Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105

Meeting Agenda

Bay Area Partnership Board

Rick Ramacier, Chair

Friday, September 28, 2018	**1:00 PM**	**Board Room – 1st Floor**

This meeting is scheduled to be webcast live on the Metropolitan Transportation Commission's Website: http://mtc.ca.gov/whats-happening/meetings and will take place at 1:00 p.m.

1. 18-0799 Call to Order / Introductions

Presenter: Chair Rick Ramacier

2. 18-0791 Approval of the Bay Area Partnership Board Minutes of the February 23, 2018 Meeting

Action: Board Approval

Attachments: 02_Partnership Meeting Minutes.pdf

3. 18-0792 Partnership Technical Advisory Committee Update

Action: Information

Presenter: Nancy Adams

Discussion

4. 18-0793 Horizon: Fall 2018 Update

Update on the Horizon long-range planning process, including the three futures (“what if…” scenarios), the project performance assessment framework, and the two perspective papers released to date.

Action: Discussion

Presenter: Matt Maloney and Dave Vautin

Attachments: 04_Horizon_Fall 2018 Update.pdf

5. 18-0794 Mobility as a Service

Information and overview of Mobility as a Service (MaaS), an app-based platform that would enable travelers to plan a trip via multiple service providers and pay for that trip using a single travel account, and initiatives in the Bay Area related to MaaS.

Action: Discussion

Presenter: Andrew Fremier, MTC; Carol Kuester, MTC; Timothy Haile, CCTA; Ravindra Misra, BART; and Rick Ramacier, County Connection

Attachments: 05_MaaS.pdf
Handout_Presentation

Information

6. 18-0796 Regional Measure 3 Implementation Update

Update on Regional Measure 3 approved by voters on June 5, 2018, with an overall 55% yes vote among the nine Bay Area counties.

Action: Information

Presenter: Craig Bosman

Attachments: 06_RM3 Update.pdf

7. 18-0797 Proposition 6: Overview, Bay Area Impacts and Public Information Plan

Update on the Senate Bill 1 Repeal Initiative.

Action: Information

Presenter: Rebecca Long

Attachments: 07_Prop 6.pdf

8. 18-0798 Bay Area Transit Ridership Trend Study

MTC has partnered with the UCLA Luskin School of Public Affairs to develop a Bay Area transit ridership trend study, similar to the recent study released by the Southern California Association of Governments examining these trends in Southern California.

Action: Information

Presenter: Anne Richman and Kenneth Folan

Attachments: 08_Transit Ridership Trend Study.pdf

9. Public Comments / Other Business

10. Adjournment / Next Meeting

The next meeting of the Bay Area Partnership Board will be duly noticed.

Public Comment: The public is encouraged to comment on agenda items at Committee meetings by completing a request-to-speak card (available from staff) and passing it to the Committee secretary. Public comment may be limited by any of the procedures set forth in Section 3.09 of MTC's Procedures Manual (Resolution No. 1058, Revised) if, in the chair's judgment, it is necessary to maintain the orderly flow of business.

Meeting Conduct: If this meeting is willfully interrupted or disrupted by one or more persons rendering orderly conduct of the meeting unfeasible, the Chair may order the removal of individuals who are willfully disrupting the meeting. Such individuals may be arrested. If order cannot be restored by such removal, the members of the Committee may direct that the meeting room be cleared (except for representatives of the press or other news media not participating in the disturbance), and the session may continue.

Record of Meeting: Committee meetings are recorded. Copies of recordings are available at a nominal charge, or recordings may be listened to at MTC offices by appointment. Audiocasts are maintained on MTC's Web site (mtc.ca.gov) for public review for at least one year.

Accessibility and Title VI: MTC provides services/accommodations upon request to persons with disabilities and individuals who are limited-English proficient who wish to address Commission matters. For accommodations or translations assistance, please call 415.778.6757 or 415.778.6769 for TDD/TTY. We require three working days' notice to accommodate your request.

可及性和法令第六章：MTC 根據要求向希望來委員會討論有關事宜的殘疾人士及英語有限者提供服務/方便。需要便利設施或翻譯協助者，請致電 415.778.6757 或 415.778.6769 TDD / TTY。我們要求您在三個工作日前告知，以滿足您的要求。

Acceso y el Titulo VI: La MTC puede proveer asistencia/facilitar la comunicación a las personas discapacitadas y los individuos con conocimiento limitado del inglés quienes quieran dirigirse a la Comisión. Para solicitar asistencia, por favor llame al número 415.778.6757 o al 415.778.6769 para TDD/TTY. Requerimos que solicite asistencia con tres días hábiles de anticipación para poderle proveer asistencia.

Attachments are sent to Committee members, key staff and others as appropriate. Copies will be available at the meeting.

All items on the agenda are subject to action and/or change by the Committee. Actions recommended by staff are subject to change by the Committee.

Metropolitan Transportation Commission

375 Beale Street, Suite 800
San Francisco, CA 94105

Legislation Details (With Text)

File #:	18-0799	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Call to Order / Introductions				
Sponsors:					
Indexes:					
Code sections:					
Attachments:					

Date	Ver.	Action By	Action	Result

Subject:
Call to Order / Introductions

Presenter:
Chair Rick Ramacier

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0791	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Committee Approval
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Approval of the Bay Area Partnership Board Minutes of the February 23, 2018 Meeting				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	02_Partnership Meeting Minutes.pdf				

Date	Ver.	Action By	Action	Result

Subject:
Approval of the Bay Area Partnership Board Minutes of the February 23, 2018 Meeting

Recommended Action:
Board Approval

Attachments:

Metropolitan Transportation Commission

Meeting Minutes

Bay Area Partnership Board

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105

Friday, February 23, 2018 **9:00 AM** **Bay Area Metro Center**
375 Beale Street, The Board Room – 1st Floor
San Francisco, CA 94105

This meeting was recorded. Copies of recordings may be requested at the Metropolitan Transportation Commissioner (MTC) at nominal charge, or recordings may be listened to at MTC offices by appointment.

1. Call Meeting to Order / Introductions (Daryl Halls)

2. Consent Agenda - Approval

Upon the motion by John Ristow and the second by Art Dao the Consent Calendar was unanimously approved by the Board.

18-0157 Minutes of the December 20, 2017 meeting

Action: Board Approval

Attachments: 2_12202017_Partnership Meeting_Minutes.pdf

3. Partnership Technical Advisory Committee Update (Anthony Adams)

No report was given in the absence of Anthony Adams.

DISCUSSION

4. 18-0158 Linking Transportation Funding and Housing Outcomes

The Commission directed MTC/ABAG staff to report back by July 2018 on supplemental housing condition criteria that would consider all funding sources for public and stakeholder review. As a follow-up to the last Partnership Board meeting, this item is an open ended discussion about this and other strategic funding questions facing the region. A series of questions and some background will be provided to jumpstart the discussion.

Action: Information

Presenter: Anne Richman

Attachments: 4_Linking Transporation Funding and Housing Outcomes.pdf

5. 18-0159 Futures and Future Mobility

Staff is kicking off an effort called Futures to examine multiple sets of external conditions - new technologies, unexpected natural or manmade disasters, economic booms and busts, and political volatility - and think through policy and investment solutions that make sense in each distinct future. At the same time, the landscape around us is changing quickly as it relates to shared use mobility services and autonomous vehicles. We welcome a discussion of the related regional and local policy implications, near-term issues to be addressed by the Partnership, and how to best partner and align our collective goals to stay on top of these fast-moving changes.

Action: Information

Presenter: Matt Maloney

Attachments: 5_Future and Future Mobility.pdf

6. Public Comments / Other Business

Ken Bukowski was called to speak.

7. Adjournment / Next Meeting

The next meeting of the Bay Area Partnership Board will be duly noticed.

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0792	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Partnership Technical Advisory Committee Update				
Sponsors:					
Indexes:					
Code sections:					
Attachments:					

Date	Ver.	Action By	Action	Result

Subject:
Partnership Technical Advisory Committee Update

Presenter:
Nancy Adams

Recommended Action:
Information

Attachments:

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0793	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Horizon: Fall 2018 Update Update on the Horizon long-range planning process, including the three futures (“what if…” scenarios), the project performance assessment framework, and the two perspective papers released to date.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	04_Horizon_Fall 2018 Update.pdf				

Date	Ver.	Action By	Action	Result

Subject:
Horizon: Fall 2018 Update

Update on the Horizon long-range planning process, including the three futures (“what if…” scenarios), the project performance assessment framework, and the two perspective papers released to date.

Presenter:
Matt Maloney and Dave Vautin

Recommended Action:
Discussion

Attachments:.

METROPOLITAN TRANSPORTATION COMMISSION
ASSOCIATION OF BAY AREA GOVERNMENTS

M E M O R A N D U M

Agenda Item 4

TO: Bay Area Partnership Board DATE: September 21, 2018

FR: Executive Director

RE: Horizon: Fall 2018 Update

Summary

The Metropolitan Transportation Commission and Association of Bay Area Governments (MTC/ABAG) initiated a long-range planning process called *Horizon* earlier this year. The *Horizon* initiative is designed to identify strategies and investments to prepare the Bay Area for an uncertain future — to ensure we are resilient to ever-changing economic, political, technological, and environmental conditions. *Horizon* seeks a more comprehensive set of regional challenges than in the past, including transportation, land use, economic development, and resilience. It will serve as the foundation for *Plan Bay Area 2050* by identifying strategies that are effective under a wide range of potential future conditions.

Since the launch of *Horizon*, significant progress has been made on the four core elements of the long-range regional planning process – Outreach, Perspective Papers, Futures, and Project Performance. A high-level schedule of milestones through 2021 is included in **Attachment B**.

Outreach

Public and stakeholder outreach is central to *Horizon* and *Plan Bay Area 2050*. In addition to meeting with stakeholders through regular meetings of the Regional Advisory Working Group (RAWG) and via webinars on key topics, staff has engaged the public at several key points in the planning process to date:

- **Development of Guiding Principles:** The *Horizon* Guiding Principles are intended to establish a vision of the Bay Area in 2050. Based on over 10,000 comments received in the spring at pop-up events and through an online form, the final Principles highlight the regional vision to make the Bay Area an affordable, connected, diverse, healthy, and vibrant metropolitan area. The Guiding Principles are being integrated into all elements of *Horizon* to ensure that strategies prioritized align with the overall regional vision.
- **Request for Transformative Projects:** In addition to seeking ideas for major transportation projects from our CMA and transit agency partners, MTC/ABAG also sought billion-dollar transformative projects and lower-cost operational strategies from the public at large. Over 500 projects were proposed for consideration during the three-month outreach window. A jury of regional experts will convene in early October to select the finalists that will advance into the project performance process.

Perspective Papers

Perspective Papers are designed to identify strategies to address some of the region's biggest challenges – from new technologies to the future of work. Over the past six months, the first two papers in the series have been released at public events across the region:

- **Autonomous Vehicles** highlighted six priority strategies to address driverless vehicles and their potential impacts on our region – ranging from an autonomous transit network to a "New Deal" for future mobility.

- **Towards a Shared Future** identified seven priority strategies to reduce vehicle miles traveled and congestion in an increasingly-shared future – ranging from prioritizing Mobility as a Service (MaaS) to advancing various pricing strategies.

Each paper is intended to spark a dialogue about what strategies might be most appropriate to explore in the planning process going forward. Ideas generated from the Perspective Papers will be considered for further analysis in futures planning this winter.

Futures

Futures, also known as "what if..." scenarios, have been developed to "stress test" strategies and investments to ensure policies are effective under a range of future conditions. In contrast to past regional scenario planning, the futures are not intended to be aspirational or predictive. Instead, they are intended to identify a divergent set of challenges – from economic stagnation to technological turmoil – to carefully consider in a planning context.

