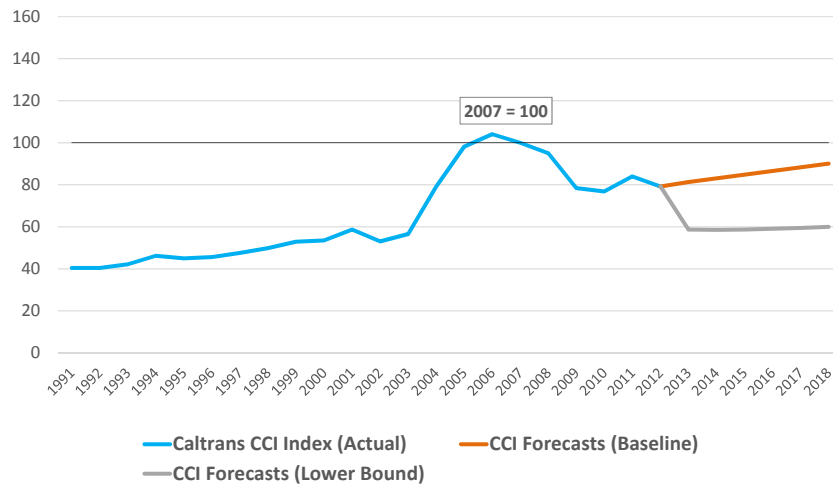
## Construction Cost Index: Actual vs. Forecast



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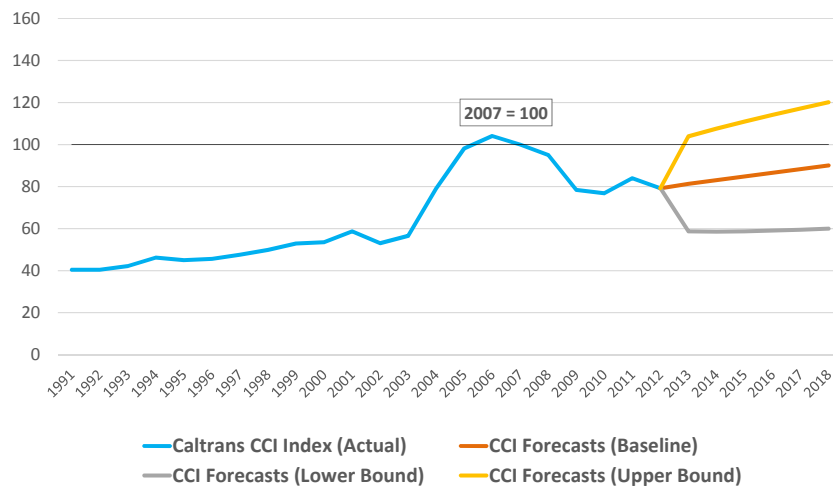
## Construction Cost Index: Actual vs. Forecast



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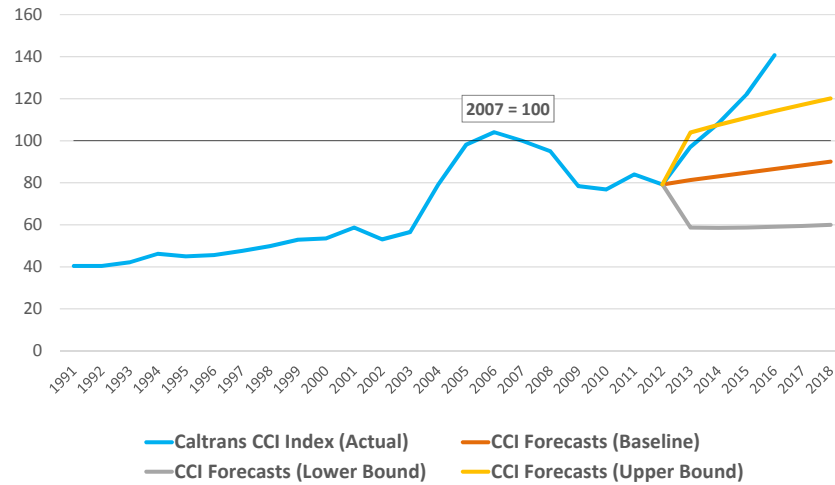
## Construction Cost Index: Actual vs. Forecast



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## Construction Cost Index: Actual vs. Forecast



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## Managing Risk

| DRAFT PROJECT RISK REGISTER |                 |       |              |     |        | Mid-Coast Classifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                              |   |   | FTA Risk Categories                                              |       | Impact Scoring Breakdown                                                                                                                                        |                   |                                                    |                              |                                               |  |                        |  |
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| SANDAG Mid-Coast Project    |                 |       |              |     |        | CCR = Construction<br>C&D = Construction/Design<br>E&D = Engineering/Design<br>E&C = Engineering/Construction<br>MC = Management Capacity<br>L&A = Land Acquisition<br>R&O = Revenue Operations<br>ROW = Right of Way                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Date Issue: March 28, 2018  |                 |       |              |     |        | Revision: 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Risk #                      | Mid-Coast Class | SCC   | FTA Risk Cat | Seq | Status | Risk Description (RD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Consequence                                                  | P | C | S                                                                | Score | Action                                                                                                                                                          | Action Date (AFD) | Project Mitigating Deliverable (PMD)               | PMD Target Finish Date (TFD) | Responsible Party (RP)                        |  |                        |  |
| 38                          | SYS             | 50    | C            | AI  | Open   | The duration specified in the schedule to perform system related tasks is considered optimistic. (Operational testing).<br>- Link to Open Risk #491<br>- Link to Closed Risk #399                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                 | 2 | 2 | 2                                                                | 8     | MCTC to develop updated schedule (Ongoing).<br>SANDAG review revised MCTC schedule for system interface activities.<br>Ask MCTC to incorporate into GMP to IFC. | May 15            | Completion of Systems construction.                | Jan-21                       | Chip Finch (SANDAG) / MCTC                    |  |                        |  |
| 113.2                       | CON, CP, ROW    | 60.02 | C            | SI  | New    | The private rail car located adjacent to the existing commuter rail at the San Diego River Aerial Structure has not been moved.<br>- Link to Closed Risk #113.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | There is a potential cost impact associated with relocation. | 2 | 2 | 2                                                                | 8     |                                                                                                                                                                 |                   | Move the rail car and allow MCTC to cut spur line. | Nov-18                       | Greg Gastelum (SANDAG) / Brett Stephens (PMC) |  |                        |  |
| 205                         | UFL             | 40.02 | C            | AI  | Open   | There could be delays in reaching an agreement between SANDAG and SOG&E regarding the liability determination and cost sharing relocations.<br>- Link to Open Risk #234, #393, & #394<br>- Link to Closed Risk #65, #201.1, #201.2, #201.3, #201.4, #201.5, #201.6, #201.7, #201.8, #201.9, #201.10, #201.11, #201.12, #201.13, #201.14, #201.15, #201.16, #201.17, #201.18, #201.19, #201.20, #201.21, #201.22, #201.23, #201.24, #201.25, #201.26, #201.27, #201.28, #201.29, #201.30, #201.31, #201.32, #201.33, #201.34, #201.35, #201.36, #201.37, #201.38, #201.39, #201.40, #201.41, #201.42, #201.43, #201.44, #201.45, #201.46, #201.47, #201.48, #201.49, #201.50, #201.51, #201.52, #201.53, #201.54, #201.55, #201.56, #201.57, #201.58, #201.59, #201.60, #201.61, #201.62, #201.63, #201.64, #201.65, #201.66, #201.67, #201.68, #201.69, #201.70, #201.71, #201.72, #201.73, #201.74, #201.75, #201.76, #201.77, #201.78, 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# Managing Risk

| DRAFT PROJECT RISK REGISTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------|--------------------------|--------------------------|--------|----------------------------------------------------------|-------------------------------|---|---|---|-------|--------------------------------------------|--------------------------|--------------------------------------|------------------------------|-------------------------------------------------|----------------------|--|----------|-------------|-----------|-----------------|--|------|-----------|------|-----------------|--|---------|-------------------|--------|---------------------|--|-----------|--------------------------|------------|--------|--|------|--------|---------|-----------------------------------------|--|--|--|--|
| SANDAG Mid-Coast Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| ALL OPEN RISKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Date Issue: March 28, 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Revision: 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Mid-Coast Classifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| COM = Construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                         | SMF = Safety             |                          |        | HTA = Highway                                            |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| CPI = Construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                         | STA = Stations           |                          |        | D = Design                                               |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| ENR = Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                         | STR = Structures         |                          |        | M = Materials                                            |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| ENV = Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                         | SYS = Systems            |                          |        | C = Construction                                         |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| EPC = Environmental Capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                                         | TP = Transit Party       |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| QA = Quality Assurance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                                         | UTL = Utility            |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| NRO = Natural Operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                                         | VTR = Vehicles           |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| ROW = Right of Way                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| FTA Risk Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| R = Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| D = Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| M = Materials                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| C = Construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Impact Score Breakdown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Impact Scores                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 | LOW                                     |                          | MEDIUM                   |        | HIGH                                                     |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Legend                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | +10%                                    |                          | +10% - 50%               |        | +50%                                                     |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (P) Probability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 | + \$1 M                                 |                          | > \$1M but < \$5M        |        | > \$5M                                                   |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (C) Cost Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 | < 1 month                               |                          | > 1 month but < 4 months |        | > 4 months                                               |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (S) Schedule Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 | 6 - 12                                  |                          | 7 - 12                   |        | 13 - 18                                                  |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | Score = (Cost + Schedule) * Probability |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Risk #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mid-Coast Class | SCC                                     | FTA Risk Cat.            | Seg                      | Status | Risk Description (RD)                                    | Consequence                   | P | C | S | Score | Interim Action                             | Action Finish Date (AFD) | Project Mitigating Deliverable (PMD) | PMD Target Finish Date (TFD) | Responsible Party (RP)                          |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | STS             | 55                                      | C                        | All                      | Open   | The duration specified in the schedule to perform system | The schedule may be affected. | 2 | 2 | 2 | 2     | MCTC to develop updated schedule (Ongoing) | May 18                   | Completion of systems construction.  | Jan-21                       | Chp Finch (SANDAG) / MCTC                       |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| <table><tr><th colspan="2">Impact Scores Legend</th><th>LOW<br/>1</th><th>MEDIUM<br/>2</th><th>HIGH<br/>3</th></tr><tr><td>(P) Probability</td><td></td><td>&lt;10%</td><td>&gt;10% &lt;50%</td><td>&gt;50%</td></tr><tr><td>(C) Cost Impact</td><td></td><td>&lt; \$1 M</td><td>&gt; \$1M but &lt; \$5M</td><td>&gt; \$5M</td></tr><tr><td>(S) Schedule Impact</td><td></td><td>&lt; 1 month</td><td>&gt; 1 month but &lt; 4 months</td><td>&gt; 4 months</td></tr><tr><td>Rating</td><td></td><td>&lt;= 6</td><td>7 - 12</td><td>13 - 18</td></tr><tr><td colspan="5">Score = (Cost + Schedule) * Probability</td></tr></table> |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 | Impact Scores Legend |  | LOW<br>1 | MEDIUM<br>2 | HIGH<br>3 | (P) Probability |  | <10% | >10% <50% | >50% | (C) Cost Impact |  | < \$1 M | > \$1M but < \$5M | > \$5M | (S) Schedule Impact |  | < 1 month | > 1 month but < 4 months | > 4 months | Rating |  | <= 6 | 7 - 12 | 13 - 18 | Score = (Cost + Schedule) * Probability |  |  |  |  |
| Impact Scores Legend                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 | LOW<br>1                                | MEDIUM<br>2              | HIGH<br>3                |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (P) Probability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 | <10%                                    | >10% <50%                | >50%                     |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (C) Cost Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 | < \$1 M                                 | > \$1M but < \$5M        | > \$5M                   |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| (S) Schedule Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 | < 1 month                               | > 1 month but < 4 months | > 4 months               |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | <= 6                                    | 7 - 12                   | 13 - 18                  |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| Score = (Cost + Schedule) * Probability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              |                                                 |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| 113.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | COF             |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              | Greg Gustafson (SANDAG) / Brett Stephens (PMC)  |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |
| 205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UTL             |                                         |                          |                          |        |                                                          |                               |   |   |   |       |                                            |                          |                                      |                              | Greg Gustafson (SANDAG) / Darwin Cruz (Dakkers) |                      |  |          |             |           |                 |  |      |           |      |                 |  |         |                   |        |                     |  |           |                          |            |        |  |      |        |         |                                         |  |  |  |  |

11



# Communication

- Report on program health
- Corridor status reports
- Quarterly status of all capital projects
- *TransNet* dashboard
- Annual *TransNet* progress report

12



## Project Cost Estimating

- Different stages of project development have different ranges of costs
- Market volatility is currently a significant cost estimating risk
- Different techniques to manage and communicate cost estimates

13



## Project Cost Estimating

Questions?