After consulting with our partners in the late spring, three futures were selected for further analysis to determine how they would affect the region – and how we would respond to each:

1. **Clean and Green**: what if... new technologies and a national carbon tax enabled greater telecommuting and distributed job centers?
2. **Rising Tides, Falling Fortunes**: what if... the federal government cuts spending and reduces regulations, leaving more policy decisions to states and regions?
3. **Back to the Future**: what if... an economic boom and new transportation options spur a new wave of development?

Rather than selecting a "preferred scenario" from this process as in past plans, the strategies and investments that perform best in multiple futures will be included in *Plan Bay Area 2050*.

Project Performance

Finally, MTC/ABAG is conducting a project performance assessment of major capacity-increasing transportation investments, as well as operational strategies and resilience projects. Projects will be evaluated primarily using an updated benefit-cost methodology, in addition to assessments designed to ensure alignment with the Guiding Principles and to maximize equitable outcomes. Draft project-level performance results are expected to be available in spring 2019; high-performing projects will be prioritized in advance of *Plan Bay Area 2050*.

Next Steps

Public and stakeholder workshops are scheduled to be held this January to share initial findings based upon analysis of the three futures; workshops will seek input from stakeholders and the public about which strategies might solve the challenges unique to each future. Additionally, two more Perspective Papers are scheduled for release in the months ahead – Regional Growth Strategies (late fall) and Bay Crossings (early winter).

Steve Heminger

Attachments

- Attachment A: Presentation
- Attachment B: Key Milestones 2018-2021

SH:DV
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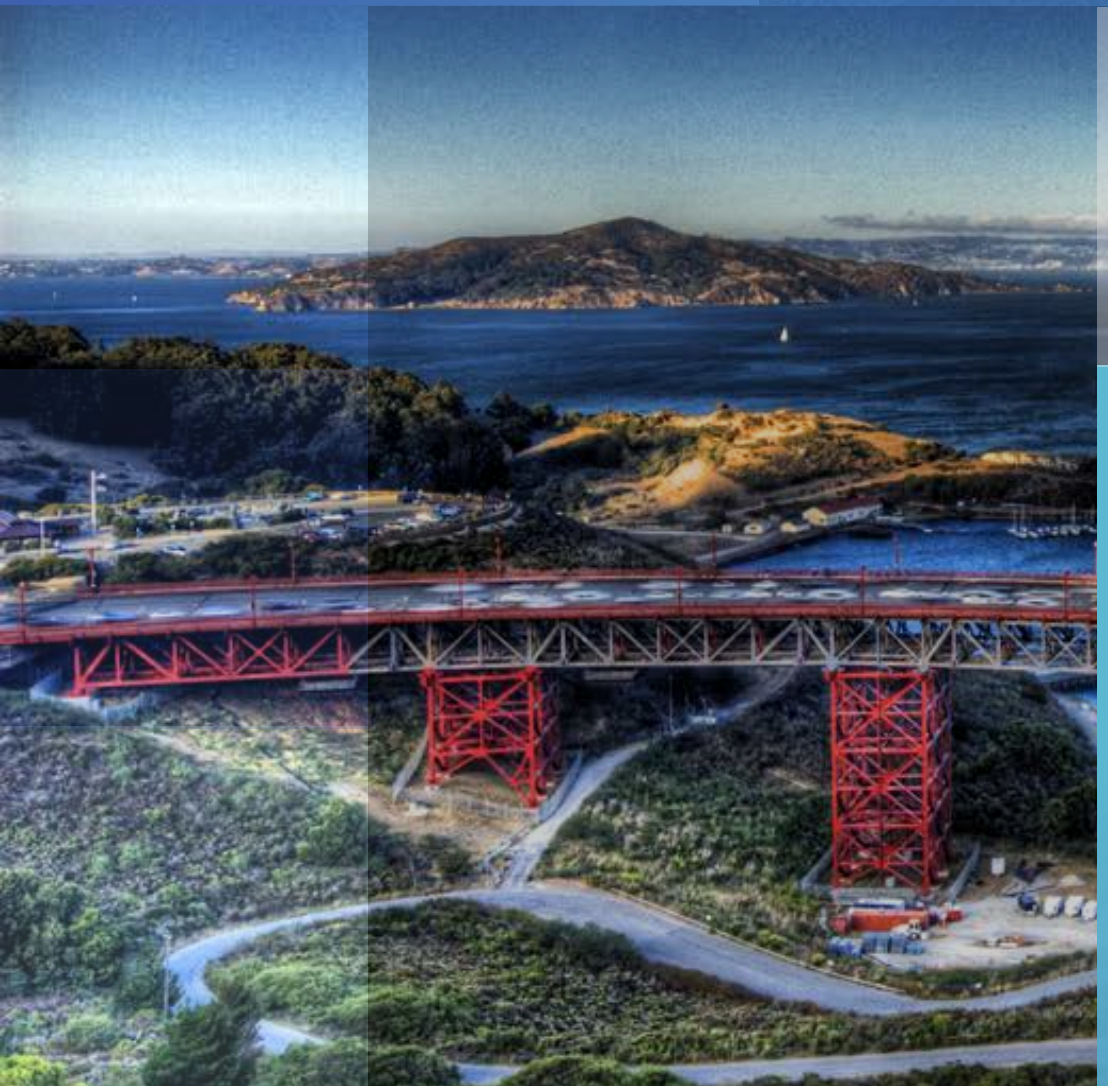
HORIZON



Fall 2018 Update

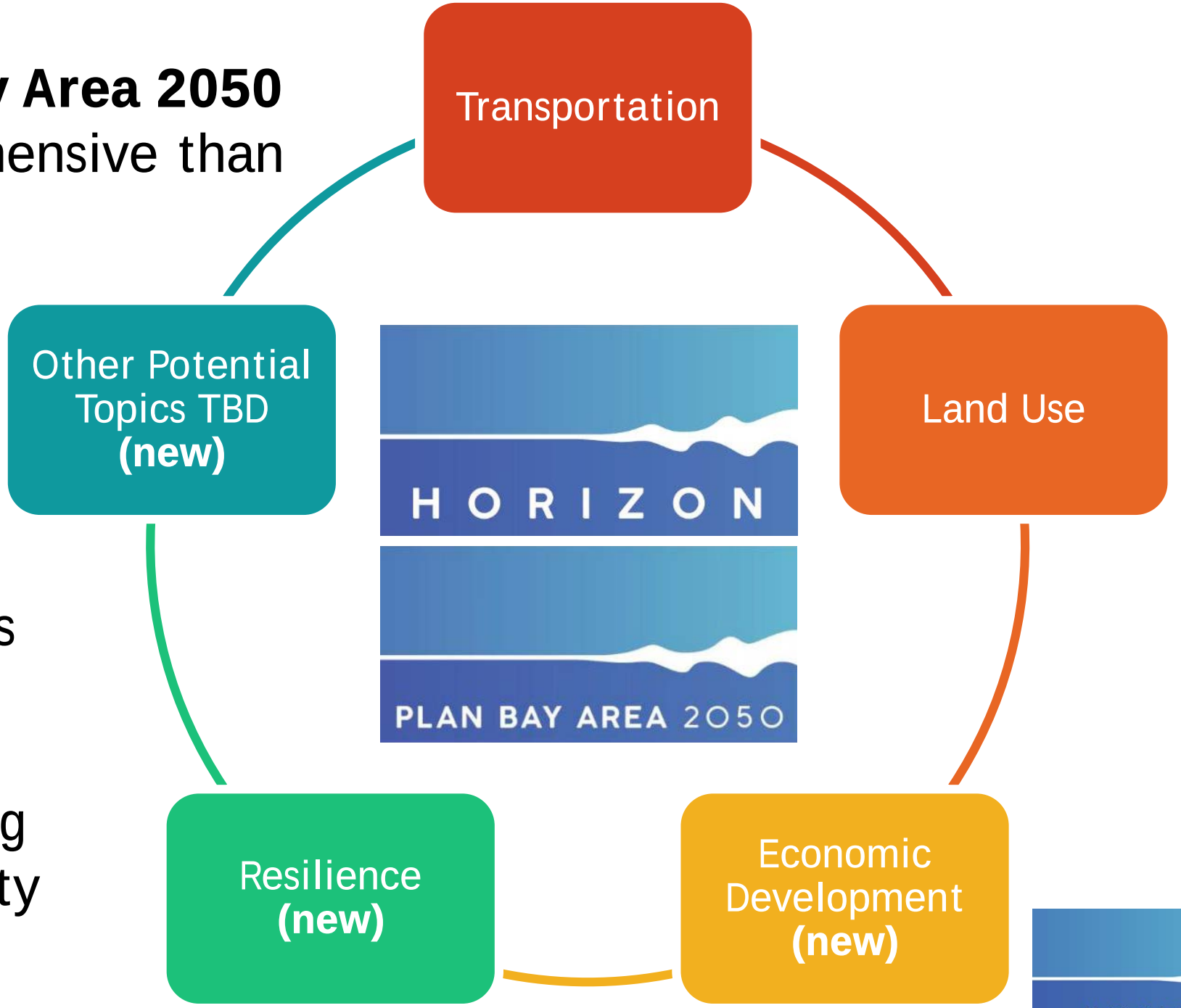
Dave Vautin, MTC/ABAG

September 28, 2018 – Partnership Board

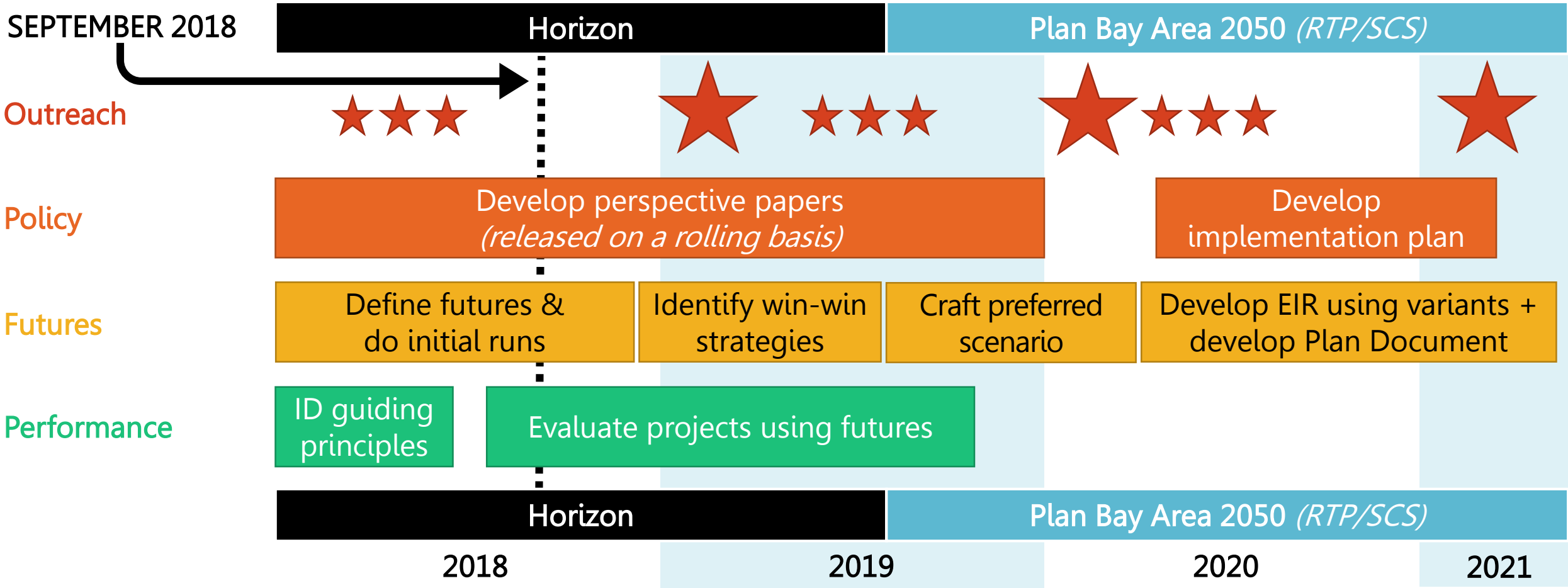
The Horizon initiative is designed to identify strategies and investments to prepare the Bay Area for an uncertain future - to ensure we are resilient to ever-changing economic, political, technological, and environmental conditions.

Horizon and **Plan Bay Area 2050** will be more comprehensive than past RTP/SCS cycles.

Horizon's Guiding Principles and **Plan Bay Area 2050**'s goals & targets will guide decision-making and integrate cross-cutting issues, including equity and sustainability.



Schedule – Horizon & Plan Bay Area 2050



Horizon – Progress in Recent Months

Outreach

Perspective Papers

Futures

Project Performance

Horizon – Progress in Recent Months

Outreach

Perspective Papers

Futures

Project Performance

The San Francisco Bay Area aspires to be:

Guiding Principles

AFFORDABLE

All Bay Area residents and workers have sufficient housing options they can afford – households are economically secure.

CONNECTED

An expanded, well-functioning transportation system connects the Bay Area – fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.

DIVERSE

The Bay Area is an inclusive region where people from all backgrounds, abilities, and ages can remain in place – with access to the region's assets and resources.

HEALTHY

The region's natural resources, open space, clean water and clean air are conserved – the region actively reduces its environmental footprint and protects residents from environmental impacts.

VIBRANT

The Bay Area region is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.

Icons Credit: The Noun Project

Transformative Projects

500+

big ideas to improve
Bay Area transportation

HORIZON

Horizon – Progress in Recent Months

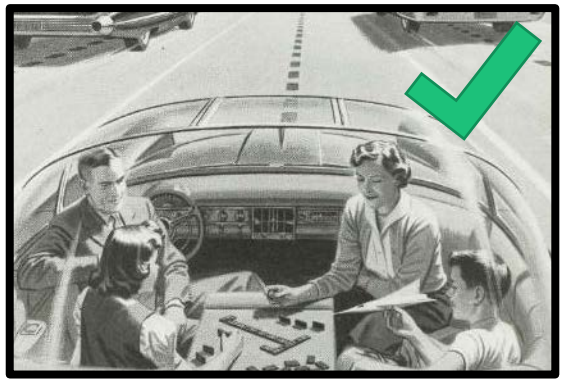
Outreach

Perspective Papers

Futures

Project Performance

Perspective Papers Overview



1) Autonomous Vehicles

2) Toward a Shared Future

3) Growth Strategies

4) Crossings

5) Future of Jobs

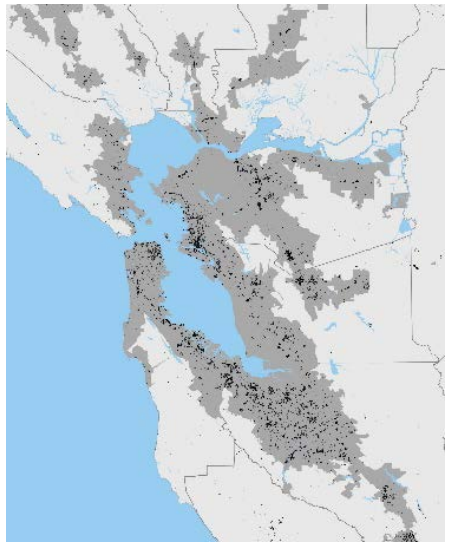
6) Governance

?

More to Come?

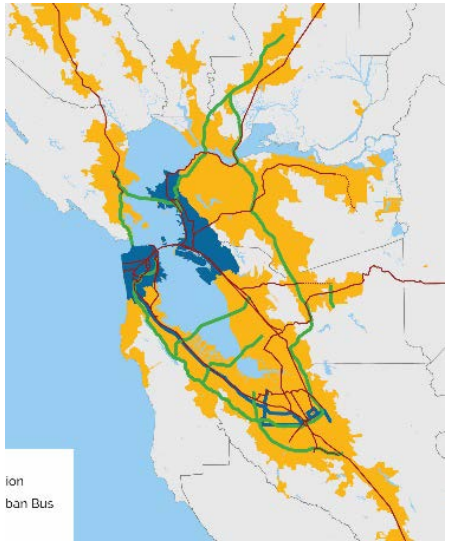
Perspective Paper 1 Key Strategies
Autonomous Vehicles

Affordable



Housing Opportunity Sites

Connected



Fair Pricing

Autonomous Transit

Diverse

Equitable Outcomes

Healthy

Vision Zero 2.0

Vibrant

New Deal for Mobility

Perspective Paper 2 Key Strategies
Towards a Shared Future

Affordable
Diverse

Free Feeder Services to High Capacity Transit

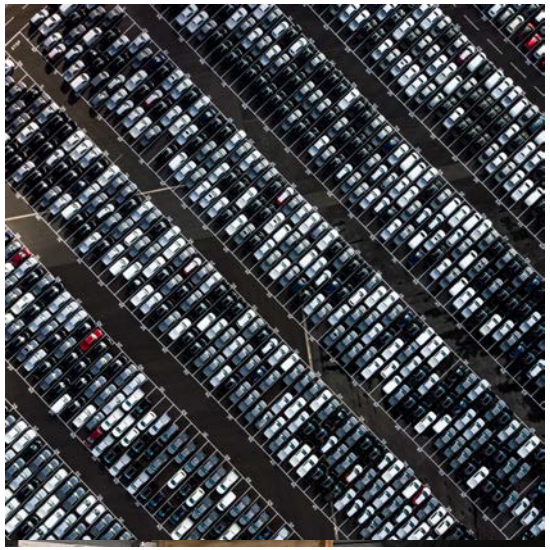
Connected

Mobility as a Service

Tolling All Bridges & Highways

Cordon Pricing

Healthy



Required TDM for New Development

Parking Tax

Vibrant

Parcel Lockers & Freight Consolidation Centers

HORIZON

Horizon – Progress in Recent Months

Outreach

Perspective Papers

Futures

Project Performance

Futures – "What If?" Scenarios

A

Clean and Green

What if… new technologies and a national carbon tax enabled greater telecommuting and distributed job centers?

B

Rising Tides, Falling Fortunes

What if… the federal government cuts spending and reduces regulations, leaving more policy decisions to states and regions?

C

Back to the Future

What if… an economic boom and new transportation options spur a new wave of development?

Futures – External Forces

#	FUTURE NAME	IMMIGRATION AND TRADE	NATIONAL TAXES AND FUNDING	NATIONAL GROWTH	LAND USE PREFERENCES	NATIONAL ENVIRONMENTAL POLICY	NEW TECHNOLOGIES	NATURAL DISASTERS
A	 **Clean and Green**	Similar to today	**Higher funding** via carbon tax	Similar to today	Housing: more **urban** Jobs: more **dispersed**	**Stricter regulations** (1' SLR)	**Widespread**	Magnitude 7.0 Hayward Fault earthquake
B	 **Rising Tides, Falling Fortunes**	**Reduced**	**Lower funding** due to tax cuts	**Limited**	Housing: more **urban** Similar to today	**Relaxed regulations** (3' SLR)	More **limited**	Magnitude 7.0 Hayward Fault earthquake
C	 **Back to the Future**	**Increased**	Similar to today	**Rapid**	Housing: more **dispersed** Jobs: more **urban**	Similar to today (2' SLR)	**Widespread**	Magnitude 7.0 Hayward Fault earthquake

*For more information on the Horizon futures, visit **bayareametro.gov/horizon**.*

COLOR LEGEND

Lower value **Higher value**

Futures – Population and Jobs

#	FUTURE NAME	2050 POPULATION	2050 JOBS	2050 INCOME DISTRIBUTION	2050 RACIAL DISTRIBUTION	2050 AGE DISTRIBUTION	2050 INTERREGIONAL TRAVEL	2050 TRANSPORTATION REVENUES
A	Clean and Green	10.9 million	5.4 million	21% low-income	73% minority	41 median age	↔	$$$
B	Rising Tides, Falling Fortunes	8.6 million	4.7 million	31% low-income	71% minority	43 median age	↑	$$
C	Back to the Future	13.8 million	7.2 million	21% low-income	77% minority	38 median age	↑↑↑	$$$$

Plan BayArea 2040

Year 2040 Forecasts *(for reference)*
9.6 million residents and **4.7 million** jobs

Next Steps:

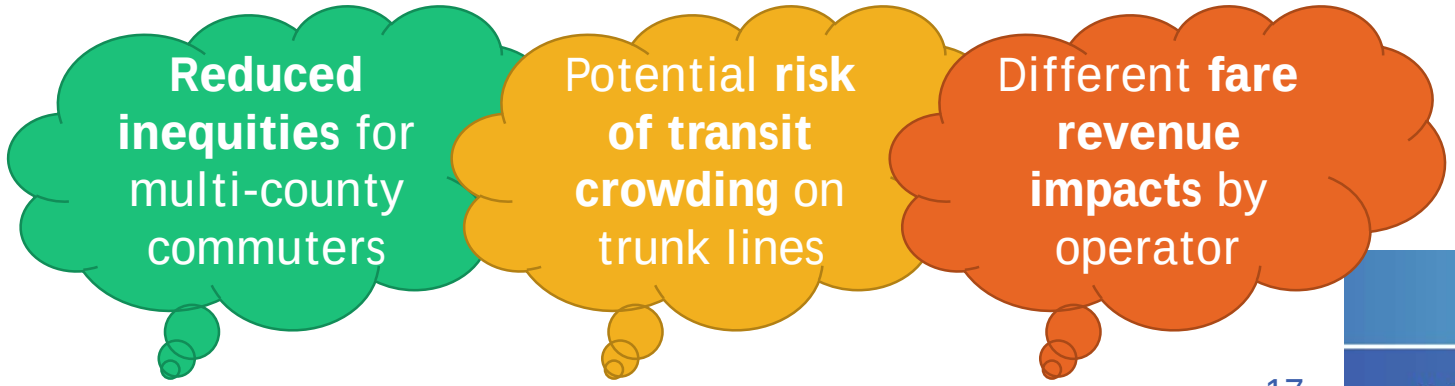
- Opportunities & Challenges Report
- Strategies Development/Workshops

Futures – Prioritizing the Right Strategies

Strategies will undergo further review and consideration in the months ahead, as we work with stakeholders & the public to consider the benefits of a particular strategy alongside its impacts.