14



# Specialized Transportation Grant Program: Update on Cycle 10 Call for Projects

Transportation Committee Item 5 | May 4, 2018



## Program Overview

- **Funding sources:** *TransNet* Senior Mini-Grant and FTA Section 5310
- **Available funding:** approximately \$7 million every two years
- **Example projects:** volunteer driver program, shopping shuttles, non-emergency medical trips, vehicle procurement, transit travel training



2



## Grant Recipients

Daniel Earnest

### **Home of Guiding Hands – Transportation Services**

Transports individuals with developmental disabilities to day programs throughout the county

Meredith Morgenroth

### **Jewish Family Services – *On the Go* Transportation Program**

Offers a menu of transportation services, including the *Rides and Smiles* volunteer driver program, to seniors in Northern San Diego, North County Inland, and Eastern San Diego

3



## Considerations in Response to Feedback Received

1. Large and small categories
2. Eligible match sources
3. Project readiness
4. Cost control measures

4



## 1. Create Large and Small Categories based upon Amount of Grant Funding Requested?

| Why?                                                                                                                                                                                                                  | Why not?                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Other SANDAG grant programs separate projects into large and small categories</li><li>• Could provide a more equitable “playing field” for large and small agencies</li></ul> | <ul style="list-style-type: none"><li>• Stakeholders recommend maintaining the current maximum and minimum grant amounts and structure of the program</li><li>• Conflicts with program objective to maximize number of trips provided because it limits the number of large projects that can be funded</li></ul> |

### Recommendation

Maintain current structure with no categories

5



## 2. Constrain Eligible Matching Funds?

| Why?                                                                                             | Why not?                                                                       |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Promote longer-term operational sustainability</li></ul> | <ul style="list-style-type: none"><li>• Potential service reductions</li></ul> |

Guidance from the Transportation Committee is sought on the following:

- **Prohibit the matching of Senior Mini-Grant and Section 5310 funds?**

6



### 3. Add Criteria on Project Readiness?

| Why?                                                                                                                                                                                                     | Why not?                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Ensure applicants are (1) ready to implement projects upon award and (2) have the technical capacity to manage grants</li><li>• Ensure cost efficiency</li></ul> | <ul style="list-style-type: none"><li>• Limit innovation and development of new services in areas identified as transportation gaps</li></ul> |

Guidance from the Transportation Committee is sought on the following:

- **Add an eligibility or scoring criterion?**
- **Alternatively, set aside funding to support pilot services?**

7



### 4. Incorporate Cost Control Measures?

Guidance from the Transportation Committee is sought on the following:

- **To what extent should cost control measures be implemented?**

Examples

- Refine evaluation criteria?
- Establish a reimbursement cap per trip?

8



## Next Steps / Related Planning Efforts

| Activity                                                                                                                                            | Timeline    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Call for Projects</b> <ul style="list-style-type: none"><li>• Transportation Committee recommends and Board releases Call for Projects</li></ul> | Summer 2018 |
| <b>Flexible Transportation Services for Seniors</b>                                                                                                 | Fall 2018   |
| <b>Coordinated Plan</b>                                                                                                                             | Fall 2018   |
| <b>Specialized Transportation Strategic Plan</b>                                                                                                    | Fall 2018   |
| <b>Future Call for Projects</b>                                                                                                                     | Summer 2020 |

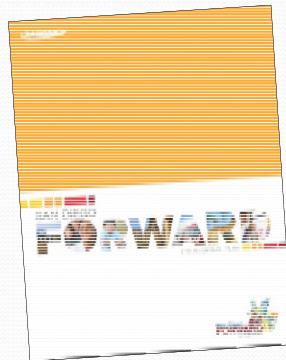


# Fixing America's Surface Transportation Act: Congestion Mitigation and Air Quality Performance Management Targets

Transportation Committee Item 6 | May 4, 2018

## Background

- San Diego Forward: The Regional Plan
- MAP-21/FAST Act
  - Transportation performance management



U.S. Department of Transportation  
Federal Transit Administration



2 SANDAG

## Performance Management (PM) Rules

### Today's discussion

- Performance Management 3
  - Reliable travel, congestion and delay, mode share, and emissions reduction

3 **SANDAG**

## PM 3: Congestion Mitigation and Air Quality Performance Measures

| Category                                     | Performance Measure                               |
|----------------------------------------------|---------------------------------------------------|
| Congestion Mitigation and Air Quality (CMAQ) | Percent of Non-SOV Travel                         |
|                                              | Peak-Hour Excessive Delay                         |
|                                              | Total Emissions Reduction from CMAQ projects      |
| National Highway Performance Program (NHPP)  | Reliable Interstate Travel                        |
|                                              | Reliable Non-Interstate Travel                    |
|                                              | National Highway System Greenhouse Gas Reductions |
| Freight Movement on the Interstate System    | Truck Travel Time Reliability                     |

4 **SANDAG**

## 1. Percent of non-SOV Travel Performance Measure

- Option 1: 2015 Regional Plan mode share
- Option 2: Historic American Community Survey data

| Percent of non-SOV Travel    | 2016 Baseline | Two-Year Target (2020) | Four-Year Target (2022) |
|------------------------------|---------------|------------------------|-------------------------|
| Option 1: 2015 Regional Plan | 23.8%         | 24.8%                  | 25.2%                   |
| Option 2: Historic ACS data  | 23.8%         | 23.8%                  | 23.8%                   |

## 2. Annual Hours of Peak-Hour Excessive Delay Per Capita

- Speed less than 20 miles per hour or 60 percent of posted speed limit
- Includes roadways on the National Highway System
- Establish a four-year target
- Data not yet available from Caltrans



## 2. Annual Hours of Peak-Hour Excessive Delay Per Capita

| Annual Hours of Peak-Hour Excessive Delay per Capita | Four-Year Target (2022)  |
|------------------------------------------------------|--------------------------|
| Option 1:<br>Maintain 2017 Baseline                  | No Change                |
| Option 2:<br>Modest Decrease in Delay                | Slight Decrease in Delay |

## 3. Total on-Road Emissions Reductions from CMAQ Funded Projects

- Estimated emissions reductions from CMAQ funded projects
- Includes three pollutants for San Diego region
- Used for rideshare, bike and pedestrian, Managed Lane, and rail improvements

| Total On-Road Emissions Reduction from CMAQ Funded Projects | Two-Year Target (2020) |     |    | Four-Year Target (2022) |     |    |
|-------------------------------------------------------------|------------------------|-----|----|-------------------------|-----|----|
|                                                             | VOC                    | NOx | CO | VOC                     | NOx | CO |
| Proposed Targets (kg./day)                                  | 170                    | 180 | 0  | 340                     | 360 | 0  |

## Next Steps

- May 20, 2018: SANDAG and Caltrans establish single-unified targets for non-SOV and excessive delay performance measures
- May 20, 2018: Caltrans establishes statewide targets for additional PM 3 performance measures
- September 2018: Target established for emissions reductions from CMAQ projects performance measure
- Continued collaboration on regional target setting with SANDAG Policy Advisory Committees
- November 2018: SANDAG establishes targets for remaining PM 3 performance measures

# 2018 State Highway Operation and Protection Program (SHOPP)



District 11  
San Diego and Imperial Counties  
Program/Project Management  
May 2018



## 2018 SHOPP Outline

- *Definition and Summary*
- *Development & Background*
- *Performance Measures & Funding*
- *2018 SHOPP - San Diego County Projects*



2

## SHOPP

The State Highway Operation and Protection Program (SHOPP) is the *State's primary capital program* to fund projects that *protect, preserve, and rehabilitate* the State Highway system and supporting infrastructure. The SHOPP is a *performance driven plan* with a "*Fix-it-First*" approach with ample *reserves* to address highway *emergency and safety* needs.



3

## 2018 SHOPP - Summary Fiscal Years 2018/19 – 2021/22

- 4 Year Program – Updated Every 2 Years
- \$13.4 Programmed, \$17.96 Billion Total  
(\$4.5 Billion Reserve, Emergency and Safety)
- SB 1 – Performance Based/Asset Management
- 4 Anchor Assets: Pavement, Culverts, Bridges, and Transportation Management Systems (TMS)



Pavement



Culverts



TMS Elements



Bridges



4

## SHOPP – Key Elements/Process

- SB 486 (2014)

Asset Management – 2020 SHOPP

- SB 1 (2017)



Phased Programming – Accountability  
New Funding 1.5 – 1.6 Billion Annually

- Caltrans State Highway 10 Year Plan
- Draft SHOPP, Regional and CTC Review
- Final Approval – CTC, March 2018



5

## SHOPP – Performance

### SB 1 Performance Goals



- 98% of Pavement in Good or Fair Condition
- 90% of Culverts in Good or Fair Condition
- 90% of TMS in Good or Fair Condition
- Fix more than 500 Bridges Statewide



17,000 Miles



5500 Culverts



7700 Elements



500 Bridges



6

## 2018 SHOPP – Funding

### Fiscal Years 2017/18 – 2026/27

### 10 Year SHOPP Estimate (By County)

|                    |                       |
|--------------------|-----------------------|
| 1. Los Angeles     | \$7.15 B              |
| 2. Riverside       | \$2.98 B              |
| 3. San Diego       | \$2.54 B              |
| 4. San Bernardino  | \$2.50 B              |
| 5. Alameda         | \$2.38 B              |
| 6. Orange          | \$1.90 B              |
| <b>SHOPP Total</b> | <b>\$49.4 Billion</b> |



7

## 2018 SHOPP

### San Diego County

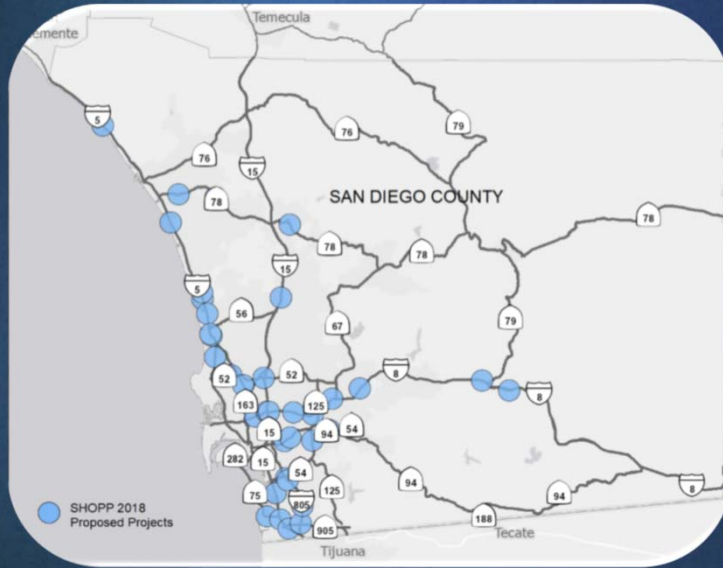
### 50 Projects - \$539.595 M

|                       |                         |
|-----------------------|-------------------------|
| Collision Reduction   | 16 Projects - \$102.6 M |
| Mandates              | 8 Projects - \$43.4 M   |
| Bridge Preservation   | 3 Projects - \$ 32.4 M  |
| Roadway Preservation  | 10 Projects - \$220.9 M |
| Mobility              | 8 Projects - \$100 M    |
| Roadside Preservation | 4 Projects - \$33.4 M   |
| Multiple Objective    | 1 Project - \$6.3 M     |



8

## 2018 SHOPP - San Diego County



9

## 2018 SHOPP San Diego County

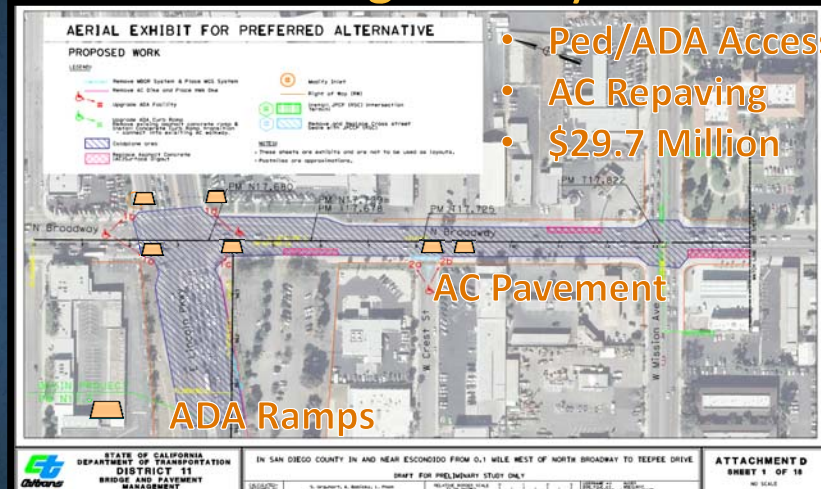


I-805 Sweetwater River Bridge



10

# 2018 SHOPP San Diego County



## SR 78 Rehab and ADA

11

# 2018 SHOPP San Diego County



## I-5 SB Auxiliary Lane

12

## 2018 SHOPP

Questions ?



13

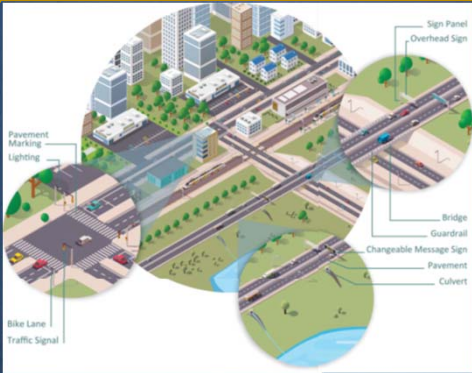
Extra Slides





Complete Streets





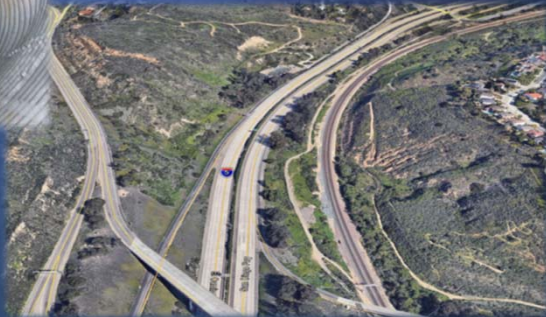
Asset Management



2018 SHOPP

## I-5 Culvert Project

## I-5 NB Aux Lane




# SANDAG info

April 2018

## *TransNet*

### Ten-Year Review: Look-Back



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# SANDAG Info

SANDAG serves as the San Diego region's clearinghouse for information and data.

Infos publish timely, relevant information as well as provide context on complex issues facing the region.

For more information, call (619) 699-1950 or email [pio@sandag.org](mailto:pio@sandag.org)

## TransNet Ten-Year Review: Look-Back



### TransNet Funds Transportation Improvements and More

Passed in 2004 by 67 percent of voters countywide, the *TransNet* Extension Ordinance enacted a half-cent sales tax to fund transportation improvements in the San Diego region. *TransNet* funds a variety of capital construction projects on highways and transit corridors, local streets and roads, and bikeways, in addition to an Environmental Mitigation Program, new transit services, and grants for smart growth, active transportation, and subsidized transit for seniors and persons with disabilities.

The *TransNet* Extension Ordinance (2008–2048) calls for an evaluation of program performance every ten years. The first review is being conducted as a two-step process, with “look-back” and “look-ahead” phases. The Ten-Year Review Look-Back<sup>1</sup> was conducted by an independent auditing firm and reviewed performance of the overall *TransNet* Program to date. The look-back report concluded that *TransNet* delivered on its plans to expand freeways, improve local roads, add capacity to rail service, and increase transit for seniors. This SANDAG Info includes information from the look-back report, as well as other relevant data to allow readers to evaluate the success of the *TransNet* program to date.

### Delivering on *TransNet* Projects

The *TransNet* Extension Ordinance included a Major Corridors program to fund 48 highway and transit capital improvement projects. These were later broken up into 78 segments as part of the project implementation process.

Even during the depths of the Great Recession (2008–2011), SANDAG succeeded in advancing projects by using long-term borrowing secured by future *TransNet* sales tax revenue to capitalize on low construction costs and interest rates, as well as to seize competitive funding opportunities. Overall, ten years into the *TransNet* Extension Ordinance — with a quarter of the 40-year measure having elapsed — SANDAG has completed, begun construction, or substantially started the planning/design on 61 percent of the projects listed in the measure.

Figure 1

#### *TransNet* Extension Major Corridor Improvement Program Progress through FY 2017



<sup>1</sup> *TransNet* Extension Ordinance: 10 Year Look-Back report prepared by Sjoberg Evashenk Consulting, Inc., January 2018: [sandag.org/10YearLookBackReport](http://sandag.org/10YearLookBackReport)

### Progress Toward *TransNet* Goals

- Relieve congestion
- Improve safety
- Match state/federal funds
- Expand freeways
- Maintain or improve local streets and roads
- Increase transit for seniors and those with disabilities
- Expand commuter express bus, Trolley, and COASTER services

completed in progress

**“Overall, much has been accomplished over the first 10-year period of the 40-year *TransNet* life cycle with approximately 61 percent of Major Corridor projects delivered or in-progress even though only one-quarter of the *TransNet* Program’s time has elapsed. Along the way, SANDAG and its *TransNet* partners demonstrated great collaboration and cooperation, employed leading project management practices, and took advantage of financing opportunities as they have arisen.”**

*TransNet* Extension Ordinance:  
Ten-Year Look-Back report (page 79)

## TransNet Accomplishments: The First Ten Years

According to the Ten-Year Review Look-Back report, through June 30, 2017, “TransNet results show improved transportation facilities across a wide range of modes in addition to strong performance” (page 22).

Figure 2

### TransNet Program Successes



#### Highways, Managed Lanes, and Transit Major Corridors

**More than \$2.9 billion** invested in highway improvements

**23 highway segments<sup>1</sup>** completed

**Commute time** for majority of San Diegans **less than 30 minutes**

**\$1.5+ billion** invested in transit capital improvements

**25 transit projects<sup>1</sup>** completed



#### Transit Service

##### Transit Ridership



##### Senior transportation mini-grants

- \$14.7 million awarded through 69 grants
- 1.4+ million one-way rides provided
- 9,300 seniors trained to use transit services



#### Local Streets and Roads

**\$714+ million** dedicated for local streets and roads

**136+ projects** completed

Pavement generally in good condition



#### Environmental Mitigation Program

**\$222+ million** invested in project mitigation and habitat conservation

**\$120 million** saved on land acquisition

**8,900+ acres** acquired, more than seven times the size of Balboa Park



#### Bike Early Action Program

##### FY 17 Bikeway Project Status<sup>2</sup>



- Preliminary Engineering/Environmental
- Design
- Under Construction
- Open

**Dedicated \$200 million** to the Bike Early Action Program, which will build 77 miles of bikeways regionwide

**Annually, bike commuters increased 25 percent<sup>3</sup>** from 8,000 to 10,000



#### Grant Programs

##### Smart Growth

\$31.7+ million awarded through 43 grants  
12 Complete Street projects constructed  
5 downtown streetscape revitalization projects completed

##### Active Transportation

\$30+ million awarded through 77 grants  
300+ bike parking infrastructure projects  
24.8 miles of bike lanes constructed

##### EMP Land Acquisition<sup>4</sup>

\$15.9 million awarded for 5,400+ acres

##### EMP Land Management and Habitat Conservation

\$14.6 million through nearly 100 grants

<sup>1</sup> See Exhibit 62 (page 89); 48 Ordinance projects resulted in 78 project segments

<sup>2</sup> Of the 77 miles in the Bike Early Action Program, a total of 68.7 miles were programmed (funded for various phases) in the FY 17 budget.

<sup>3</sup> See Exhibit 9 (page 22)

<sup>4</sup> 8,900+ acres acquired through EMP includes 5,400+ acres acquired by outside agencies using EMP grants.

## More than Matching: Major Corridors Program Leveraged *TransNet* Funding

*TransNet* always was envisioned to be only one of the funding mechanisms to pay for projects identified in the *TransNet* Extension Ordinance and Expenditure Plan; the Ordinance assumed 50 percent of net capital costs would be funded by federal, state, and other sources. Over the past ten years, *TransNet* funds have played a crucial role in the region's ability to secure matching funds and advance completion of major capital projects. At the close of FY 2017, total program funding was \$7.84 billion. *TransNet* funds represented \$2.58 billion (33%) and helped leverage \$5.26 billion (67%).

**“Given historic revenue generation and the continuation of strong practices, it is reasonable to expect the *TransNet* Program could be delivered in the 40-year timeframe.”**

*TransNet* Extension Ordinance:  
Ten-Year Look-Back report  
(page 64)

Figure 3

Leveraging *TransNet* Program Funding (through FY 17)



## Future Challenges and Opportunities

While SANDAG and its partners accomplished a lot in the first ten years of the *TransNet* Extension, there are still another 30 years of transportation improvements ahead. The Ten Year Look-Back report concluded that “it is reasonable that the *TransNet* Program could be delivered as expected given the nearly 30-year historic leveraging... if SANDAG continues to employ strong project management and fund management practices” (page 64). Funding a long-term capital program is complex. Knowing that the industry may change in ways that are difficult to predict, SANDAG will need to continue working toward ensuring that capital projects meet current needs and achieve the longer-term goals of *TransNet*. Continuing these historical practices in long-term transportation planning efforts will help SANDAG deliver intended results.

## Look-Back Completed, Look-Ahead Underway

The SANDAG Board of Directors built a requirement into the *TransNet* Extension Ordinance that each 10-year review evaluate performance and make recommendations for continued improvement over the 40-year *TransNet* program. The “look-ahead” began in March 2018 and, during the months ahead, the Board will evaluate future considerations from the look-back, including regionwide performance tracking and reporting, investments in technology solutions to mitigate the region's transportation challenges, and the mix of future *TransNet* projects, among other areas. This look-ahead will take place as part of the ongoing development of San Diego Forward: The 2019-2050 Regional Plan, which includes a vision for the region's future transportation system.

Visit [sandag.org/TransNet10YearReview](http://sandag.org/TransNet10YearReview) for more information.

## The Difference a Decade Makes

During the first decade of the *TransNet* Extension Ordinance, several factors — such as changes in population, gross domestic product, and employment — impacted *TransNet* performance. Population grew almost 10 percent and the number of jobs in the region increased 10 percent. During the Great Recession (2008–2011), the region experienced job losses and saw relatable decreases in rush hour traffic and vehicle miles traveled (VMT). As the economy recovered, gas prices declined and the number of commuters who chose to drive increased.

Amidst significant economic downturn and subsequent growth, *TransNet* delivered on its voter-approved goals to expand freeways, improve local roads, add capacity to rail service, and increase transit ridership. With these investments, and despite the increase in population and corresponding increase in freeway travel, traffic congestion in the region held steady at near pre-*TransNet* levels and, compared with congestion relief in comparable metropolitan areas over the last decade, the San Diego area is among the lowest for commute time.



### Ten Year Trends

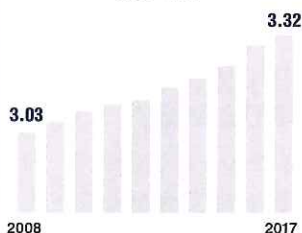
This information, while not included in the Ten Year Look-Back report, provides further context for the first ten years of *TransNet* accomplishments.



### population in millions

9.3%

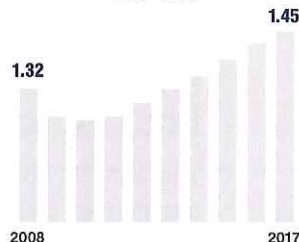
2008 – 2017



### employment in millions

10.4%

2008 – 2017



### gross regional product in billions of dollars

21.1%

2007 – 2016



### total freeway travel in millions of vehicle miles

11.0%

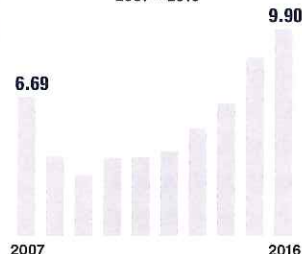
2007 – 2016



### peak period freeway delay in millions of vehicle hours

48%

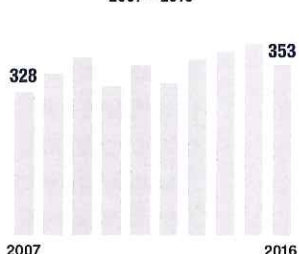
2007 – 2016



### transit boardings average weekday in thousands

7.6%

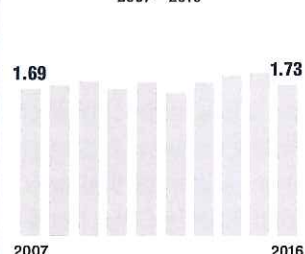
2007 – 2016



### transit travel average weekday in millions of passenger miles

2.8%

2007 – 2016



Sources:

2015–2016 State of the Commute available at [sandag.org/infos](http://sandag.org/infos)

California Department of Finance

California Employment Development Department

Bureau of Economic Analysis, U.S. Department of Commerce as of June 30, 2017

# BIKE MONTH 2018



The San Diego regional Bike to Work Day is Thursday, May 17. Since May is also National Bike Month, San Diegans have opportunities to GO by BIKE all month long. Promoting biking in your community is convenient when you partner with the SANDAG iCommute team.

- **it's easy.** With the support of the iCommute program and partners, you'll receive the tools you need to promote and participate in Bike to Work Day.
- **it's fun.** Show your community spirit by engaging with bike riders in your area.
- **it's good for the community.** Bike to Work Day supports biking as a viable, environmentally friendly, cost saving commute choice.

## PROMOTE

*Inform your community about Bike to Work Day*

**Make a Bike to Work Day proclamation.** Post the proclamation on your website, mention in emails, newsletters, and on social media.

**Share Bike to Work Day promotional materials.** iCommute has Bike to Work Day marketing materials ready to help you. Share social media posts, place an ad on your website, share a newsletter article, or hang a poster.

## PREPARE

*Help commuters get ready for Bike to Work Day*

**Take advantage of free bike services.** Prepare your employees for Bike to Work Day with a 45-minute on-site bike education class or maintenance safety check.

**Highlight pit stops in your area.** Help people plan their bike route by pointing out pit stop locations in your community where they can refuel with healthy snacks and encouragement.

**Prepare bike lanes.** Consider sweeping streets and bike lanes to make riding conditions safe for all participants on Bike to Work Day.

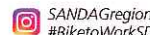
## PARTICIPATE

*Join the fun and GO by BIKE*

**GO by BIKE on Bike to Work Day.** Encourage your community members to join thousands of bike riders throughout the San Diego region on Thursday, May 17.

**Get social.** Share your Bike to Work Day experience using #BiketoWorkSD with @iCommuteSD on Facebook or Twitter, or @SANDAGregion on Instagram.

For more information, visit [511sd.com/iCommute](http://511sd.com/iCommute) or contact Phoenix Smith, at [phoenix.smith@sandag.org](mailto:phoenix.smith@sandag.org) or (619) 699-6967.