FOR EXAMPLE:

Free Feeder Services to High Capacity Transit



HORIZON

Horizon – Progress in Recent Months

Outreach

Perspective Papers

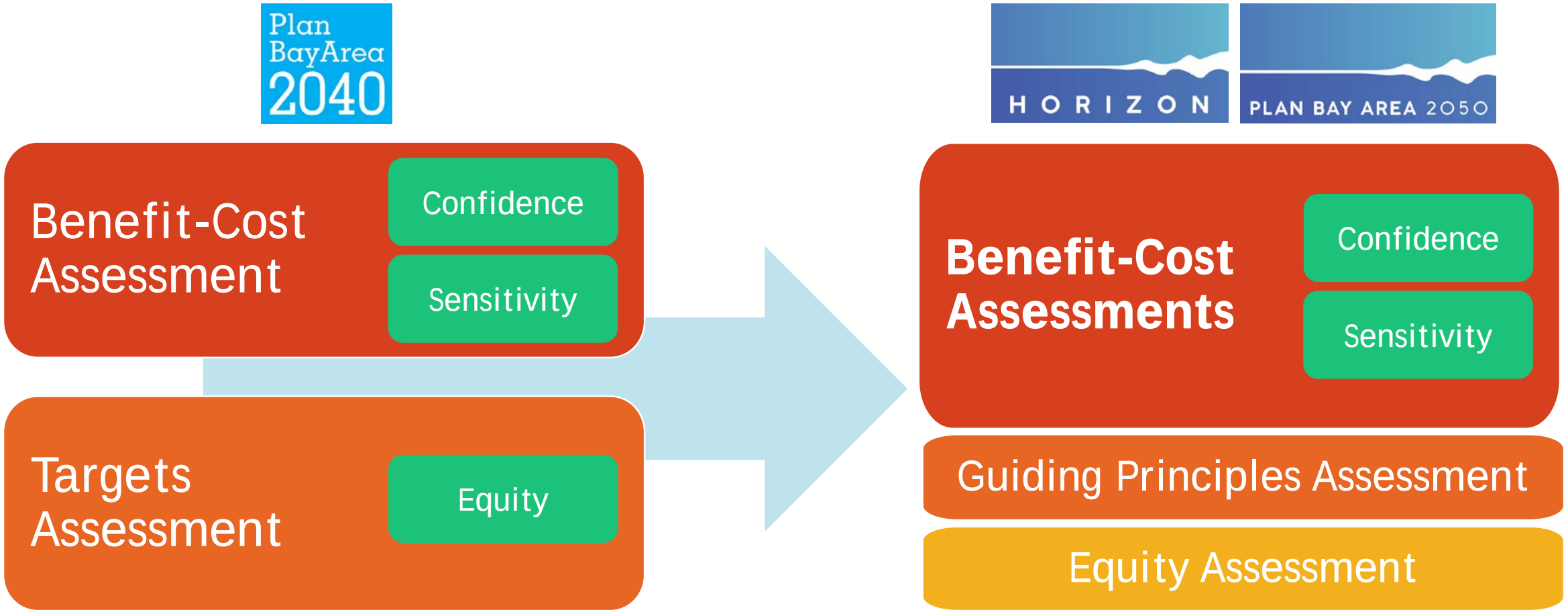
Futures

Project Performance

Project Performance Scope

	Cost Threshold for Evaluation	Project Types to be Evaluated	Opportunities for Project Submission
Plan Bay Area 2040	**>$100 million**	Uncommitted Capacity-Increasing Projects **Only**	CMA & Major Operator Submissions **Only**
HORIZON / PLAN BAY AREA 2050	**>$1 billion** for Horizon **>$250 million** for Plan Bay Area 2050	Uncommitted Projects: • **Capacity-Increasing** • **Operations** • **Resilience**	Submissions from: • **CMAs & Operators** • **Other Public Agencies** • **NGOs** • **Public at Large**

Project Performance Framework



What's Next?

Fall 2018

- Perspective Paper 3
  (Regional Growth Strategies)

Winter 2019

- Challenges & Opportunities Report
- Public & Stakeholder Outreach on Strategies for Futures **(January)**
- Perspective Paper 4
  (Crossings)

HORIZON

Questions? Comments?

For more information:
http://bayareametro.gov/horizon

Horizon and Plan Bay Area 2050 (RTP/SCS): Key Milestones 2018–2021

(Dates are tentative and subject to change.)

HORIZON | PLAN BAY AREA 2050

2018 | 2019 | 2020 | 2021

Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun

Horizon → *Plan Bay Area 2050*

Public and Stakeholder Engagement

- Pop-Up Outreach & Online Survey
- Peer Exchange
- Public Engagement
- Public Engagement
- Public Workshops
- Public Workshops
- Digital Engagement

Futures Planning

- Identify Guiding Principles
- Define Futures
- Status Quo Analysis
- Identify Effective & Resilient Strategies

Perspective Papers

- Develop Perspective Papers

Project Performance

- Evaluate Projects (Round 1)
- Prioritize Projects
- Request Transformative Projects
- Evaluate Projects (Round 2)
- Prioritize Projects

Regional Forecasting

- Regional Forecast Approach
- Methodology
- Draft Forecast
- Final Forecast
- Revenue Forecasts
- Needs Assessments
- Develop the Regional Housing Need Allocation (RHNA)
- Adopt RHNA

Preferred Scenario

- Public Participation Plan
- Vision, Goals and Targets
- Call for Projects
- Preferred Scenario Development
- Release Draft Preferred Scenario
- Adopt Preferred Scenario
- Implementation Plan Development

Draft and Final Plan

- Release Draft Air Quality Conformity and Title VI/EJ Analysis
- Conduct Air Quality Conformity and Title VI/EJ Analysis
- Release Draft Plan & Draft EIR
- Prepare Draft Plan and Draft EIR
- Adopt Plan, EIR, Air Quality Conformity and Title VI/EJ Analysis

☐ ABAG/MTC Information

☑ ABAG/MTC Action

mtc_graphics.pb — 9.6.2018

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0794	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Mobility as a Service Information and overview of Mobility as a Service (MaaS), an app-based platform that would enable travelers to plan a trip via multiple service providers and pay for that trip using a single travel account, and initiatives in the Bay Area related to MaaS.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	05_MaaS.pdf Handout_Presentation				

Date	Ver.	Action By	Action	Result

Subject:
Mobility as a Service

Information and overview of Mobility as a Service (MaaS), an app-based platform that would enable travelers to plan a trip via multiple service providers and pay for that trip using a single travel account, and initiatives in the Bay Area related to MaaS.

Presenter:
Andrew Fremier, MTC; Carol Kuester, MTC; Timothy Haile, CCTA; Ravindra Misra, BART; and Rick Ramacier, County Connection

Recommended Action:
Discussion

Attachments:

METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 5
Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Bay Area Partnership Board DATE: September 21, 2018

FR: Rick Ramacier, Chair, Partnership Board

RE: Mobility as a Service

Mobility as a Service (MaaS) is emerging in Europe as a platform to integrate trip planning and payment while personalizing the mobility experience. MaaS offers an environment for public and private partnerships to create an open transportation ecosystem for data and services. MaaS objectives focus on personalizing mobility with an improved quality of service as compared to the single-occupant vehicle. MaaS may be leveraged as a unique tool to understand and change travel behavior to achieve mode shift with the goal to reduce traffic congestion.

In the past, transportation has focused on individual modes (e.g, transit, walking, biking) and whether they are public or private. In the future, transportation needs to be redefined into mobility and seamless journeys. A journey is made up of multimodal trips using different modes to your destination. Recognizing that mobility represents an individual's travel preferences, MaaS supports each person's ability to make the trip or journey that works best for them. The transportation system will need to address redefining mobility to account for new travel behaviors, integrating technology-enabled transportation, and incorporating incentives or rewards.

Throughout the Bay Area, there is increasing interest to explore MaaS concepts and funding opportunities. This interest is coupled with the infusion of private mobility options and creating a balanced transportation ecosystem leveraging the use of existing public transportation. MaaS will require collaboration and partnerships across the entire Bay Area working together to prepare for the future and redefine mobility.

At your September meeting, staff will present a presentation highlighting MaaS, examples of MaaS, and initiatives in the Bay Area.

Rick Ramacier

Attachments:

- Attachment A: MaaS Working Group Background Information
- Attachment B: San Francisco Guiding Principles for Emerging Mobility Services and Technologies

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MaaS Working Group

Background Information

CONTENTS

This document provides context, examples and a catalogue of local efforts related to MaaS to assist in discussions for developing a Bay Area program.

MAAS DEFINITION AND VMT REDUCTION POTENTIAL

Mobility as a Service (MaaS) refers to a customer-centric, on-demand multi-modal transportation program, allowing users to plan and pay for trips on a per-use or subscription basis through a single interface. Collectively, a trip planner and a transportation wallet (payment mechanism) are intended to provide a value proposition competitive with personal car ownership.

The primary customer benefits include:

- Simplified planning and paying for trips across multiple operators, public or private,
- Access to the latest technology,
- Incentives designed to reward certain types of traveler behavior,
- Discounts available for certain types of travelers, and
- User-centric transportation service without the need to own a car.

The approach to MaaS relies on two interconnected trends. The first is the spread of smartphones, which both generate the data required to manage a system that combines a wide variety of public and private transport options, and allow services to be offered via an app. The second is the sharing economy, with businesses making it possible to rent fixed assets when they are not being used, or to provide access to a fleet of scooters, bikes or cars.[1] MaaS can capitalize on this growing trend and push usership instead of ownership ever more mainstream to achieve the Bay Area's congestion and greenhouse gas reduction goals.

Examples (not an exhaustive list)

Several ongoing and planned MaaS pilots can provide preliminary results and guidance.

[1] The Economist. It Starts with a Single App. 2016. Retrieved from https://www.economist.com/international/2016/09/29/it-starts-with-a-single-app.

International Efforts

- **Whim App, Helsinki, Finland.** The Whim app offers three different bulk packages covering public transit, taxis and rental cars, each featuring varying degrees of limited or unlimited trips. The most expansive package, "Whim Unlimited," costs 500 Euros per month (~$575.00) and offers unlimited rides on all modes, and taxi rides under 5km (3.1 miles). This price point was designed to be approximately equal to average car ownership costs in Helsinki.[2]
- **Hannovermobil, Germany.** Under this program, subscribers pay a monthly fee (slightly more than a standard transit pass) to access public transit, carshare, long-distance rail and discounted taxi rides.[3]
- **The SMILE Project, Vienna, Austria**. The platform provides information, booking, payment to bring together fourteen Austrian mobility partners, from public transport companies to sharing providers, taxis and parking garages.[4]
- **Velo, Mulhouse, France.** Integrated payment platform that bills the user at the end of the month depending on the services used, with a cap on the amount charged. Bi-lingual video here.

U.S. Efforts

- **TAPForce, LA Metro, Los Angeles, CA**. LA Metro is building a cloud, account-based system to integrate its existing transit fare payment system (TAP, Transit Access Program) with other public and private transportation services to create a one-stop-shop for service payment and sign-up. By adding funds to the "TAP Wallet," customers will be able to use their TAP cards, (and soon the TAP mobile app), to pay for bike-share, parking, toll lanes, carshare, electric vehicle charging stations, ridehailing services, and micro-transit in addition to all transit services. The system facilitates administration of discounts and incentives across modes. The system is planned for launch in fall 2018. Video description here.
- **Lyft pilot with TAM**. Lyft's new app version integrates directly with public transit to provide late-night service, fill first-mile and last-mile gaps, provide access to transportation deserts and deliver on-demand paratransit solutions. The first two integrations with the app are with the Transportation Authority of Marin and Big Blue Bus (Santa Monica).[5]
- **ConnectStar, Houston District of Texas Department of Transportation (TxDOT)**. This program's goal is to use a third-party platform, Metropia, which provides a one-stop-shop for multi-modal planning and payment.[6] The region plans to implement dynamic pricing strategies to manage traffic demand. This pilot further embodies MaaS by creating user-customized features such as suggested routes and targeted deals.

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[2] MaaS Global. Mobility as a Service – the End of Car Ownership? Retrieved from http://fossilfritt-sverige.se/wp-content/uploads/2017/09/mobility-as-a-service.pdf.

[3] UITP. Hannover's Legacy Platform Offers Clues for the Integrated Platform of Tomorrow. Retrieved from http://www.uitp.org/news/hannover%E2%80%99s-legacy-platform-offers-clues-integrated-platform-tomorrow.

[4] SMILE. The Future of Mobility. Retrieved from http://smile-einfachmobil.at/pilotbetrieb_mobile.html

[5] Metro. Lyft app upgrade improves shared rides, integrates with cities, transit. June 2018. Retrieved from: http://www.metro-magazine.com/technology/news/730044/lyft-app-upgrade-improves-shared-rides-integrates-with-cities-transit??utm_source=email&utm_medium=enewsletter&utm_campaign=20180607-NL-MET-Express-BOBCD180601005&omdt=NL-MET-Express&omid=1004461182.

[6] Federal Highway Administration. USDOT Announces $8.9 Million Grant for ConnectSmart in Houston. 2016. Retrieved from: https://www.fhwa.dot.gov/pressroom/fhwa1651_houston.cfm.

- **Minnesota Department of Transportation (MnDOT).** MnDOT is developing a MaaS platform to serve as a revenue collection mechanism as an alternative to the gas tax, with app development being funded through a FHWA grant to find fuel-tax funding alternatives.[7]
- **Valley Metro Rail in Phoenix, Arizona**. Valley Metro was awarded a Mobility on Demand Sandbox grant to develop a MaaS platform that expands an existing transit app to include real-time information, singular accounts for public and private modes (e.g. Uber, Lyft, Grid Bike Share, Zipcar), and trip planning features, such as showing users the cost of fuel saved, amount of CO_2 saved from using sustainable modes of travel, as well as travel time.[8]

VMT Reduction Potential

The research suggests VMT can be reduced with a MaaS platform's trip planning tools, integrated payment and interoperability between services. The ability to link any shared transportation service (bike, scooter, transit, ridehail, AV and other future options) into a single-payment experience can encourage users to shift from owning and using vehicles to consuming a variety of modes on a per-use basis.

- Results from Whim's first year of operation, 2016, show the following shifts in trip mode share among users: **private car use dropped from 40 percent to 20 percent, public transit rose from 48 percent to 74 percent** and taxis from three percent to five percent.[9] At least 6,000 users were registered a few weeks after Whim's launch, equating to approximately one percent of Helsinki's population.
- Hannovermobil saw **50 percent of users give up car ownership**, but was very limited in scope (1,300 users).[10, 11, 12]
- The SMILE Project found **48 percent of the respondents used public transportation more often and 21 percent reduced the use of their private cars**. Smile also encouraged intermodality with 26 percent combining car and public transportation more often and 26 percent combining bike and public transportation more often.[13] Total usage is a few thousand individuals. [14]

Policy and Planning Context

Several regional policy and planning directives support the development of a MaaS program.

Horizon and Plan Bay Area 2050

The policies and investments defined in the region's next long-range transportation plan, Plan Bay Area 2050, are intended to help the region meet its GHG reduction targets and support the following *Guiding Principles*:

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[7] Dawid, I. 2016. Over $14 Million Awarded to Eight Projects to Find Alternatives to Gas Taxes. Planetizen. Retrieved from https://www.planetizen.com/node/88420/over-14-million-awarded-eight-projects-find-alternatives-gas-taxes.

[8] Federal Transit Administration. Mobility on Demand (MOD) Sandbox Summary - Valley Metro Rail, Inc. Retrieved from https://www.transit.dot.gov/sites/fta.dot.gov/files/FTA%20MOD%20Project%20Description%20-%20Valley%20Metro.pdf.

[9] MaaS Global. Mobility as a Service - The End of Car Ownership? Retrieved from http://fossilfritt-sverige.se/wp-content/uploads/2017/09/mobility-as-a-service.pdf.

[10] UITP. Hannover's Legacy Platform Offers Clues For the Integrated Platform of Tomorrow. Retrieved from http://www.uitp.org/news/hannover%E2%80%99s-legacy-platform-offers-clues-integrated-platform-tomorrow.

[11] GVH. Being completely mobile and saving costs at the same time. Retrieved from https://www.gvh.de/en/mobilitaetsshop/produktuebersicht/hannovermobil/.

[12] Kamargianni, M. et al. 2016. A critical Review of New Mobility Services for Urban Transport. UCL Energy Institute, University College London. Retrieved from https://ac.els-cdn.com/S2352146516302836/1-s2.0-S2352146516302836-main.pdf?_tid=78f8787f-0db9-487e-8e10-8dca3df057e2&acdnat=1524782931_582af28c22507d7e2bd3ce94171cd6b1.

[13] The Future of Mobility. Smile Einfach Mobil. Retrieved from http://smile-einfachmobil.at/index_en.html.

[14] SMILE. The Future of Mobility. Retrieved from http://smile-einfachmobil.at/pilotbetrieb_mobile.html.

- **Affordable:** All Bay Area residents and workers have sufficient housing options they can afford—households are economically secure.
- **Connected:** An expanded, well-functioning transportation system connects the Bay Area—fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.
- **Diverse:** Bay Area residents support an inclusive region where people from all backgrounds, abilities and ages can remain in place—with access to the region's assets and resources.
- **Healthy:** The region's natural resources, open space, clean water and clean air are conserved—the region actively reduces its environmental footprint and protects residents from environmental impacts.
- **Vibrant:** The Bay Area is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.

To develop Plan Bay Area 2050, MTC and ABAG have launched "Horizon," a comprehensive Bay Area planning effort looking at the transportation, housing, economic development, resilience and emerging technologies. As part of Horizon, MTC staff are writing a series of Perspective Papers. Perspective Paper #2, identifies strategies with the most potential to reduce future VMT. MaaS has been identified as one of these strategies. The vision for 2050 is that all transportation, regardless of mode or roadway used, can be consumed on a per-use basis, with pricing schemes supporting active or multi-passenger options.

CURRENT ACTIVITIES

This section lists a number of local and regional activities related to, or that can be integrated with MaaS.

MTC Programs

Current Clipper® System (C1)

Purpose:

- Clipper® is the Bay Area's all-in-one transit-fare payment card. Clipper (formerly TransLink) was developed from the late 1990s to the early 2000s to provide a universal transit fare payment card for users of the Bay Area's 22 transit operators. The contract with Cubic Transportation Systems – Clipper's hardware and software provider – will expire in 2019, thus MTC has undertaken an effort to procure a replacement system, C2, described below.

Scope:

- The Clipper smart card system can hold cash value, transit passes, parking value or any combination, and has been deployed on 22 of the Bay Area's transit operators. Find the list on the Clipper card website.

Potential Near-Term Enhancements:

- Because the Clipper card system was designed as a card-based system – essentially a sophisticated gift card system – the concept of a user account was not core to the system's development. However, due to the account-like functionality of the clippercard.com website, a few near-term enhancements could be made with the current Clipper system to support a MaaS experience for Clipper card holders:
    - Expose APIs between the website and Pivotal, Cubic's CRM database, to exchange account information between Clipper and an approved private mobility company[15]

[15] A proto-version of this concept has been piloted with Ford Go Bike. In 2018, 34% of Ford GoBike trips used Clipper as a membership identifier to unlock a bicycle (the two other options are mobile app and station bike code)

- Track and exchange specific types of user data. For instance, it might be possible to reveal the last transit trip taken to the 3rd party or to record a 3rd party's user trip records via the Clipper issuer database

C2

Purpose:

- The Next Generation of Clipper Fare Payment System (C2) will replace the existing smart card payment system with an account-based system for the region. The contract with Cubic for the current system will expire in 2019, however a series of contract extensions has been approved through 2024.

Scope:

- Key features of the C2 system will include:
  - An account-based back office
  - A C2 mobile app for users
  - Application Programming Interfaces (APIs) to enable 3rd party payment
  - Other enhancements on the current payment experience

Progress to date:

- The region is currently evaluating proposals for the C2 System Integrator contract; this is the contractor that will replace Cubic's equivalent scope of responsibilities for the C1 system. The region anticipates announcing the award for the C2 System Integrator contract by September 2018.

How C2 differs from Maas:

- While an account-based system, C2 is still at its core a transit fare payment system. Thus, C2 will provide an account and payment experience primarily for the region's transit system. However the C2 APIs will allow for extensions of the payment experience to other approved mobility service providers.

Salesforce

Purpose:

- MTC is currently procuring a bench of qualified firms to implement Salesforce, a customer relationship management (CRM) system. The intent is for Salesforce to provide the public facing website, and the backend database and customer service interfaces, to support several possible projects.

Scope:

- MTC initially expects to design and develop an online application for transit riders to apply for and manage means-based Clipper cards. This initial framework in Salesforce could later be expanded to a MaaS "One Account" solution, which would provide:
  - A new website and mobile app serving as the home for travelers to learn about and register for the program, take advantage of available discounts and incentives, and manage their account and mobility memberships.
  - Direct connections to mobility services through application programming interfaces (API) to allow travelers to register for different mobility memberships, add money to their account, and move funds between services.
  - Customer service and program management interfaces to enable MTC and partner agencies to administer discounts, rewards, and promotions; run analytics and evaluate the performance of different strategies; and provide support and assistance to registered account holders.

Progress to Date:

- MTC expects to have this bench of qualified firms in place by early 2019.

511 Traveler Information

Purpose:

- 511 was developed with the mission to provide comprehensive, accurate, reliable and useful multimodal travel information to meet the needs of Bay Area travelers.

Scope:

- 511 provides on the phone, 511, and on the web, 511.org, up-to-the-minute Bay Area traffic, transit, carpool, bicycling, and parking information.
- It is free and available 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.
- The following information is available by mode:
    - Transit: schedules, routes for more than 30 transit providers in the Bay Area, interactive Trip Planner to get detailed maps and step-by-step instructions, and real-time transit Departure Times.
    - Carpool & Vanpool: 511 RideMatch Service, carpool matching app, vanpool resources, location of carpool lanes and park & ride lots throughout the region.
    - Driving: interactive map with incidents and construction details, congestion levels, Caltrans message signs, and live traffic cameras.
    - Biking: maps, safety tips, tips for taking bikes on transit, and 511 Trip Planner to find paths and bike lanes throughout the Bay Area.

Upcoming Changes:

- During fiscal year 2019, 511 is transitioning to a data-centric program where focus is on data collection and processing, and on providing the private sector with the data they need for dissemination to the public via their traveler information applications.

Local Agency MaaS Efforts

Agency	Description of Effort
In Development	
BART	- Contractor is HaCon - Phase 1: Bike, Bikeshare, Walk, Transit, Uber/Lyft o Point A to Point B planning o Real time info o Not BART specific - Phase 2: Carpool Apps, Carshare, Scooter o Single Sign On App o Parking Permits – daily, monthly, carpool o BART Perks
SamTrans, Caltrain	- Contractor is HaCon - Mobile ticketing + limited multi-agency trip planning - Caltrain, VTA, AC Transit & BART - Why develop the app? o Believes customers expect a local agency app o Concern Google doesn't update data frequently enough
Applied for Grant Funding to Develop a Platform	
CCTA	- Submitted a 2018 Advanced Transportation and Congestion Management Technologies Deployment program (ATCMTD) Grant application for a Contra Costa specific MaaS pilot/prototype

Agency	Description of Effort
Palo Alto - MOD Sandbox Grant	- Received a MOD Sandbox Grant in 2017 for a MaaS platform - Seeking additional grant support from National Science Foundation - South Bay focus - Goal – to build an employer user base sparked by trip reduction requirements
Concept	
SCTA and TAM	- Have released an RFI for Bike Share and a Maas like service to support first/last mile services to/from SMART
TIMMA	- Would like to o Create a platform to support Treasure Island
CalSTA	- Would like to o Create a statewide platform to support high speed rail

Clipper Executive Board Meeting, June 4th, 2018

- Carol Kuester provided a background presentation on MaaS. A few points representing the discussion are provided below and the staff memo can be found here:
    - Travel is regional and needs coordination – different agencies are not aware of each other's efforts. Additionally, multiple efforts are not good use of public resources and can be confusing to our customers
    - A MaaS program needs to:
        - Be customizable for personal perspective
        - Leverage existing FasTrak & Clipper accounts/account holder information
        - Provide an equity component
    - There is potential to build economies of scale to communicate and leverage local behavior change incentives. There needs to be more regional leadership/advocacy to encourage behavior change
    - Regional leadership is needed to bring in private sector partners

Regional Historical Experience

Some lessons learned from MTC's experience with 511 since 2002 are helpful to keep in mind as the region considers its vision for MaaS in the Bay Area. The 511 Multi-modal Trip Planner (MMTP) and Enhanced Trip Planner (ETP) allowed users to choose between the following modes: 1) driving only; 2) driving to a public transit station/stop, parking and then taking transit the remainder of trip; and 3) taking public transit only. The MMTP remained in beta until 511 launched the NextGen 511.org which uses the Google trip planner. 511 is currently phasing out the trip planner.

Lessons learned:

- Marketing and advertising are needed to let residents know of the tool
- Government agencies may not be equipped to deliver user-end applications because of lengthy processes, lack of right skills, etc.
- One contractor should be responsible for the entire system. Having multiple contractors created issues with: 1) contractors not taking responsibility for data, 2) a feature not working, and/or 3) coordination with other contractors, etc. An alternative approach would be to bring the core system (data collection and dissemination) in-house and depend on private sector to deliver applications.
- The number of transportation agencies in the Bay Area adds complexity to developing a regional service that is comprehensive and easy for travelers to use.