700 Seacoast Drive, #108  
Imperial Beach, CA 91932

April 30, 2018

Sent via Email

Chair Terry Sinnott and Members of the SANDAG Board  
SANDAG  
401 B Street, Suite 800  
San Diego, CA 92101

Responses to SANDAG RTP/SCS Transportation Network Themes

Dear Chair Sinnott and Board:

The Southwest Wetlands Interpretive Association (SWIA) is an environmental organization established over 40 years ago whose mission is to conserve wetlands and other sensitive natural habitats, primarily in San Diego County and southern California. Our organization is extremely concerned about how SANDAG will update its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is required to use land use and transportation strategies to achieve the Air Resources Board's SB 375 San Diego Region greenhouse gas (GHG) emission reduction targets, improve the transportation system, and facilitate efficient land use and housing. Our coastal wetlands are particularly vulnerable climate change and associated sea level rise. We are submitting these comments and recommendations for revising and clarifying the identified themes, including data, assumptions and projections that are the foundation of the RTP/SCS.

The following responses to SANDAG's "Transportation Network Themes" were evaluated in the context of the overarching purpose of the RTP/SCS: reducing transportation-related GHG emissions through improvements in land use (especially locations for new housing) and the transportation system. SANDAG has stated that the RTP/SCS will serve as a blueprint for future transportation and land use and to achieve its vision for a vibrant economy, healthy communities and environment, and innovative mobility and planning. The previous RTP/SCS efforts have not produced those outcomes. Our region faces a large change in its demographics: (1) most – over 80% - of the regional population growth will be in 65+ age groups who will rely less on their cars and more on transit and alternative transportation services while the younger aged groups are showing less-reliance on driving their own cars; and (2) housing needs will change with the aging of the overall population (more group housing, senior and

assisted living – all of which need to be closer to urban healthcare and non-cars transportation options) as well as the preference for affordable, urban housing among younger age groups. All of these factors will necessitate a transformative change in the transportation system network. The current set of themes fails to adequately identify/highlight these new factors nor does it provide a clear sense of the imperative for creating a set of the fundamental types of changes to the land use and transportation systems network that will be needed to serve the next 25-50 years of anticipated changes to our region's population, housing and transportation needs.

Our comments on the set of topics presented in the current SANDAG RTP/SCS Open House meetings follow:

1. Jobs, Population, Housing: SANDAG's Regional Policy Committee (RPC) has stated that it now projects a 2050 regional population of 4 million, which is at least 72,000 fewer people than in the 2015 RTP forecast. Also, 81% of the 2016-2050 growth is expected to be in the 65+ age groups. Those demographic changes will substantially shift the number of housing units (fewer people require fewer housing units); type(s) of housing needed (smaller units with a larger share of multi-person facilities for senior/assisted living); preference for more urban housing (closer to health care and basic household needs/services, job centers, and entertainment centers); and transportation needs (proximity to transit and other non-driving mobility services). Also, housing is and will remain relatively expensive, resulting in more people/household. SANDAG's housing needs projection fails to appropriately account for these factors.

SANDAG staff showed three land use scenarios at the April 6 RPC meeting (dense cores; smart growth/TODs; and accessory dwelling units). These are the same land use scenarios that the 2015 RTP relied on. Based on discussion at the April 6 RPC meeting there was concern among some committee members that the dense core scenario was not feasible/practicable (and staff was told to revise the scenario), and SANDAG staff's presentation indicated that only a fraction of the potential accessory units could/would be assumed to be built. That leaves only the "smart growth/TOD" alternative as a reasonable scenario. For this reason, we believe that SANDAG must provide new, reasonable and feasible land use alternatives (in both RTP/SCS and CEQA context) for this RTP update.

2. Economy: An essential component of the regional economy is to have a robust, efficient, and affordable transportation system. The RTP/SCS must identify, promote and fund a fundamentally transformed (broadly accessible, efficient and affordable) transportation system network. Identify/promote measures and provide strong incentives (and disincentives, as appropriate) to shift land use (housing and jobs centers) that can best utilize this new

transportation approach/infrastructure and result in more affordable housing. Use this new approach as the basis for a new regional funding proposal that is transparent, socio-economically equitable (non-regressive), and sufficient to support the recommendations in all of the other Issues ( #1, 3, 4, 5).

3. Emerging Technologies: SANDAG must place a much higher priority on identifying, testing/implementing and funding emerging and new transportation-related technologies. Which elements of the existing “mainframe” infrastructure (rail/light rail lines and BRT) should be retained and expanded as the basis to produce a functionally transformed transportation system network? Which are most suitable for replacement with more efficient components? What are the most important components of the transportation system that could be modified/transformed to create a much more efficient network (dedicated transit lanes; isolated crossings; underground/elevated portions of rail/lanes; how to increase bike use overall and bike carrying capacity on light rail and busses)? How can SANDAG speed-up the creation of mobility hubs; how can it add Mobility as a Service (MaaS) as a viable supplement to areas where rail/bus services would be best located to increase use and/or to provide access to transportation where rail/bus lines cannot be feasibly located close to (within ¼ mile) of residential, commercial and entertainment centers? All of these changes will necessitate that SANDAG include meaningful transportation alternatives, re-prioritize its project funding allocations, and that these align with the needed housing changes described in Item 1 above.
4. Climate Change and Environment: A fundamental commitment of the RTP must be to cap and then reduce total VMT, not just per capita VMT reduction, as the key to reducing GHG emissions – which are the greatest single factor exacerbating climate change. It must support the local jurisdictions’ Climate Action Plans, particularly their transportation-related GHG emission reduction targets and include policies, programs and incentives to promote growth/housing and jobs within the Urban Area Transit Strategy (UATS) area. Areas where air quality is most degraded by the transportation system (cars, trucks and transit) should be prioritized for VMT reduction as well as reduction of fossil fuel vehicles. All new/modified transportation system projects must incorporate effective GHG reduction measures (phased electrification of the system; integration with active transportation users; natural “green” features such as trees/tree canopy and other vegetation and uncovered/permeable ground surfaces). Preclude development in important biological core areas or severing/constricting habitat linkages – while planning for projected (unavoidable) climate change impacts.

April 30, 2018

5. Healthy Communities: Promote a shift in land use so that at least 80-90% of new population growth (and housing and jobs) occurs in the existing dense core areas and new “smart growth” and TOD areas that align with the transformed transportation infrastructure (#3 above).

Promote and provide incentives to create carbon-neutral businesses, more green space, complete neighborhoods/streets, food choices in those population growth areas – which must be effectively served by functional transportation choices.

Please incorporate these comments into the public input to the RTP/SCS and specifically into the Open House comments process. Our contact for these comments is Bill Tippetts ([billtippetts@gmail.com](mailto:billtippetts@gmail.com)).

Sincerely,



Michael A. McCoy, President



Bill Tippetts, Board Member

## Newly Developed High-Speed Rail-Urban Light Rail and Personal Cars



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## Newly Developed High-Speed Rail-Urban Light Rail and Personal Cars

### 1.0 High-Speed Rail Systems

#### 1.1 In the U.S.

Video of a future High-Speed Rail network in the U.S. <sup>23</sup>

##### 1.1.1 In California

The CA Bullet Train project costs moved up to \$71.3E9, up \$13E9 from 2-years ago. The CAHSRA said the earliest train could operate on a partial system, between San Jose and Wasco by 2029. The Plans are in a 114-page Business Plan draft to be finalized by summer 2018 and submitted to the legislature. The increase in cost is between Wasco and Merced—a 119-mi stretch of track that will cost \$10.6E9 because of property buying issues. Includes video of the plan. <sup>12</sup>

- Mercedes Sierra was named COE of Spanish design firms Sener's U.S. operations-based in Los Angeles. She came from the parent firm's head of innovation and served in a top technology role for Spain's Ministry of Economy. Sierra launched its concentrated solar power business in the U.S. The firm is also involved in segments of the California high Speed Rail Line. <sup>19</sup>

- CA's HrSR will face an audit from the U.S. Department of Transportation as costs continue to climb with the \$3.5E9 federal grant. A business plan released in March shows the state only has \$30E9 and the plan states there will be a trip between LA to SF in less than 3-hr. The reported cost now is \$77E9. The federal grant calls for a 119-mi segment of track in the Central Valley and environmental review be completed by 2022. <sup>21</sup>

##### 1.1.2 In Texas

Video of Texas's plans for high-speed rail between Houston and Dallas. <sup>22</sup>

#### 1.2 International

##### 1.2.1 In Canada

Philippe Couillard, Premier of the Province of Quebec voiced support for creating a high-speed rail link between Montreal and Quebec City. He favors Monorail designs to travel between the 2-cities in about an hour, run on its own corridor, and take 10-years to design, build, and test. <sup>3</sup>

##### 1.2.2 In Russia

Russia has a high-speed rail from Moscow to St. Petersburg called the Sapsan [peregrine falcon] that travels at 155-mph. <sup>13</sup>

#### 1.3 Hyperloop Transportation System

The MD Attorney General's office is questioning permitting for the planned East Coast Hyperloop Project, sited near Baltimore. The MD Highway Administration gave Elon Musk's boring company a conditional utility permit to build a 12.4-mi-long tunnel in October 2017 for the experimental high-speed transit pods, traveling through twin tubes beneath the Baltimore-Washington Parkway. The hyperloop track could reduce the trip between NYC and Washington to 29-min. There are some permitting issues

and the project is expected to start in February 2018 and would include parallel tunnels with 14-ft boring exterior and a 12-ft interior diameter.<sup>2</sup>

#### 1.4 Amtrak

The new Amtrak regime will cut costs with chief executive Richard Anderson's goal to improve the bottom line. The National Park Service Trails & Rails will no longer be provided with meals or lodging to volunteers that provide commentary's. Some routes may also be cut.<sup>7</sup>

- Amtrak selected Penn Station Partners to develop a deal for the Baltimore Penn Station for a mixed-use development of 1.6E6-ft<sup>2</sup> with hotel, office, and residential space with new retail opportunities.<sup>8</sup>

### 2.0 Urban Light Rail Systems

#### 2.1 In the U.S.

Unable to produce bilevel passenger cars ordered by CA and 3-Midwest states, Sumitomo Corp of America is trying to fulfill terms of its original \$352.2E6-agreement by contracting with Siemens to produce single-level cars based on the design commissioned by FL's Brightline service. Engineering errors by Sumitomo's subcontractor, Nippon Sharyo USA, led to a bilevel design incapable of meeting the crash-energy management, buff strength, weight, and "Buy American" requirements tied to the federal grants paying for the 130-bilevel coaches, cafés, and cab cars in Rochelle, IL. Sumitomo told CA officials in August 2017 it struck a deal with Siemens for an alternative set of cars: bilevels, in a yet-to-be proven design within 5-years, or single-level cars, based on the Brightline's model, within 24 to 34-months. The IL DOT chose the single-level option. The 3-bilevel car types are to be replaced by 4-single-level versions like those by Brightline's service between Miami and West Palm Beach and extend to Orlando. Siemens designed the shells with a pocket in the entrance doors to accommodate steps for low-level bordering that will substitute for the powered bridge plate "platform extenders" Brightline specified for its high-level platforms.<sup>6</sup>

- With the new Congress passed tax reform legislation, the RR industry is eyeing an equally massive infrastructure bill to fund passenger and transit projects. The decline and fall of U.S. passenger rail services and supporting industry, and the rise of foreign-based lower cost car-builders, pushed Pullman-Standard, Bud, and St. Louis Car, into merger or extinction. A new generation of builders long ago in the U.S. market include car and equipment companies that stood the test of time, such as Brookville Equipment Corp. of PA; Canada's Bombardier; Alstom of France; Kawasaki, Kinkisharyo International, Sumitomo and Nippon Sharyo of Japan; Spain's Construcciones y Auxiliar de Ferrocarriles—CAF—; Stadler of Switzerland; Hitachi Rai Italy, Hyundai-Rotem of South Korea, and CRRC of China. And many of those foreign companies operate U.S.-based subsidiaries. In 2010 CAF USA won an order worth \$343E6 from Amtrak for 130-cars for long-distance services, that includes 25-sleepers, 25-dining cars, 55-baggage cars, and 25-dorm-baggage cars. Delivery of single-level cars was scheduled to begin in November 2014 to replace old and bought used cars. CAF faced production issues that delayed delivery of cars and they had defects, says Amtrak. Only 70-baggage cars were delivered, and a renegotiated contract called for delivery of all cars in the order by March 2017. Through December 2015 the delays resulted in \$7.0E6 in increased costs and deferral of \$3.7E6 in benefits the company expected to accrue from the cars being in revenue service. In Philadelphia the Southeastern Pennsylvania Transportation Authority—SEPTA—found itself facing a similar dilemma. They awarded a \$274E6 contract for 120-Silverliner V electric multiple-unit—EMU—cars

to Hyundai-Rotem in 2006 and problems cropped up early in the project. The order was 3-years late due to workmanship issues, including faulty welds. In 2016 cracks were discovered in equalizer bars in 115 of the cars. Under a liquidated damages provision in the contract, Hyundai was liable for about 65E3-late days at a cost of \$13E6. SEPTA's board used that payment to approve a \$6.28E6 contract with Hyundai to overhaul 11-push-pull cars built by Bombardier. The work was done at the South Philadelphia facility built to handle Silverline's final assembly. In mid-2012, MTA Long Island Road issued a joint procurement request for itself and Metro-North for up to 676-M9 EMU cars. In September 2013 Kawasaki Rail car was awarded \$1.8E9 for 92-M9 cars for the LIRR with options for 584-cars for LIRR and Metro North. 6-cars were delivered to TTCI in Pueblo, CO for testing. Production cars are scheduled for delivery starting in July 2018 at 12-cars/month. In December 2017 LIRR issued an RFP to pre-qualified firms for a minimum of 60 and up to 160 M9A married-pair [A car/B car] railcars structured as a base order with options. These cars are tied to the full funding grant agreement between the LIRR and the Federal Transit Administration for ESA, and it falls under a separate procurement from the contract NYMTA awarded to Kawasaki in 2013. The New York City Transit's 300 R179 subway cars built by Bombardier are 2-years late due to manufacturing problems.<sup>10</sup>