LITERATURE REVIEW

This section provides approaches and perspectives from a variety of sources.

As a Service – New Business Model for all Industries

Traditionally, transportation has primarily been an asset-oriented industry, in which a person buys, owns and drives a personal car. This convention is starting to shift to a service or pay-per-use model, across a number of business sectors, not just transportation.

The benefits of shifting from ownership of assets (be it cars or data servers), to using services (ridehailing and cloud computing), are lower costs and better access to up-to-date technology, maintained by service providers that can leverage economies of scale.[16] Services and technology are available on an as-needed and/or subscription based model, and flexibility is at the core of the service provider proposition.[17] The industry term for this approach is "as a service."

Companies like Volvo see the future being more about selling consumers mobility instead of one car. BMW and Ford, for example, are gearing up to sell transportation as a service where consumers can rent free-floating cars, hail a car with a driver or order a car without a driver. The belief by most car companies is that people will increasingly want to consume transportation differently at different times, and they want to have access to all options through a single smartphone app.[18]

Arguments for Government Involvement in MaaS

Several reports make the following points in favor of government involvement in developing MaaS services in collaboration with the private sector:

- To ensure that public transit does not lose relevance
  - Public transportation is critical to the functioning of the Bay Area economy and its continued growth but could be sidelined in a commercial MaaS platform if developers favor their own solutions[19]
- To meet climate and livability goals
  - A privately-provided MaaS platform does not necessarily incentivize users to make choices that support public sector pollution or traffic reduction goals. With public sector involvement, incentivizes can be provided for using sustainable modes[20]
- To provide equal access
  - Emerging mobility services are not mandated to provide services to everyone, and have tended to target specific demographics, usually the most profitable part of the market. The public sector has to shape MaaS in order to achieve goals of accessibility and equity[21]
- To deliver new types of transit service and customer experience[22]

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[16] ZDNet. XaaS: Why 'Everything' is Now a Service. 2017. Retrieved from https://www.zdnet.com/article/xaas-why-everything-is-now-a-service/.

[17] Phil Fersht. The Ten Tenets Driving the As-a-Service Economy. 2014. Retrieved from https://www.horsesforsources.com/as-a-service-economy_100614/

[18] Forbes. Volvo Projects 33% Of Global Sales Will Be Autonomous by 2025. June 2018. https://www.forbes.com/sites/davidkiley5/2018/06/07/volvo-projects-33-of-global-sales-will-be-autonomous-by-2025/#39a980143df7.

[19] SPUR. *Why We Can't Leave Transportation Apps to the Private Sector*. Retrieved from https://www.spur.org/news/2018-04-25/why-we-can-t-leave-transportation-apps-private-sector.

[20] Ibid.

[21] Ibid.

[22] TransitCenter. *Private Mobility, Public Interest*. http://transitcenter.org/wp-content/uploads/2016/10/TC-Private-Mobility-Public-Interest-20160909.pdf (accessed June 2018).

- Involvement in MaaS allows government agencies access to data that offers insights into travel patterns. This data, combined with emerging mobility services allow for greater transportation efficiency by creating opportunities for more flexible planning by public agencies. If agencies can reduce the cost of providing equivalent or better service in inefficient transit markets, they can reallocate savings to improve service elsewhere
- Provide a better customer experience by coordinating transit agencies and their mobility apps efforts. A fragmented approach erodes the customer experience and pooling funds could lead to a better, fully functioning product for the region. At the moment, three transportation agencies are about to, or in the process of developing MaaS services.

Open Innovation Call for Public-Private Partnership[23]

TransLink in Vancouver region recently released an open innovation call seeking partners to improve mobility in the region. TransLink established the goals, criteria and eligibility for submissions, including specifying the following:

1. Seamless and efficient door-to-door mobility. "Does your idea improve the ease, efficiency and flow of people and goods across the region and across different modes?"
2. Safe, healthy, clean and compact communities. "Does your idea improve public safety, promote active transportation modes such as walking and biking, improve air quality and reduce greenhouse gas emissions and support compact communities?"
3. Affordable and equitable access for all. "Does your idea make mobility options more affordable for all residents, or ensure that disadvantaged groups have equal or improved access?"

Example Principles for Integrated Mobility[24]

The Greater Washington Partnership is a civic alliance of CEOs in the region, from Baltimore to Richmond. It authored a background document on MaaS to coordinate the Baltimore, Washington, and Richmond separate efforts on mobility ticketing, arguing that the benefits to customer mobility would be greater if the agencies integrated their payment systems with one another, and brought in private services. The document proposes the principles below to guide regional mobility decisions.

1. Put the user experience at the center of ticketing and trip planning investments.
2. Build capacity for interoperability and new functionality in planning and ticketing systems for public and private mobility services.
3. Ensure that new mobile ticketing systems equitably empower all consumers.
4. Leverage new ticketing systems to learn, experiment, and transform the travel experience.
5. Build a flexible mobility network that embraces pilots and open data.

MaaS Alliance

The Mobility as a Service (MaaS) Alliance is a public-private partnership creating the foundations for a common approach to MaaS, unlocking the economies of scale needed for successful implementation and adoption of MaaS in Europe and beyond. The main goal is to facilitate a single, open market and full deployment of MaaS services. The organization may be a resource for the development of a Bay Area program.

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[23] TransLink. Open Innovation Call. https://www.translink.ca/-/media/Documents/plans_and_projects/translink_tomorrow/translink_tomorrow_open_innovation_call.pdf?la=en&hash=69AFB6CE3C8954D38A5AB842614B21F97FCAFC67 (accessed June 2018).

[24] Greater Washington Partnership. Unlocking the Promise of Integrated Mobility in the Capital Region. July 2018. Retrieved from: http://www.greaterwashingtonpartnership.com/wp-content/uploads/2018/05/201807_GWP_Issue-Brief_Integrated-Mobility.pdf.

The MaaS Alliance has been teaming up with partners throughout the world to promote cooperation on MaaS on a global level. Meetings have been held with stakeholders from the US, China and Japan. The organization's partnership with CCTA was initiated at the Redefining Mobility Summit held in April 2018 in San Ramon, where representatives of CCTA and MaaS Alliance met and discussed the common interests of both parties.

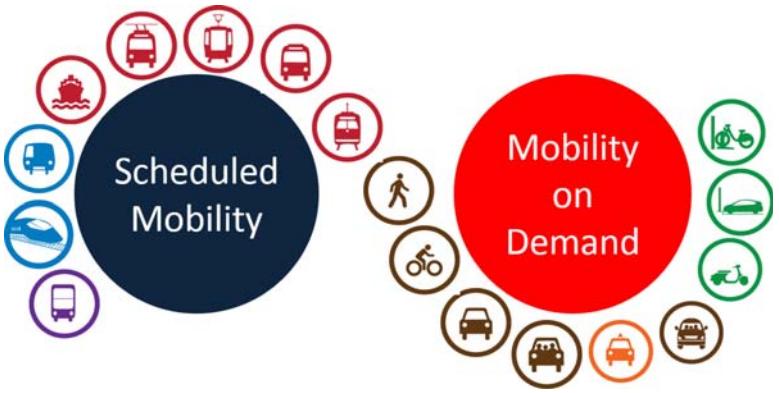
SFMTA Municipal Transportation Agency

Guiding Principles for Emerging Mobility Services and Technologies

What Are the Guiding Principles for Emerging Mobility Services and Technologies?

Transportation options in San Francisco are significantly different today than they were just a few years ago. A variety of mobility services and technologies have emerged, from mobile applications that connect passengers with on demand service, shared ride van services, shared scooter services, to automated vehicles that are currently being tested on our City streets. These new mobility services present both opportunities and challenges to the safe and efficient movement of people and goods in San Francisco, which is mandated by City Charter in the Transit-First Policy.

With the goals of providing for safe, reliable, sustainable and equitable transportation choices now and in the future, San Francisco's transportation agencies have established the following Guiding Principles for Management of Emerging Mobility Services and Technologies.



These Guiding Principles will provide a consistent policy framework to evaluate new mobility services and will be taken into consideration in all San Francisco Municipal Transportation Agency (SFMTA) and San Francisco County Transportation Authority (SFCTA) decisions, policies and actions regarding Emerging Mobility Services and Technologies.

How the Guiding Principles Will Be Used

The SFCTA and SFMTA will use these Guiding Principles to shape our approach to Emerging Mobility Services and Technologies. For the SFMTA, these Guiding Principles will serve as a framework for the consistent application of policies and programs. The SFCTA will use these Guiding Principles to evaluate these services and technologies; identify ways to meet city goals, and shape future areas of studies, policies and programs. Every Guiding Principle may not be relevant to every consideration associated with Emerging Mobility Services and Technologies, and in some cases a service may not meet all of the principles consistently. SFMTA and SFCTA Directors and staff will consider whether a service or technology is consistent with the Guiding Principles, on balance. If a service provider or technology does not support these Guiding Principles, SFMTA and SFCTA will work with the service provider to meet the principles, or may choose to limit their access to City resources.

SFMTA Municipal Transportation Agency

The **San Francisco Municipal Transportation Agency (SFMTA)** oversees the Municipal Railway (Muni), parking and traffic, bicycling, walking and taxis.

The **San Francisco County Transportation Authority (SFCTA)** serves as the Congestion Management Authority and is responsible for long-range transportation planning and capital grant programming.

311 Free language assistance / 免費語言協助 / Ayuda gratis con el idioma / Бесплатная помощь переводчиков / Trợ giúp Thông dịch Miễn phí / Assistance linguistique gratuite / 無料の言語支援 / 무료 언어 지원 / Libreng tulong para sa wikang Tagalog / การช่วยเหลือทาง ด้านภาษาโดยไม่เสียค่าใช้จ่าย /خط المساعدة المجاني على الرقم

SFMTA
Municipal
Transportation
Agency

Guiding Principles for Emerging Mobility Services and Technologies

Guiding Principles for Management of Emerging Mobility Services and Technologies

- Safety: Emerging Mobility Services and Technologies must be consistent with the City and County of San Francisco's goal for achieving Vision Zero, reducing conflicts, and ensuring public safety and security.
- Transit: Emerging Mobility Services and Technologies must support, rather than compete with public transit services, must account for the operational needs of public transit and encourage use of high-occupancy modes.
- Equitable Access: Emerging Mobility Services and Technologies must promote equitable access to services. All people, regardless of age, race, color, gender, sexual orientation and identity, national origin, religion, or any other protected category, should benefit from Emerging Mobility Services and Technologies, and groups who have historically lacked access to mobility benefits must be prioritized and should benefit most.
- Disabled Access: Emerging Mobility Services and Technologies must be inclusive of persons with disabilities. Those who require accessible vehicles, physical access points, services, and technologies are entitled to receive the same or comparable level of access as persons without disabilities.
- Sustainability: Emerging Mobility Services and Technologies must support sustainability, including helping to meet the city's greenhouse gas (GHG) emissions reduction goals and supporting efforts to increase the resiliency of the transportation system.
- Congestion: Emerging Mobility Services and Technologies must consider the effects on traffic congestion, including the resulting impacts on road safety, modal choices, emergency vehicle response time, transit performance and reliability.
- Accountability: Emerging Mobility Services and Technologies providers must share relevant data so that the City and the public can effectively evaluate the services' benefits to and impacts on the transportation system and determine whether the services reflect the goals of San Francisco.
- Labor: Emerging Mobility Services and Technologies must ensure fairness in pay and labor policies and practices. Emerging Mobility Services and Technologies should support San Francisco's local hire principles, promote equitable job training opportunities, and maximize procurement of goods and services from disadvantaged business enterprises.
- Financial Impact: Emerging Mobility Services and Technologies must promote a positive financial impact on the City's infrastructure investments and delivery of publicly-provided transportation services.
- Collaboration: Emerging Mobility Services and Technology providers and the City must engage and collaborate with each other and the community to improve the city and its transportation system.

SFMTA
Municipal
Transportation
Agency

The **San Francisco Municipal Transportation Agency (SFMTA)** oversees the Municipal Railway (Muni), parking and traffic, bicycling, walking and taxis.

The **San Francisco County Transportation Authority (SFCTA)** serves as the Congestion Management Authority and is responsible for long-range transportation planning and capital grant programming.

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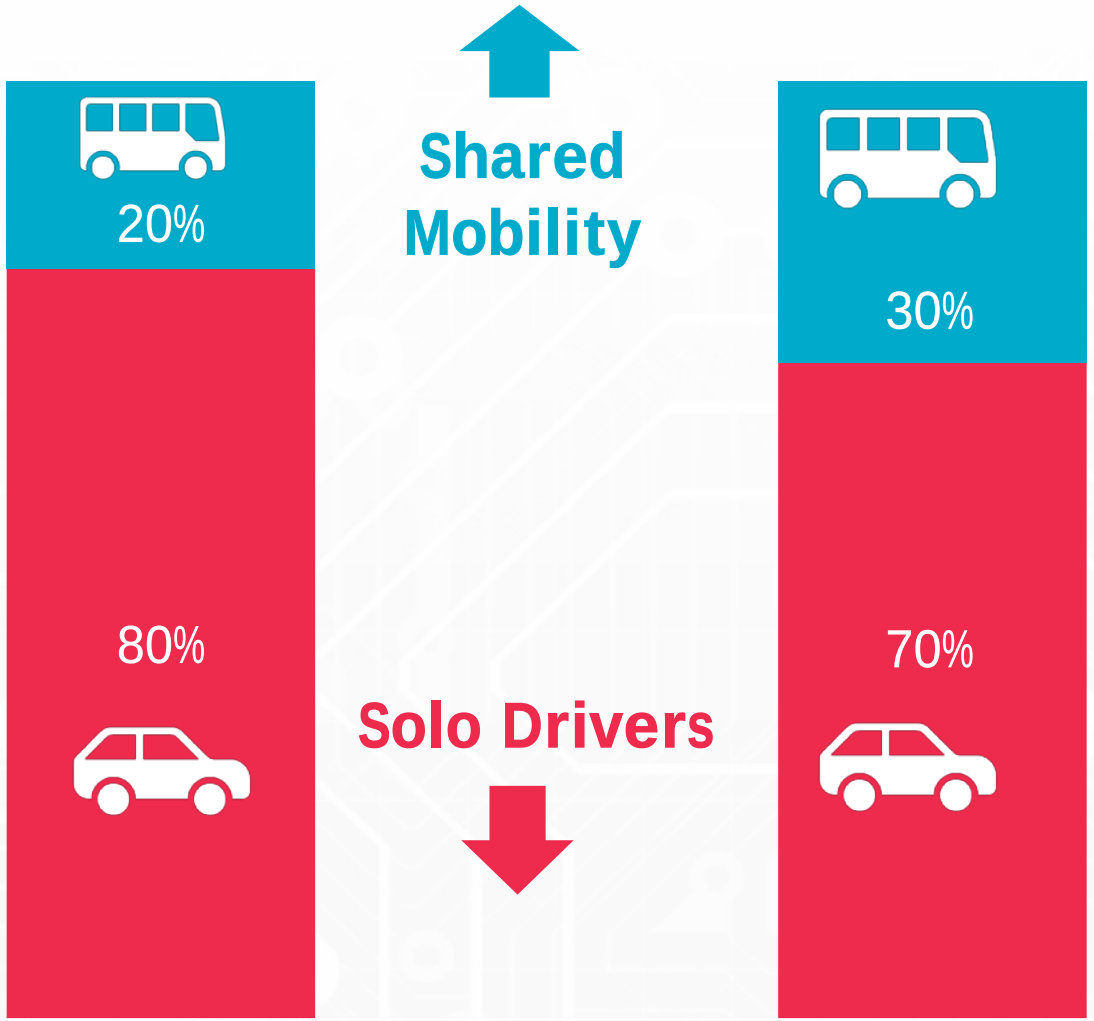
BAY AREA
MaaS
The Journey

Agenda

- What is Mobility as a Service (MaaS)?
- Clipper/Next Generation Clipper
- BART MaaS Application
- Advanced Transportation and Congestion Management Technologies Deployment Grant (ATCMTD) Application
- Discussion and Next Steps


ON
EAST OF GRAND AVE
OVER 4 1/2 TONS
Alameda
San Jose
San Francisco
BUSES AND
CARPOOLS ONLY
5AM-10AM MON-FRI
3PM-7PM
San Francisco
ONLY
END
CARPOOL
LANE
600 FEET
580
Oakland
880
San Jose
80
San Francisco
3 RIGHT LANES
EXIT
9

Mode Shift



CONGESTION

10% Mode Shift

Rethinking Ownership

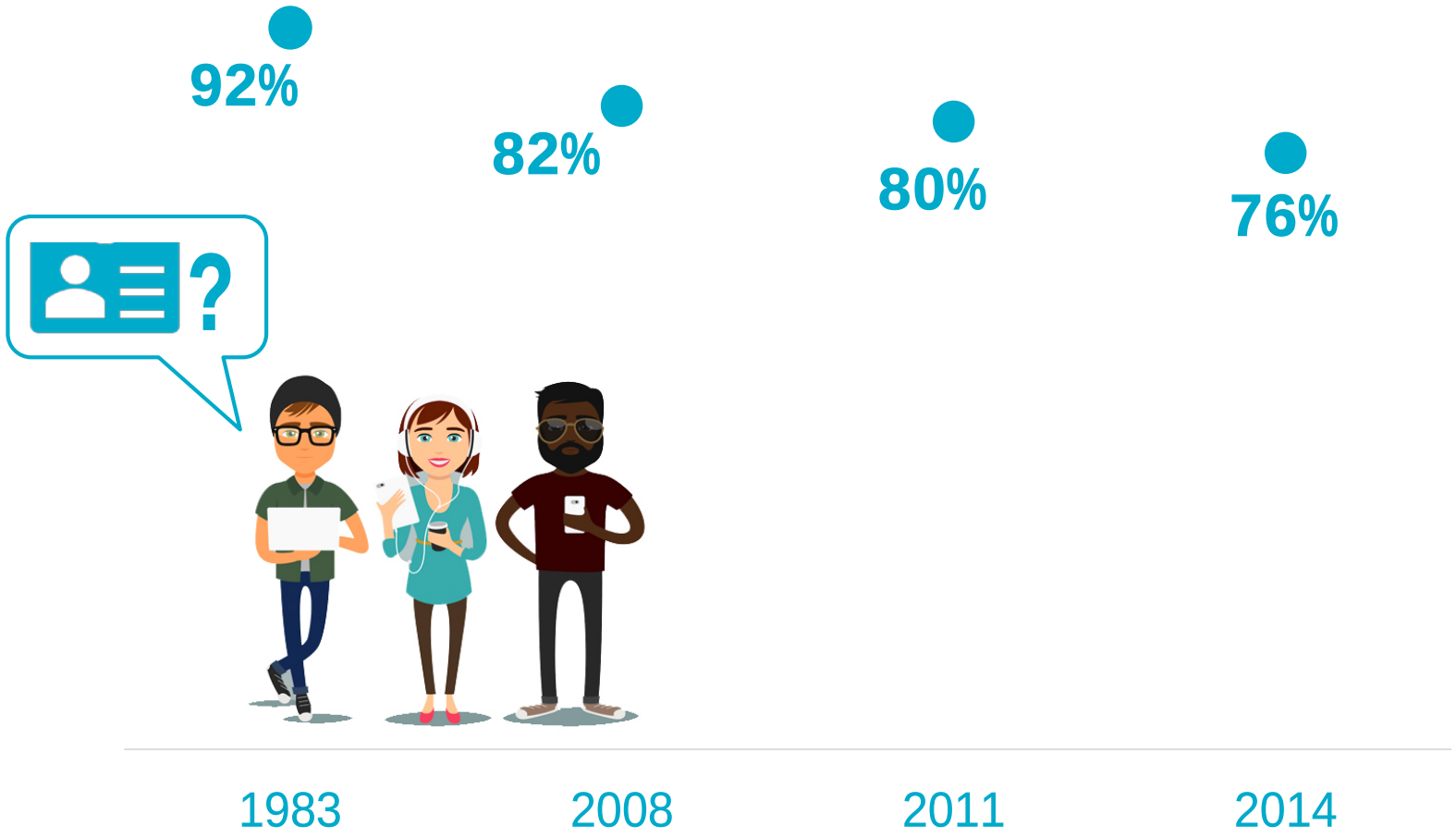
16.5% Rethinking car ownership

42.5% Would own a self-driving car

50% Would buy a “green” car

– Data from Lendedu.com (2017) & Industry Week (May 2018)

Reduction in Driver Licenses



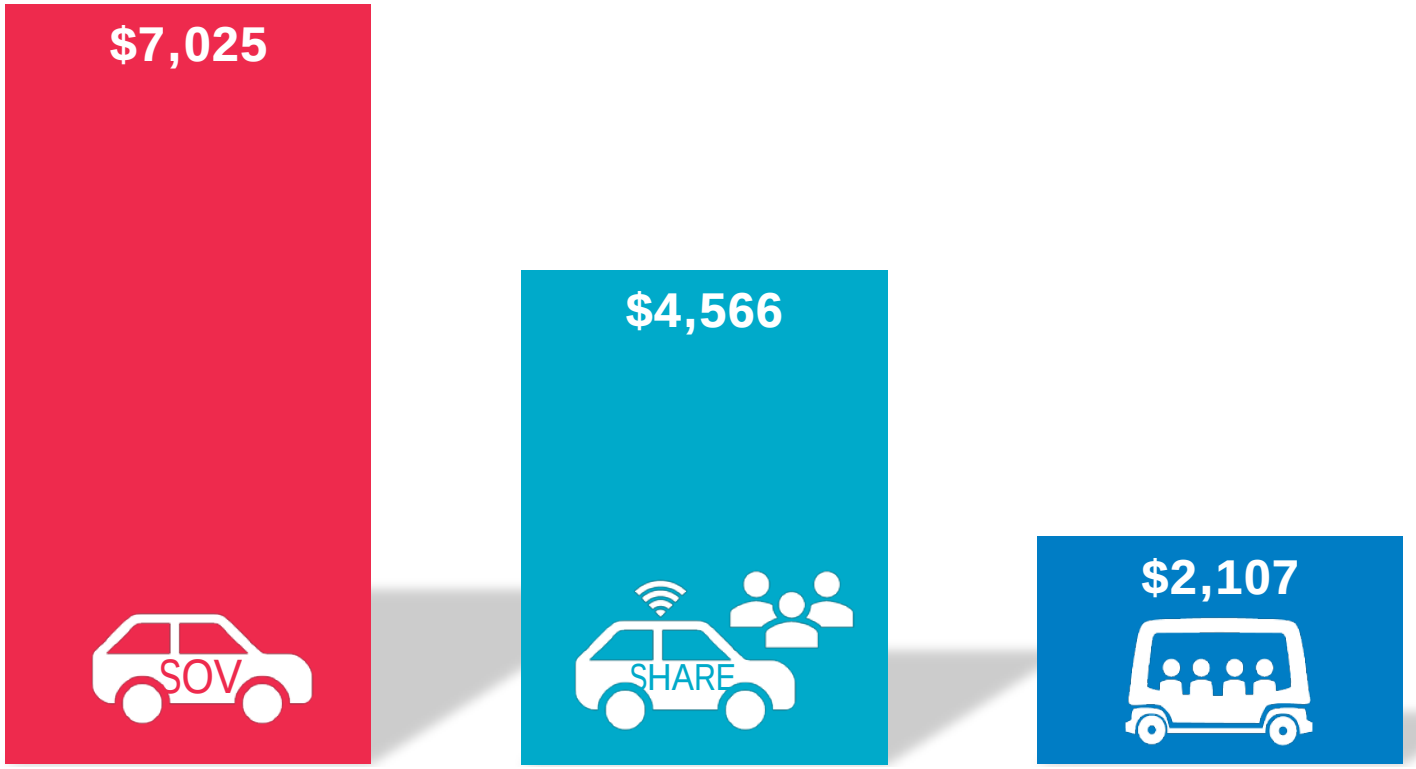
Continuous decrease in people with driver's licenses

(20-24 year-olds)

16% decline over 30 years

Source: Money Magazine, 2016

Annual Cost Comparison by Mode



Calculation based on average car commute 25 miles/day.