### 2.1.1 In California

Siemen's joined San Francisco Municipal Transportation Agency with the city in November 2017 to celebrate Muni's first Siemen's—built light rail vehicle entering revenue service. The new vehicles are being built at Siemen's Sacramento, CA manufacturing hub.<sup>1</sup>

- Caltrans amended its \$317E6 contract for new passenger cars replacing Nippon Sharyo with Siemens which will join with Sumitomo Corp. of America to fulfill the delayed multistate order and will supply 137-single-level passenger railcars, 49 to Caltrans, 88 to IL DOT and the cars will be delivered in 24 to 36-months.<sup>9</sup>

- The Los Angeles Section 1 of the Westside Subway Extension—a \$1.6E9 project will add 4-mi to the existing Purple Line with 3-excavations and the most complex, the La Brea Station that is 1,000-ft long, 65-ft wide, and 80-ft deep. The project is under Wilshire Boulevard and will use 2-tunnel-boring machines. The team started at the top, excavated 15-ft, installed temporary steel deck beams and precast concrete road decking over a weekend, and was open for traffic on Monday morning. An unexpectedly high level of flow caused dewatering to be a challenge. The originally planned dewatering configuration, deep wells was incapable of lowering the groundwater because of impermeability of the Fernando formation, which lays below the excavations bottom. The team supplemented the deep wells with a wellpoint system—a line of closely spaced wells extending around the perimeter of the excavation, that sucks the water out of the ground using a vacuum system, that lowers the water table to 75% of what is needed, at which point the vacuum wells take over and complete the drawdown. Perminate work, such as the mud mat, grouting grid, waterproofing membrane, and perminate concrete is now underway in preparation for the TBMs scheduled to launch in August.<sup>11</sup>

- Update on the Crenshaw-LAX Transit Project, one of 28-projects prioritized by Los Angeles Mayor Eric Garcetti for completion before the 2028 Olympics, that is funded by a half-cent sales tax increase. Excavation included 160E3-yd<sup>3</sup> from tunnel boring, 385E3-yd<sup>3</sup> of underground stations, and 325E3-yd<sup>3</sup> from cut-and cover work. At-grade sections the job required dealing with the Purple Line and new Rams stadium. The labor agreements require a "local hire" program that 40% of the working hours be done by locally targeted workers, 10% by disadvantaged LA residents, and 20% by apprentices.<sup>15</sup>

- European consortium—ACS Group and Hochtief will lead the construction of the \$1.95E9 automated rail system at the Los Angeles International Airport scheduled for completion by 2023. The 2.2-mi rail line will be 65-ft above ground and accommodate 9-trains. 6-stops will connect it to new parking facilities, rental-car points, and a light-rail station—part of an extension of LA Metro’s Crenshaw Line. The P3 will be for 25-years. Other members of the consortium will include Dragados USA, Flatiron, Fluor, Balfour Beatty, and Bombardier.<sup>16</sup>

#### 2.1.2 In Texas

The Fort Worth Transportation Authority led media and businesses on a tour of the future right-of-way for the TEXRail Line between downtown Fort Worth and the Dallas-Fort Worth International Airport. The first of 8-Stadler-built diesel multiple units arrived in TX recently, and are being stored on a siding near Fort Worth. Each train will carry 488-people and include a quiet car. TEXRail is the first commuter train in the U.S. to order Stadler’s FLIRT 3—the “bigger brother” of the Stadler GTW 2/6s being used in nearby Denton County, and on Austin’s Capital Metro Rail.<sup>4</sup>

#### 2.1.3 In Connecticut

Connecticut DOT’s Hartford Line commuter service will introduce a new color scheme. Operated under contract by joint partners, Transit America Services and Alternate Concepts, the line will run 17-round trips daily on the 36-mi route between New Haven and the capital city Hartford, CN. 12 of those will continue the additional 26-miles to and from Springfield, MA. Passengers will ride in leased MA Bay Transportation Authority, push-pull coaches built in 1987 & 1988 by German-Messerschmitt-Bolkow-Blohm. The 16-cars will be in 4-car trainsets being readied in MA. Motive power will come from CN’s Shore Line East Service, diesel push-pull trains that operate between New London and Stamford, CN on Amtrak and state-owned New Haven Line trackage, operated by Metro-North. All 6-CN’s GP40-2H locomotives are being rebuilt by National Railway Equipment in Mt Vernon, IL. The state is rebranding all its rail services as “CTrail”.<sup>5</sup>

#### 2.1.4 In Massachusetts

Boston’s Green Line track repairs program reduced derailments, but an aggressive maintenance program, improved safety standards, and more investment are needed to avoid more derailments, says a state oversight report. Track geometry needs attention and Green Line track standards do not appear to be strict enough for the tight tolerances required by the low-floor cars. Current repairs have lifted 7 of 58 speed restrictions and improved travel times up to 8-min. Derailments between 2014 and 2016 were 19, but in 2017 there were 3, all caused by human error, not track conditions, and 1 in January 2018 was caused by snow.<sup>17</sup>

### 2.2 International

#### 2.2.1 Canada

A new deal was worked out between Ontario, Canada transit agency METROLINX and railcar supplier Bombardier over delivery of 182-light rail vehicles has been resolved. A new agreement to construct 76-Flexity Freedom LRVs rather than 182 contained in the original order for the Eglinton Crosstown Finch West and Mississauga Hurontario Street projects, and the costs will be reduced to

C\$392E6 from C\$770E6. The 76-LRVs in the revised contract will see service on the crosstown, planned to open in 2021.<sup>9</sup>

- Alstom is running dynamic testing at the Velim test track in the Czech Republic, of the first Coradia Polyvalent dual-power diesel and 25-kV electric trains for Algerian State Railways. It will cover 20E3-mi, representing 400-hrs of dynamic testing, covering traction, braking, safety, and acoustics.<sup>9</sup>

### 2.2.2 England

England will spend \$2.2E9 to upgrade roads, build 2.9-km of twin-bored tunnels, and add a viaduct around the Stonehenge in Southwest England. The sites artifacts date from the Neolithic Period and were transported 30-km away and floated over the Severn Estuary to the sight.<sup>18</sup>

## 3.0 Developing Passenger Car and Truck-Energy Fuels and Navigation Systems

Rebates for zero-emissions vessels—ZEVs—can be obtained upfront and be applied at the point of sale. \$1,500 for plug-in hybrids, \$2,500 for EVs, and \$5,000 for hydrogen fuel cell cars.<sup>14</sup>

### 3.1 Plug-In Hybrid Electric Vehicles—PHEV—

### 3.2 All-Battery Electric—BEV—

Electric trucks are getting ahead with the Tesla Semi, Nikola One, and others designed for highway and local distribution. UPS increased the pace by partnering with Workhorse Group to test the electric van that could replace thousands of brown package cars in the delivery fleet. Electric vehicles—EVs—technology is improving with battery charging and smart grid advances that allow delivery vehicles to eliminate emissions, noise, and dependence on diesel and gasoline. As the cost of diesel fuel rises above \$3.00/gal on average and 60¢/gal higher in CA. In 1916 the electric car was pushed by General Vehicle Co. and from 2009 to 2016 sales of plug-in cars and light vans topped 2.0E6 units worldwide, with E.U., China, and the U.S. the 3-major market. HIS predicts EVs will be more than 30% of new cars sold in key automotive markets by 2040 from 1% in 2016. Battery pack costs are expected to fall by 2030 to make the EVs cost competitive with the IC-engine vehicles.<sup>20</sup>

### 3.3 Fuel Cell Electric—FCEV—

### *Reference:*

<sup>1</sup>Trains, February 2018 pp. 8

<sup>2</sup>ENR, January 29, 2018 pp. 11

<sup>3</sup>Trains, February 2018 pp. 9

<sup>4</sup>Trains, February 2018 pp. 10

<sup>5</sup>Trains, February 2018 pp. 12

<sup>6</sup>Trains, February 2018 pp. 22-23

<sup>7</sup>Trains, February 2018 pp. 23

<sup>8</sup> Railway Age, January 2018 pp. 6

<sup>9</sup> Railway Age, January 2018 pp. 8

<sup>10</sup> Railway Age, January 2018 pp. 42, 44 & 46 and Google.com: Pullman company-wikipedia

<sup>11</sup> ENR, February 19/26, 2018 pp. 36

<sup>12</sup> The San Diego U-T 3-10-18 pp. A2 and Google.com: california high speed trains: 10-min overview (10-12-08)-youtube

<sup>13</sup> Google.com: TRIPREPORT | Russia: highspeed train from moscow to st. petersburg

<sup>14</sup> The San Diego U-T 2-13-18 pp. C1 & C4

<sup>15</sup> ENR, February 5, 2018 pp. 18-21

<sup>16</sup> ENR, February 5, 2018 pp. 5

<sup>17</sup> ENR, March 5, 2018 pp. 17

<sup>18</sup> ENR, March 5, 2018 pp. 20

<sup>19</sup> ENR, March 12, 2018 pp. 15

<sup>20</sup> The Journal of Commerce, April 2, 2018 pp. 4

<sup>21</sup> The San Diego U-T 4-15-18 pp. A7

<sup>22</sup> Google.com: dallas looking at high-speed rail line linking to houston, video

<sup>23</sup> Google.com: the high-speed rail network of the future

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## **5-4-18 Transportation Committee Meeting**

### **1.0 Roads, Rail, High-Speed Rail, Bridges, Busses, and Bicycle Issues**

#### **1.1 Roads**

The national debt which topped \$21E12 is expected to soar to \$33E12 in 2028 and the debt held by the public will almost match the size of the economy, reaching 96% of the GDP—the highest since just after WW II. Rising deficits will drive up interest rates, raise borrowing costs for the private sector, tanking stock prices, and slowing the economy, driving the deficit higher. Trumps tax-overhaul for corporations and individuals will increase the size of the economy 0.7%/yr from 2018 to 2028, says the budget office, but will add \$1.8E12 to deficits over 2018 to 2028.

Ref: The San Diego U-T 4-10-18 pp. A2

##### **1.1.3 State County and City**

Update on the roundabout at the intersection of state Route 76 and Valley Center Road is on schedule to be completed by mid-Summer. The \$15.5E6 project is designed to slow traffic at the intersection, which was controlled by only a single stop sign at Valley Center Road. It has been the sight of numerous fatal and other accidents over the decades.

Ref: The San Diego U-T 4-11-18 pp. B1 & B4

- A car flipped upside down into a water filled sinkhole in El Cajon on 4-16-18, but the driver escaped without injury. The Helix Water District worked on the broken watermain and the intersection was closed, but the driver went around an emergency vehicle onto weakened asphalt.

Ref: The San Diego U-T 4-18-18 pp. B2

##### **1.1.6 Fatalities**

After 5-lawsuits over sidewalk issues in San Diego that cost the city millions of dollars in each case the city is looking for solutions.

Ref: The San Diego U-T 4-15-18 pp. B1 & B10

- In the last decade drivers in San Diego have injured some 7,000-pedestrians—wounding or crippling 660 and killing 302, says the CA Highway patrol. The report also said the number of tickets issued for the top violations associated with pedestrians is less than 2%.

Ref: The San Diego U-T 4-16-18 pp. A1 & A10

#### **1.2 Rail**

##### **1.2.1 Interstate Freight Systems**

North American Intermodal requires coordinated rail line capacity, rail car supply, terminal capacity, chassis supply, and container supply, all in balance.

Ref: The Journal of Commerce, April 2, 2018 pp. 14

##### **1.2.6 International Freight Systems**

Canadian Pacific's expansion into the Ohio Valley and productivity enhancements designed to increase network capacity signed the railroads intentions to increase its international intentions to increase its international intermodal freight. They want to expand intermodal business in Canada and the U.S. by using technology to enhance productivity to expand intermodal in both countries without overwhelming its ability to handle new business. A double-digit surge in cargo at the Ports of Vancouver and Prince Rupert have experienced double-digit surge in cargo. On-dock container dwell times are improving, and expectations are for further improvements. CP's intermodal is 21% of CP's freight volume, and the port-generated freight is 38% of CP's total intermodal business in 2017. CP will get more intermodal volume in April, when it increases its share of the intermodal business of the Japanese ocean carriers NYK Line, MOL, and "K" Line—the Ocean Network Express—ONE—from 33% to 85% after the business shifted from Canadian National. CP invested \$1.4E9 in 2017 and will invest \$1.6E9 in 2018. CP is partnering with Bluegrass—a farm consortium in OH, that offers transloading options where bulk-commodities are loaded into empty marine containers that are generated by the retail distribution facilities in the region, that are carried by rail to Vancouver for shipment to Asia.

Ref: The Journal of Commerce, April 2, 2018 pp. 40-41

### 1.3 High-Speed Rail—HSR—

#### 1.3.2 Higher-Speed Rail—HrSR—

CA's HrSR will face an audit from the U.S. Department of Transportation as costs continue to climb with the \$3.5E9 federal grant. A business plan released in March shows the state only has \$30E9 and the plan states there will be a trip between LA to SF in less than 3-hr. The reported cost now is \$77E9. The federal grant calls for a 119-mi segment of track in the Central Valley and environmental review be completed by 2022.

Ref: The San Diego U-T 4-15-18 pp. A7

### 1.6 Bicycle

#### 1.6.2 Bike Share Program

Update on dock less bikes and scooters that promise a solution to urban congestion. In China there are some 8 to 10.0E6 shared bikes on the roads. Costs bikes or docked stations run as high as \$5,000/bike, but dock less rentals skip that expense.

Ref: The San Diego U-T 4-15-18 pp. A1 & A8

## 2.0 Port and Military Issues

### 2.1 Ports

Seaport Village is under new management. The San Diego Unified Port District selected Protea Property Management to operate Seaport Village until June 30, 2021 with options to extend the term. It is the same company that will remake the 40-year old shopping and recreation area. The previous operator was Newport Beach-based Terramar Retail Centers.

Ref: The San Diego U-T 4-11-18 pp. C1 & C4

### 2.1.1 Container Ships

National truckload companies are levying surcharges or rejecting freight because of overwhelming demand in the typical slow season, frustrating shippers looking for additional capacity. This could also cause a crunch when produce season picks up in April and retailers stock up for the summer and early autumn. Trucking companies are busy in the 3<sup>rd</sup> and 4<sup>th</sup>-Q, when retailers stock the shelves for the holidays and in the in spring when growers sell fruits and vegetables, and stores began to stock up. Demand between those periods typically tapers off but is not the norm in 2018. Motor carriers are struggling to find the trucks needed to satisfy shippers needs.

Ref: The Journal of Commerce, April 2, 2018 pp. 39

#### 2.1.1.1 Regulation

Article on how disruptive technology made its way onto the marine sphere with apps, data, the Internet of Things, and remote operation permitting every level of the industry. Most of the focus has been on remotely operated or autonomous vessels and implementation of Artificial Intelligence in in vessel system operations. VSTEP completed its first stage with DAMEN Shipyards and Alphatron Marine with passing of the Factory Acceptance test for its NAUTIS full mission bridge simulator being built for the Royal Bahamas Defense Force. Operators have turned KVH Videotel's maritime training programs to help train its onboard crews in a variety of topics related to Standards of Training, Certification and Watchkeeping Code—STCW—. Videotel Performance Manager is expected to increase operational efficiency, safety, and crew performance. Marine schools such as San Jacinto College invested in a new state-of-the-art facilities and technologies, opened a new 45E3-ft<sup>2</sup> facility along the Houston Ship Channel in March 2016, offering more than 75-U.S. Coast Guard approved deck and engine courses and housing the latest technology and U.S. Coast Guard approved curriculum. The school blends both hands-on training and computer-based training within a classroom lecture.

Ref: Marine Log, March 2018 pp. 29-32

- Digital is the way forward. 4-months after its launch of IMO compliant electronic class and statutory certificates. Have been issued, and 6,000-vessels are operating with such certificates. Wärtsila Corporation subsidiary Eniram launched Eniram Skylight 3.0 for fleet performance monitoring. The service now includes mobile notifications and virtual propeller rpm sensing. The mobile notifications will provide information of speed, time of arrival, and charter party compliance.

Cathelco, Chesterfield, U.K. won an order to supply equipment for cruise and commercial vessels at shipyards in the E.U. and Far East. The company will provide its impressed current cathodic protection—ICCP—system to passenger vessels. The system consists of an arrangement of hull mounted anodes and reference electrodes wired to a thyristor control panel that protects the hull's wet surface against corrosion.

Ref: Marine Log, March 2018 pp. 34

- The FMC voted to investigate claims made by BCOs, freight forwarders, and trucking companies that some detention, demurrage, and per diem fees are unfair because their ability to receive cargo and return equipment is out of control. The Coalition for Fair Port Practices, petitioned the FMC to establish guidelines to discourage ocean carriers and marine terminal operators from charging hundreds of

thousands of dollars when the delay in picking up or dropping off containers was out of their control. Issues being investigated are: whether the alignment of commercial, contractual, and cargo interests enhances or aggravates the ability of cargo to move through U.S. ports. When carriers or marine terminal operators have tendered cargo to the shipper and consignee, what billing practices are for invoicing demurrage or detention, what practices are with respect to delays caused by various outside or intervening events, and what the practices are for resolution of demurrage and detention disputes between carriers and shippers.

Ref: The Journal of Commerce, April 2, 2018 pp. 26

#### 2.1.1.3 Crude Oil

The top 5-Very Large Crude Carrier—VLCC—are NITC-38, China VLCC-53, Cosco Shipping Energy-49, BAHRI-46, Maran Tankers-41.

Ref: Marine Log, March 2018 pp. 4

#### 2.1.3 LNG and CNG Terminals

IEnova—Semptra Energy's subsidiary in Mexico said they are investigating \$130E6 in a marine terminal that will be called Baja Refinados to receive, store, and deliver gasoline and diesel fuel at its facility a few miles north of Ensenada. The company signed a long-term contract with Chevron to use about 50% of the terminals storage capacity of some 1.0E6-bbls. It is expected on line in the 2<sup>nd</sup>-Q-2020 and be the 4<sup>th</sup>-refined product terminal in Mexico for IEnova. Another subsidiary of Chevron will have rights to 20% of the equity in the terminal. Only 7% of households in Mexico have access to natural gas. IEnova also moved to add \$900E6 on a wind energy farm with 84-turbines in Nueva León and finishing power agreements for solar projects. IEnova will also add an export component to its Costa Azúl facility with customs in Pacific markets and they held 3-permits from the Mexican government.

Ref: The San Diego U-T 4-14-18 pp. C1 & C3

#### 2.1.4 U.S.

The Ports of VA and GA hope an agreement to collaborate on operational and other issues will position them as prominent gateway ports on the U.S. East Coast with rail, a key focus. The FMC voted to accept the East Coast Gateway Port Terminal Agreement, between VA and GA—a first of its kind in the U.S., and hopes are it will spread to other ports. The agreement will jointly acquire operating systems and equipment; meet the share information on cargo handling, gate operations, turn times, staffing, and infrastructure; draft agreements with carriers, shippers, and other terminal operators; and sync marketing materials to attract joint services, alliances, and carriers network agreements, but the 2-ports will not be able to jointly set rates or charges.

Ref: The Journal of Commerce, April 2018 pp. 12

- Land valuations and rental rates for U.S. industrial real estate will rise in seaport cities and at major inland distribution hubs, but rents in tertiary markets 200-to 300-mi from ports could drop because of shortages of truck capacity and drivers. U.S. imports are the driver for industrial real estate. The strong growth in seaport markets and key rail-served inland hubs such as Chicago and Dallas, is attracting drivers because of drivers higher earning power in those markets. Drivers are less interested in the mid-range

market of Phoenix or Las Vegas because of port congestion and ELD requirements that limit distance drivers can drive each day. This is driving drivers to warehouses in Southern CA's Inland Empire or central New Jersey and the Lehigh Valley trans-loading facilities that service the Ports of NY-NJ on the East Coast.

Ref: The Journal of Commerce, April 2, 2018 pp. 20-21

- Cargo interests and truckers should know by early April if the PierPass extended-gate program in Los Angeles-Long Beach—in its 13<sup>th</sup> year, will be restructured to incorporate a flat fee coupled with trucker appointments. Port officials agree the largest U.S. gateway couldn't handle 17E6-TEUs without a regular schedule of night and weekend gates. Many U.S. ports struggle to handle 10.0E3 to 14E3-TEU mega-ships—a successful program in Southern CA could be a model for the nation. The 12-container terminal operators in LA-LB are assessing the options contained in a study released in March. Trucks bear the brunt of delays at marine terminals and agree with a lower flat fee, a portwide truckers appointment regime, and greater BCO participation on peel-off programs at individual terminals. Terminal operators who are members of West Coast Marine Terminal Operators Assoc. must decide on decisions on how the off-peak program will be developed because the FMC specifies terminal operators can only discuss matters involving rate setting among themselves, and not with outside parties such as BCOs and truckers.

Ref: The Journal of Commerce, April 2, 2018 pp. 29

- The Port of Oakland released its 5-Year Strategic Plan in March 2018, calling for more discretionary cargo, attracting a first-call inbound service from Asia, improving cargo velocity, and introduction of new logistics capabilities to increase container volume 8% by 2022. They will do this with process improvements, technology, and infrastructure development, to require handling 14E3-TEU Mega ships, and larger that already call at Oakland. They will also reduce pollution, import of inland transportation, and create more jobs. The port is also proceeding with a 283E3-ft<sup>2</sup> refrigerated distribution center, called Cool Port Oakland, and the 1<sup>st</sup>-phase of its Seaport Logistics Facility. The 440E3-ft<sup>2</sup> distribution center will attract transloading and inland transportation services, to expand to the West and Midwest. By the 3<sup>rd</sup>-Q-2018 it will have a digital portal—a single platform where cargo owners, terminals, truckers, equipment providers, and RRs can share information on shipments, and have the labor to handle it. The port will also foster zero and near zero emissions cargo handling equipment and trucks, landside to reduce health-risk and GHG emissions from vehicles. The current Maritime Air Quality Improvement Plan, reduced diesel emissions from trucks by 98% and vessels by 80% in the last decade.

Ref: The Journal of Commerce, April 2, 2018 pp. 32-33

#### 2.1.5 International

European trucking is at a decade high and set to climb, as the \$240E9 industry profits from shortages of drivers that is cutting capacity against rising demands, as economic growth moves ahead across the continent. The demands are attempting to move to rail, as freight rates jump by 14% in the 4<sup>th</sup>-Q-2017.

Ref: The Journal of Commerce, April 2, 2018 pp. 6-7

- Challenges at some Canadian ports and inland networks is handling a double-digit jump in laden imports in 2017. The government will review the 18-ports authorities to improve efficiency and security, says the Minister of Transport, Marc Garneau, and the government is considering privatizing Canadian ports. The

Canadian International Freight Forwarders Association—CIFFA—wants the government to fund more to its C\$2E9 National Trade Corridors Fund. Congestion on port networks is persisting without improvement, rising costs, loss of time, delays in containers moving from terminals to rail ramps and ramp to terminals have been a problem. Terminal operators must be held accountable says the CIFFA.

Ref: The Journal of Commerce, April 2, 2018 pp. 7

#### 2.1.7 Logistics

U.S. BCOs are moving to manage their supply chains, with intermodal rail delays and rising truck prices of \$300/container under current contracts to recoup their higher costs in the tight surface transportation market. The truck capacity pressure is exacerbated by the federal ELD mandate, that is trickling down to: Railroad, drayage, and transloading and long-haul truck-loads. Ocean carriers are responding with: emergency surcharges, raising tariffs, and suspending or restricting store-door deliveries in the U.S. The higher costs are being factored into BCOs and carrier service contracts that run from May to late April, with carriers reducing exposure to store-door contracts for inland moves to and from the port.

Ref: The Journal of Commerce, April 2, 2018 pp. 6

- The 2M Alliance-Maersk Line, Mediterranean Shipping Company, plus Hyundai Merchant Marine will adjust its Asia-Europe network to improve reliability.

Ref: The Journal of Commerce, April 2, 2018 pp. 8

- U.S. West Coast ports are taking the lead in breaking down the barriers to information sharing by building information portals to allow all port users to access the shipment data they need in a secure environment. The move will accelerate productivity measures such as: extended gate hours, trucker appointments, and container dray-offs in place, giving truckers and port users advanced information on shipments before vessels arrive at the ports. The increasing number of mega-ship calls and the intensity of import discharges needs for delivery are pressuring transportation providers to speed cargo fluidity for BCOs, to reduce congestion flare-ups, says the U.S. FMC. The Port of Los Angeles has been piloting a port information portal through its partnership with GE Transportation and it is moving to the Port of Long Beach, that will join the portal. The Port of Oakland partnered with Advent Intermodal Solutions to develop a digital platform for port users. The Northwest Seaport Alliance of Seattle and Tacoma will work with technology providers to establish a portal in 2018.

Ref: The Journal of Commerce, April 2, 2018 pp. 10-13

- Demand for warehouse and distribution space is growing faster in high-cost port cities and major inland hubs than in secondary markets, despite rents, labor, and land costs. Seaport locations—Los Angeles-Long Beach, and New York-New Jersey, and Island Hubs like Chicago and Dallas are experiencing rapid demand for industrial development because of convergence of traditional import distribution activities, and last-mile e-commerce fulfillment with rising costs.

Ref: The Journal of Commerce, April 2018 pp. 18-19

- Article on blockchain via documentation that offered a pool of containers, real-time tracking, and dwell time visibility. It was started on June 16, 2018 by Maersk and IBM, and on March 14, a consortium of AB

InBev, Accenture, APL, Kuehne + Nagel, and a European customs organization said they were testing a blockchain solution to eliminate shipping documents. On March 15, Hong Kong-based 300cubits completed the 1<sup>st</sup> trial shipment in its token smart contract, on the Ethereum blockchain. It is being compared to Bitcoin—that is controlled by a profit-making party intent on charging fees to use it. Will the logistics interreact with each other, will they dominate each other like Microsoft Windows to make one company rich.

Ref: The Journal of Commerce, April 2, 2018 pp. 46

#### 2.1.8 Hybrid and Electric Fleets—H & EF—

The top 5-H & EF vessel types in the global marine market place are: ferry-58, offshore vessel-32, passenger vessel-30, yacht-12, and tug-11. The U.S. owners have 22-H&EF vessels of: 5-tugs, 2-research vessels, 1-cargo vessel, 3-passenger vessels, and 11-offshore support vessels.

Ref: Marine Log, March 2018 pp. 4

- A keel laying at Derecktor Shipyards in Mamaroneck, NY will build an aluminum hybrid cargo vessel in the U.S.A. and an entire fleet of battery-powered cargo vessels will be built to zip-across Long Island Sound and the Hudson River as a sustainable shipping network. The vessels will carry 12E3-lbs of farm-to-table products, connecting local farms, ranches, and specialty food producers to restaurants, stores, and consumers in Connecticut. The program is a perfect short-sea shipping project imagined under the Maritime Administration's Marine Highways Program.

Ref: Marine Log, March 2018 pp. 2

- Norway is the clear leader in adding hybrid and all-electric vessels to its fleet, that is driven by regulatory compliance, improvements in battery technologies, funding through Norway's NO<sub>x</sub> fund, and the country holds almost 40% share of the hybrid, and all electric fleet. More than 50% of the fleet are ferries and offshore support vessels, and by the end of 2018 the fleet will reach 160-vessels operating, on order, or under construction. On Norway's West Coast, the Norwegian highway authorities stipulated the mandatory use of zero-emission technology. The vessels were designed by Norway's Multi Maritime and built by Tersan Shipyard in Turkey. The 2-battery-powered ferries have a capacity of 120-cars, 12-trailers, and 340-passengers and are fitted with a complete Blue Drive PlusC solution from Siemens. Each will be able to charge at charging stations at each end of the route. Siemens' BlueDrive PlusC solution includes lithium-ion batteries as an energy storage system, remote control of the propellers, energy management, an alarm and monitoring system, and remote diagnostic system. The automation system used on board the ferries is connected to automation and control systems of the on-shore charging stations over a W-LAN link to monitor the charging process. In neighboring Sweden Stena Line will convert the 550-car, 1,500-passenger ROPAX ferry Stena Jutladica to hybrid propulsion, in a 3-phase process. The 1<sup>st</sup> phase will use battery power in summer of 2018 to operate the ships bow thrusters for maneuvering in the port. The 2<sup>nd</sup> phase is expected to be complete in 2022 will extend battery operation to the propellers for 10-nmi and expand the battery capacity to enable operation on electricity for 50-nmi between Gothenburg and Vinga Lighthouse. The 3rd-phase is expected to be complete in 2030 will expand the battery capacity to enable operation on electricity for 50-nm—the distance between Gothenburg and Frederikshavn, Denmark. If the process is successful it will be applied across its 38-vessel fleet. In the U.S. tug operators Baydelta Maritime and Harbor Docking and Towing will add hybrid Z-drivers to their fleet and offshore

service operator SEACOR Marine Holding's will outfit 6-acquired Platform Supply Vessels—PSVs—with hybrid propulsion technology from Rolls-Royce. SEACOR will upgrade 4-other OSVs with technology for its Mexican joint venture MEXMAR. In WA state, where maritime means \$37.6E9 in direct and indirect revenues/yr, the state launched the Maritime Blue Initiative to cut GHG emissions for more sustainability by 2050. WA state ferries, Amy Scarton wants to cut emissions from ferries and convert 3-Jumbo Mark II Class ferries to hybrid electric propulsion. Derecktor Shipyards will build the 1<sup>st</sup> all electric car ferry at Gee's Bend Ferry in Camden, AL that will be operated by HMS Ferries on the Alabama River on a 1.5-mi route between Gee's Bend and Camden, AL, under a contract with ALDOT, with funding from the EPA and the state. Seattle-based Glosten has been the designer and builder since 2015. Glosten is also building a 72-ft, 149-passenger hybrid ferry for Kitsap Transit being built at All American Marine in Bellingham, WA. They are building the 600-passenger Enhdra for the Red and White Fleet of San Francisco, based on a Teknicraft design. There will be near total elimination of diesel emissions, significant reduction in noise, and a 50% reduction in operating costs. It will recharge after each one-way trip.

Ref: Marine Log, March 2018 pp. 24 & 26

## 2.2 Military

### 2.2.1 Ships and Planes

The Pentagon says the \$1.1E12 cost of owning and operating the F-35-jets needs to be lowered and the U.S. Air Force may need to cut its F-35 purchases by 38% or 590-jets, to cut costs and operate the fleet. As of January 2018, 268-F35s were fielded and 670 more are expected by 2023. It appears to be another case of over charging the U.S. for planes and then selling the next production run of the same planes at reduced costs after development and tooling were paid for by the U.S., to the NATO nations.

Ref: The San Diego U-T 4-7-18 pp. A12

- A Greek Air Force jet crashed into the Aegean Sea on 4-12-18 killing the pilot as he returned from a mission to intercept Turkish aircraft, that violated the country's air space, says Greek officials.

Ref: The San Diego U-T 4-13-18 pp. A3

- The carrier Carl Vinson parked at the North Island Naval Air Station Pier about 9:00 a.m. with the destroyer Wayne E. Meyer arriving shortly after. Home ported cruiser Lake Champlain and Hawaii based destroyer Michael Murphy destroyer Michael Murphy will conduct exercises in the Pacific Ocean before wrapping up their shortened tours. The Carl Vinson was out for 6-months on its 46E3-mi tour across the Western Pacific. Article also expands to Vietnam visits since 1975.

### 2.2.2 International Issues

U.S. and North Korean officials have engaged in secret back-channel talks and Pyongyang has committed to a summit between President Donald Trump and Kim Jong Un that will touch on denuclearization of the Korean Peninsula, says the White House. President Trump had accepted an invitation from Kim to meet and the North Korean government just now approved the meeting. North and South Korea have had meetings too. Trump will meet with Japanese Prime Minister Shinzo Abe on April 17, 2018 in FL, over the North Korean issues. President Trump's North Korean negotiator Joseph Y. Yun departed the foreign service.

Ref: The San Diego U-T 4-9-18 pp. A1 & A7

- North Korea's Kim Jong Un welcomed a senior envoy from Beijing feting him and a visiting Chinese art troupe with a gala dinner as they mended their ties. Kim has thoughts of international issues of concern to North Korea and China with Chinese diplomat Song Tao.

Ref: The San Diego U-T 4-16-18 pp. A3

- Kim Jong Un will present himself with his wife Ri Sol Ju and sister Kim Yo Jong more often, to boost his image and spot light the women in his life. They also have the pop-group Moranbong Band and reportedly have 3-children.

Ref: The San Diego U-T 4-18-18 pp. A7

- South Korea is in talks with American and North Korean officials for a Peace Treaty to end the Korean War, after more than 60-years. Chung Eui-Young—National Secretary Adviser to South Korea President Moon Jae-in is talking with John Bolton the American counterpart, that will talk with Kim Jong-Un. North Korea wants security guarantees.

Ref: The San Diego U-T 4-19-18 pp. A11

- CIA Director Mike Pompeo made a top secret visit to North Korea over Easter weekend as an envoy for President Trump to meet with Kim Jong Un to discuss nuclear weapons program. Mike Pompeo is being nominated for the next Secretary of State position.

Ref: The San Diego U-T 4-18-18 pp. A1 & A6

- North Korea dropped its demand that U.S. troops be removed from South Korea as a condition for giving up nuclear weapons, says President Moon. There are some 28,000-U.S. troops in South Korea. Reports on North Korea's national budget looks good to investors.

Ref: The San Diego U-T 4-20-18 pp. A1 & A6

- More on President Trumps summit with Kim-Jong Un

Ref: The San Diego U-T 4-19-18 pp. A11

- North Korean Kim Jong Un declared he will suspend nuclear and missile tests starting on 4-21-18 and will shut down the site where the previous 6-nuclear tests were conducted. The announcement comes 6-days before Kim is set to meet South Korean President Moon Jae-in a precursor to a historic summit between Kim and President Trump at a location being arranged by CIA Director Mike Pompeo, that went to talk with Kim. Kim will also 'denuclearize". On 4-27-18 Kim will step into the 'Peace House" on the southern side of the Military Demarcation Line that has divided the peninsula since 1953, to meet south Korea's president Moon. Japan's Defense Minister Itsunri Onodera questions the use of short and midrange missiles, which he wants Kim to clarify. The International Community expects abandonment of all weapons of mass destruction and ballistic missiles, in a complete verifiable and irreversible manner. Daryl Kimball of the Arms Control Association in Washington says it is a significant move forward. Hotlines have been installed on Moon's desk in Seoul and State Affairs Commission in Pyongyang.

Ref: The San Diego U-T 4-21-18 pp. A1 & A12

- In 2017 President Trump called Qatar a “funder of terrorism”—now welcomed it’s monarch to the oval office on 4-10-18, saying he was a partner in the fight against extremist.

Ref: The San Diego U-T 4-11-18 pp. A3

- San Diego’s destroyer Higgins launched 23-Tomahawk land attack missiles from the North Persian Gulf—about 1 out of 5-cruise missiles striking 3-Syrian chemical weapons complexes from the Navy’s Surface and Submarine forces, plus warships and aircraft from America, France, and the U.K. In addition to the Higgins, sister ships destroyer Laboon and cruiser Monterey in the Red Sea. In the Mediterranean Sea, the French frigate Longuedoc sent in long range storm shadow missiles and the Virginia-Class submarine John Warner launched 6-Tomahawks. U.S. Air Force B-1 bombers shot 19 Lockheed Martin AGM-158 extended range Joint Air-to-Surface standoff missiles at the Barzah Research and Development Center near Damascus.

Ref: The San Diego U-T 4-17-18 pp. A3

- President Trump will welcome Japanese Prime Minister Shinzo Abe to Mar-a-Lago this week to shore up their relationship amid strains in the U.S.-Japan Alliance ahead of Trumps summit with North Korea’s leader Kim Jong Un at Trumps winter resort in Palm Beach, FL for 2-days. The two have met and spoken 20-times since the President’s term in office. Kim and South Korea’s President Moon will meet later in April and Kim met China’s President Xi Jinping in Beijing. Topics will be trade, energy, China, and North Korea.

Ref: The San Diego U-T 4-15-18 pp. A7

- China says they will hold live-fire military exercises in the Taiwan Strait amid heightened tensions over increased American support for Taiwan’s government.

China’s government on 4-18-18 denied President Xi Jinping’s promise of market-opening measures this week was aimed at setting a tariff dispute with Washington and said negotiations are impossible under “unilateral coercion” by the U.S. A commerce Ministry spokesman, Gao Feng complained Trump’s government has shown no sincerity to the official Xinhua News Agency and have yet to start negotiations.

Ref: The San Diego U-T 4-13-18 pp. A3

- Palestinians made their way to the fence separating Gaza from Israel again on 4-13-18 as Israeli soldiers repulsed attempts to cross the barrier with tear gas and live fire and wounding hundreds with only one killed. But dozens were killed on the two previous Fridays.

Ref: The San Diego U-T 4-14-18 pp. A3

- Raúl Castro age 86 will step down and hand power over to someone out of the Castro dynasty, Miguel Diaz-Canel Bermúdez, age 57 who is a Communist Party loyalist. Raúl Castro will remain as the head of the Communist Party. The diplomatic opening with the U.S. has closed under President Trump, limiting Diaz economically. His brother Fidel died at 90 and ran an Marxist-Leninist Party.

Ref: The San Diego U-T 4-19-18 pp. A3

### 3.0 Water Issues

### 3.1 Regulations

### 3.5 Recycled Water

#### 3.5.1 Municipal Waste

A plan to pipe treated wastewater from Tijuana to the Guadalupe Valley to support its wine-growing region and reduce flow to the overburdened San Antonio de los Buenos, coastal sewage treatment plant. The vision revolves around the treatment from Tijuana's La Morita and Arturo Herrera plants that flows down the Tijuana River Channel. A private company will build the aqueduct.

Ref: The San Diego U-T 4-11-18 pp. B2

### 4.0 Pipelines and Tunnel Issues

#### 4.1 Pipelines

##### 4.1.1 Water

On 4-10-18 the Board of the Metropolitan Water District of Southern California voted to pay \$10.8E9 toward the twin-tunnel water project, supported by the governor. The 35-mi-long tunnels would divert part of the state's Sacramento River to supply water to the San Francisco Bay Area, the agricultural San Joaquin Valley, and Southern California. State water districts had previously balked at the \$16E9 total cost of the 2-tunnels. The vote pitted MWD's two-biggest members—the city of Los Angeles, and San Diego County Water Authority against the Municipal Water District of Orange County.

Ref: The San Diego U-T 4-11-18 pp. A2

##### 4.1.5 Oil and Gas

##### 4.1.5.2 International

Kinder Morgan said it is suspending all nonessential activities and spending on its Trans Mountain Pipeline expansion that would triple flow of oil sands to the Pacific Coast. The British Columbia government is opposing the project and protests at Kinder Morgan's terminal in Burnaby, British Columbia. Kinder Morgan is perusing a solution of the project that is by the Canadian division of Texas-based Kinder Morgan that would increase the number of oil tankers in shared waterways between Canada and WA.

Ref: The San Diego U-T 4-9-18 pp. A5

### 5.0 Transportation Environmental Issues

#### 5.1 Maritime Transportation Emissions

Talks will begin in 2018 at the IMO over regulating vessels speeds that could slow shipper supply chains. The IMO's Marine Environment Protection Committee is working on a strategy to reduce GHG emissions from ships which includes a list of short-and-long-term measures. A 10% speed reduction would call in idle capacity and would necessitate building more ships. With a 20% reduction you would need to build a lot of new inventory, and at 30% would require tremendous capital investments to move the same amount of material around the world. Slow steaming is typically used to lower operating costs when

shipping is struggling. GHGs have reduced 10% since 2007-2012 because of more efficient vessels and slow-streaming. Refrigerated markets would be at risk with perishables.

Ref: The Journal of Commerce, April 2018 pp. 28

## 6.0 Transportation Financial Issues

Trump's transportation \$500E6 grants will go to rural areas for more road and rail projects because they voted for him. The grants will be issued to ID, ND, and OK. The new grants have nothing for New York City, Los Angeles, or Chicago. It's a refocusing from priorities of the Obama-era with TIGER grants to urban areas. More than 64% of this round of TIGER grants was awarded to rural projects. There is also \$50E9/yr distributed to states by formula from the Highway Trust Fund. President Trump signed a \$1.5E12 spending bill in March 2018. In the Obama era most TIGER grants went to democratic districts. Grants use competitive criteria based on economic benefits, safety, state of disrepair, and environmental benefits of projects. Of the 41-grants by the Trump Adm., 25-totaling \$271E6 were awarded to projects in Congressional districts of Republicans. Democrats got 14 and \$190E6 respectively. \$25E6 went to district lines. The Obama Adm. funded urban projects centered on pedestrian walkways and bike trails. The Trump Adm. has bike ways for pedestrian and bikeways along the Schuylkill River in Philadelphia. The Trump Adm. is focused on port upgrades in AL, Biltmore, and New Orleans. \$25E6 will go to AZ to ease congestion from the U.S. Mexican Port of Entry in Nogales in AZ. Other projects are freight rail in ID, traffic in MO, and a bypass in NE.

Ref: The San Diego U-T 4-9-18 pp. A1 & A7

### 6.1 Ports

## 7.0 Airport and Global Space Issues

### 7.1 Airport

#### 7.1.4 Air Freight

Historically 50% of the air-cargo spot market was driven by emergency shipments plus business cycle, the new paradigm—a few years ago, it was too much capacity and low volume, “just in time” inventory, and emergency shipments. Now its to market, that is straining capacity everywhere, especially in peak seasons that are getting longer. Sanne Manders of Flexport-based in San Francisco, digital freight forwarders and customs broker said, in 2017 e-commerce and planes flying directly form China to U.S. was the norm—volumes were larger, but tonnage was not because there is a lot of air in the parcels. Supply capacity was tied down with planes grounded for heavy maintenance servicing. A lot of capacity is parked in the desert—passenger 747s that can be converted to freighters that needs capital and 6 to 9-months for the overhaul. Flexport will launch its first weekly freight flight between Hong Kong and Los Angeles in August 2018. On the trans-Pacific route 2-flights/wk on Atlas Air Boeing 747-400 freighters has a capacity of 1,600-tons/month—to meet demand. The schedule will increase in September to 3-times/week, and then to a capacity of 2,400-tons/month. The private cargo flights will target manufactures, exporters, and trading companies in Shenzhen, Guangzhou, Hong Kong, and cities in the South China, and importers based in North America. Air cargo from the 1990s was steady and predictable, but since 2008-9, the industry has been hurt by disruptions of the supply-demand equilibrium.

Ref: The Journal of Commerce, April 2, 2018 pp. 15-17

- Space constrained air freight shippers will have a new ocean option in July when container carrier APL launches a 11-day trans-Pacific service between Shanghai and Los Angeles. It will lure air freight shipments to the ocean and is an extension of the Eagle Suite of time-definite and guaranteed offerings by the Singapore-based carrier APL. The ships will be 2,000-TEU and be speedier to market. South Korean-based SM Line will introduce its Asia-Pacific Northwest Service in May 2018, to link China, South Korea, and Japan with Vancouver and Seattle with 4,000 to 4,600-TEU ships. Trans-Pacific importers should expect an injection of 8 to 9% of eastbound shipping capacity outpacing demand forecasts of 5 to 6% even with the 19% week-to-week drop in spot rates following Lunar New Year suggests carriers are struggling to manage capacity. Ocean and THE shippers, plan to upsize ships deployed in the Pacific trades. The 2M Alliance of Maersk Line and Mediterranean Shipping Company has not announced ship upsizing, but Alphaliner said the 2M will have an option to deploy vessels that shipbuilders will deliver this year of 10.0E3 to 15E3-TEU capacity, as well as 13E3 to 15E3-TEU vessels from the Asia-Europe trades.

Ref: The Journal of Commerce, April 2018 pp. 34 & 36

#### 7.1.5 Safety

A Southwest Airlines jet blew an engine at 32E3-ft and was hit by shrapnel that smashed a window, setting off a scramble by passengers to save a woman from getting sucked out. She later died, 7-others were injured, and the decompression of the cabin, pulled her part-way through the opening. The pilot took the plan into a rapid descent and made an emergency landing in Philadelphia.

Ref: The San Diego U-T 4-18-18 pp. A2

- An engine fan blade snapped off an engine, on a Southwest Airlines Flight at 500-mph. The woman-pilot, a former Navy FIA-18 pilot was able to fly the plane down safely.

Ref: The San Diego U-T 4-19-18 pp. A5 and 4-20-18 pp. C1 & C4

#### 7.1.6 U.S.

Carlsbad airlines service Cal Jet by Elite Airways with service to Las Vegas will add 4-more cities—Oakland Phoenix, San Jose, and Sacramento starting in the middle of July.

Ref: The San Diego U-T 4-13-18 pp. C1 & C2

- Air service between Carlsbad and Las Vegas ended in the week of 4-15 to 21, 18 by Cal Jet, but may come back in June and July with more destinations.

Ref: The San Diego U-T 4-21-18 pp. C1 & C3

### 7.2 Global and Space

#### 7.2.6 Deep Space

NASA's newest planet hunter, the Tess spacecraft will be launched on April 16, 2018. NASA's astrophysics' Paul Hertz says they expect to find thousands of exoplanets outside our solar system. The Transiting Exoplanet Survey Satellite—TESS—is the heir to the Kepler Space Telescope, who's fuel tank is running low after 9-years, will be shut down in a few months, and that found more than 2,600-exoplanets. The present count over the last 20 + years is greater than 3,700 and 4,500 on the strong contender list.

The missions price is \$337E6. The 800-lb, 4-ft by 5-ft TESS will ride a SpaceX Falcon 9 from Cape Canaveral Air Force Station in FL.

Ref: The San Diego U-T 4-15-18 pp. A31

## 8.0 Border and Cultural Issues

### 8.1 Border

#### 8.1.1 Import-Export

The trade war between the U.S. and China is now having an impact on the Dow Jones Stock Market, with swings of some 2.5% or 570-points.

Ref: The San Diego 4-18-18 pp. A1 & A15

- The U.S. told the World Trade Organization—WTO—it has agreed to discuss with China, Trump's efforts to slap tariffs on steel, Aluminum, and other goods from China. The move buys Washington time to flesh out its differences with Beijing. The U.S. says U.S. companies were forced to give up technology to obtain access to China's market. India also wants consultations with the U.S. over steel and aluminum tariffs. The E.U. is doing likewise. Mexico and Canada under NAFTA have won temporary exemptions. China said they would ease rules that required GM, Toyota, and VW to link up with a local partner before building a factory in China. For manufacturers of electric cars, jet liners, helicopters, and drones, China will move faster to eliminate foreign ownership limits in 2018.

Ref: The San Diego U-T 4-18-18 pp. A3

- American Companies buying steel and aluminum are hurting, from tariffs by the Trump Administration, and are asking for exceptions for the 25% on steel and 10% on aluminum tariffs. American steel makers are raising their prices and steel parts makers may have to move their operations to Mexico to make a profit, where steel is cheap. The steel and aluminum companies can appeal to the Commerce Department for exemptions if they cannot get metals in the U.S. The Commerce Department received 2,180-requests for exemptions.

Ref: The San Diego U-T 4-19-18 pp. A1 & C3

- Shippers hope the U.S. customs and Border Protections Automated Commercial Environment System will operate more efficiently than in the past.

Ref: The Journal of Commerce, April 2, 2018 pp. 8

- U.S. exporters of recyclable materials began to find new Asian markets after China announced an import ban in July 2017. Exporters of recyclables to China in 2016 totaled less than 1.0E3-TEU that fell by 215E3-TEUs or 21.6%. India the No. 2 destination for U.S. recyclables exports with volume up 4.9% to 85,013-TEU in 2017. Vietnam is the No. 3 export market with increases of 239% to 33,300-TEUs in 2017. Malaysia's recycle imports of recycles is up 281.3% to 12,397-TEUs from 3,251-TEU in 2016. Taiwan grew its imports 36.7% to 18,377-TEUs. Almost 80% of the waste volume that enters China—some 4E6 to 5E6-TEUs in 2016, is shipped from the U.S., Japan, and U.K. From the carrier front, Cosco Shipping increased its volume 7.9% to 128,755-TEUs. CMA CGM-APL's TEU volume grew 7.2% to 184,023, while OOCL increased volume 5.9% to 44,038. Hyundai Merchant Marine increased its U.S. recyclable material exports by 63.7% to

45,791-TEU. Carriers that posted losses were 48.7% at Hapag-Lloyd at 36,703-TEU, 35.1% at Maersk-Hamburg at 132,655-TEU, and “K” Line at 31.1% at 32,964-TEU. Taiwan’s Yang Ming and Evergreens were 27,722-TEUs, 27.2% and 126,351-TEUs at 0.1% respectively. The wastepaper sector of U.S. exports fell 13.4% to 1.1E6-TEU as China slashed import licenses for cardboard in 2018, that hurts carriers that use it on backhaul routes. China is prioritizing the tonnage of cardboard packaging for international products that requires long fiber material—mainly provided by U.S. suppliers.

Ref: The Journal of Commerce, April 2, 2018 pp. 37-38

- President Trump wants to impose tariffs of \$100E9 more on China’s imports after the last \$50E9 rounds of tariffs.

Ref: The San Diego U-T 4-6-18 pp. A1 & A9

- President Trump said the U.S. is looking into rejoining a multinational trade agreement known as the Trans Pacific Partnership, a deal he pulled out of on January 13, 2017 in the oval office. The rejection of the TPP is being opposed by farmers and other businesses over tariffs and trade barriers he called a “rape of our country”.

Ref: The San Diego U-T 4-13-18 pp. A4

- In Mexico’s “New Detroit”, General Motors is hiring hundreds of workers in a truck factory. BMW is on track to finish building an assembly plant in 2019. In March 2017 Canadian parts manufacturers Linamar said it would put \$50E6 into expanding operations at 2 of its Mexican plants. President Trump’s tough talk on trade has rattled the El Bajio region. Ford canceled a plant in El Bajio in 2017, even though the steel framing was up. Toyota downsized plans for a plant after they were criticized by Trump. The Japanese are holding off, but American companies are taking a longer view. In 2017 the state could trumpet investments by 40-companies, mostly automotive, totaling \$1.7E9 and creating 14,426-jobs. Undoing the NAFTA agreements will not be enough to trigger automotive exodus from El Bajio.

Ref: The San Diego U-T 4-24-18 pp. C1 & C4

#### 8.1.2 Ports of Entry

There were 37,393-southwest border apprehensions on the U.S.-Mexican border including San Diego, that is up 32% from February 2018 and 203% increase from March 2017.

Ref: The San Diego U-T 4-6-18 PP. A1 & A8

- A ruling by a San Diego federal judge allowing construction of President Trump’s border wall to go ahead will be appealed by two-entities that opposed it, including the state Attorney General. The center for Biological Diversity and Attorney General Xavier Becerra who filed formal notices of appeal seeking to reverse a decision.

Ref: The San Diego U-T 4-10-18 pp. B2

- Homeland Security Kistjen Nielson toured the border Patrol’s El Centro Station. Gov. Brown and Present Trump settled their differences and Gov. Brown sent 400-National Guard troops to fight criminal gangs, human traffickers, and smugglers, moving guns and drugs statewide.

Ref: The San Diego U-T 4-19-18 pp. A1 & A6

- The U.S. General Services Administration is preparing to fund a \$122E6 upgrade to the Otay Mesa Port of Entry that would include expansion of the port's pedestrian and truck processing capabilities. It will start in the Fall of 2018, be completed by fall of 2021, and is part of the \$1.3E12 spending bill approved in March 2018.

The Southern Terminus of the South Bay Rapid Project—a 26-mi route from Otay Mesa port of Entry to Chula Vista to Downtown San Diego will open in January 2019 with other improvements.

Ref: The San Diego U-T 4-20-18 pp. B2

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