Source: Deloitte University Press

Increased Accessibility, Opportunity

Studies show that **COMMUTE TIME IS THE KEY FACTOR** in social mobility, more so even than factors related to crime or education.*

Transportation Emerges as Crucial to Escaping Poverty, NY Times May 2015

Need to Redefine Mobility

RIDESHARING

TRANSIT

CAR SHARING

ELECTRIC VEHICLES

TNC + RIDESOURCING

DYNAMIC PARKING

PEDESTRIAN

SHARED AUTONOMOUS VEHICLES

BICYCLES

Mobility as a Service (MaaS)

A combination of **public and private** transportation services that provides **personalized mobility options** based on traveler needs, to enable **end-to-end journeys** paid for by the traveler with a **single payment**, and aims to **optimize** the **transportation** system.

Guiding Principles

- Collaboration
- Accountability & Data Sharing
- Promote Equitable Access
- Include Disabled Access
- Complement Transit
- Improve Safety
- Ensure Fair Labor Practices
- Support Sustainability
- Consider Effects on Congestion
- Positive Financial Impact

MaaS Concept

- Full MaaS implementation will take time through a phased approach
- What could MaaS be today? Where should we take it?

Bay Area MaaS Activity


Next Generation Clipper

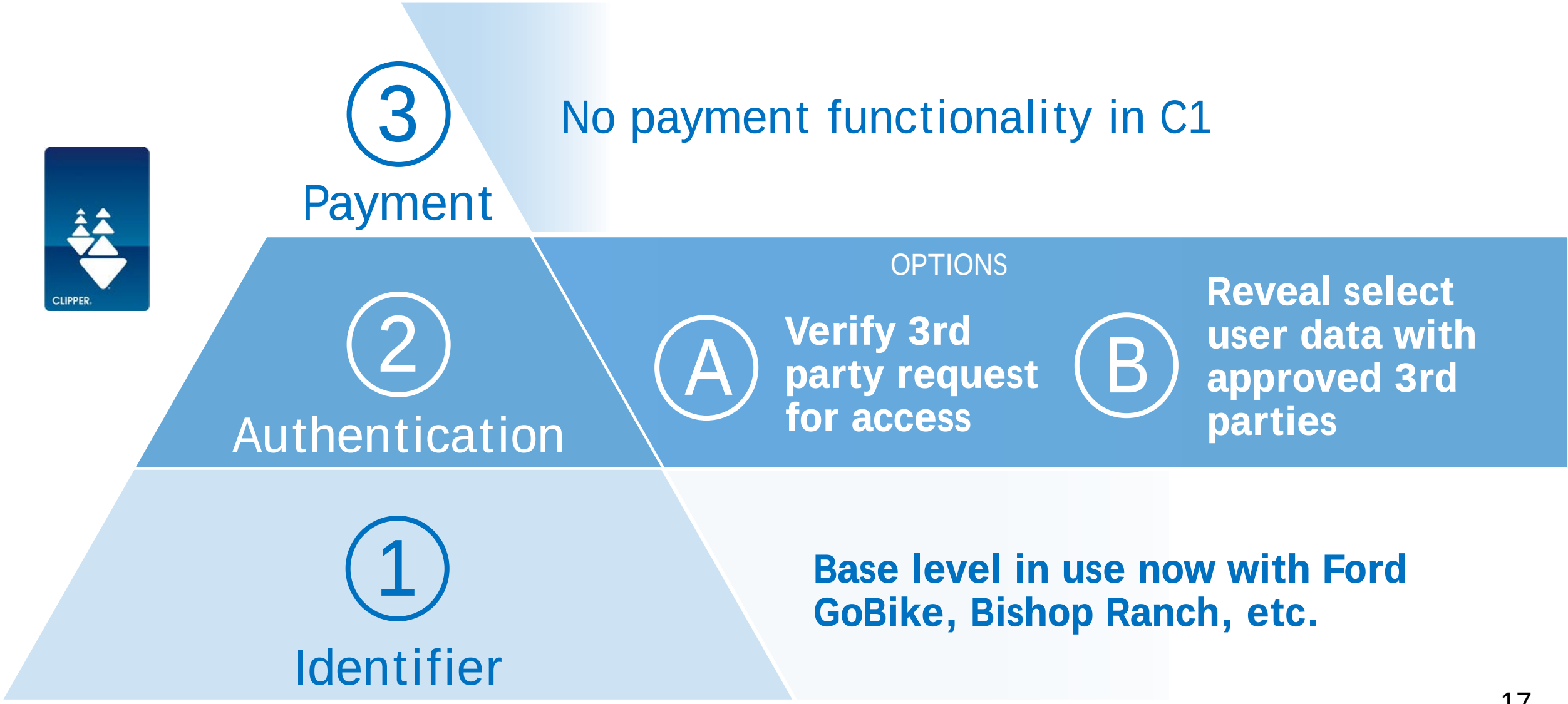
Current Bay Area Mobile Applications

Mobile Provider	Operator(s)	Products Available/ Fare Categories Offered
Moovel	SFMTA, VTA, Caltrain, BART (still TBD)	Single Ride and Day Pass Adult, Senior, Youth, Disabled
Masabi	SMART	Single Ride, Round Trip Adult, Senior, Youth, Disabled
American Eagle	Tri-Delta Transit SolTrans/SCTA (still TBD)	Single Ride, Day Pass, 31-Day General Public, Senior, Disabled
HopThru	Napa VINE Sonoma County Transit	Single Ride, Day Pass, 31-Day Pass Adult, Senior, Youth, Disabled
Token Transit	Napa VINE	Single Ride, Day Pass, 31-Day Pass Adult, Senior, Youth, Disabled
Bytemark (Tentative Launch Sept. 2018)	SamTrans	Single Ride, Out of County Adult, Youth, Eligible Discount
Procurement in progress	WETA, AC Transit	TBD

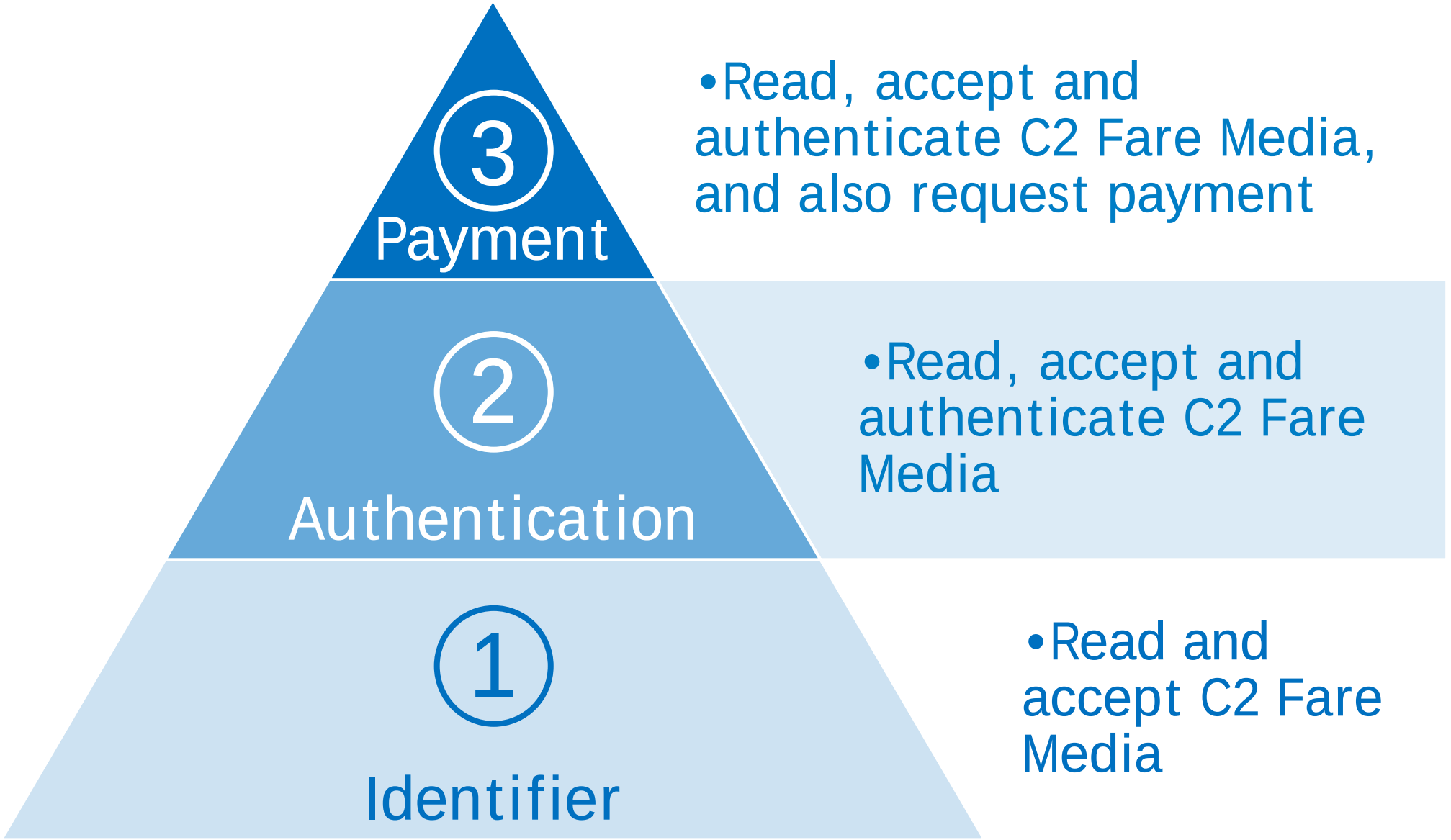
Clipper C1 and C2 Integration Options

	C2	C1
LEVEL 1 | Identifier	✓ - Available 2022	✓ - Available Now
LEVEL 2 | Authentication	✓ - Available 2022	✓ - Possible in 2019
LEVEL 3 | Payment	✓ - Available 2022	✕ - Not Possible

Clipper Potential C1 Integration Options



Clipper C2 Integration Options for 3rd Parties



- Read, accept and authenticate C2 Fare Media, and also request payment

- Read, accept and authenticate C2 Fare Media

- Read and accept C2 Fare Media


BART
CONNECTED JOURNEY
Mobility as a Service (MaaS)

Connected Journey offers patrons an end-to-end trip support with an unparalleled user experience.

WHERE WE ARE AT

The Urban landscape is evolving at a fast pace.

BY 2050, 66% OF THE POPULATION WILL BE IN URBAN AREAS

DUE TO CONGESTION, 68 U.S. URBAN AREAS LOST TIME AND WASTED FUEL COSTING $72 BILLION

IN 2016, SMARTPHONE ADOPTION SURPASSED 80%

BY 2025, THE DRIVERLESS CAR MARKET WILL BE WORTH $42 BILLION

BY 2020, 98% OF NEW VEHICLES WILL BE CONNECTED TO THE INTERNET

UBER AND LYFT CLAIM MONTHLY CONSUMERS OF 7.3 MILLION

U.S. BIKE-SHARE ANNUAL RIDERSHIP IS 28 MILLION TRIPS

BY 2024, GLOBAL CARSHARING IS PROJECTED TO EXCEED 23 MILLION MEMBERS

CAUSE OF PATRON FRUSTRATION

1

Lack of first and last mile trip support

2

Various channels: Mobile, Web, Digital Signs

3

Multiple patron accounts and payment profiles

4

Minimal trip planning functions

5

Limited real-time notifications

6

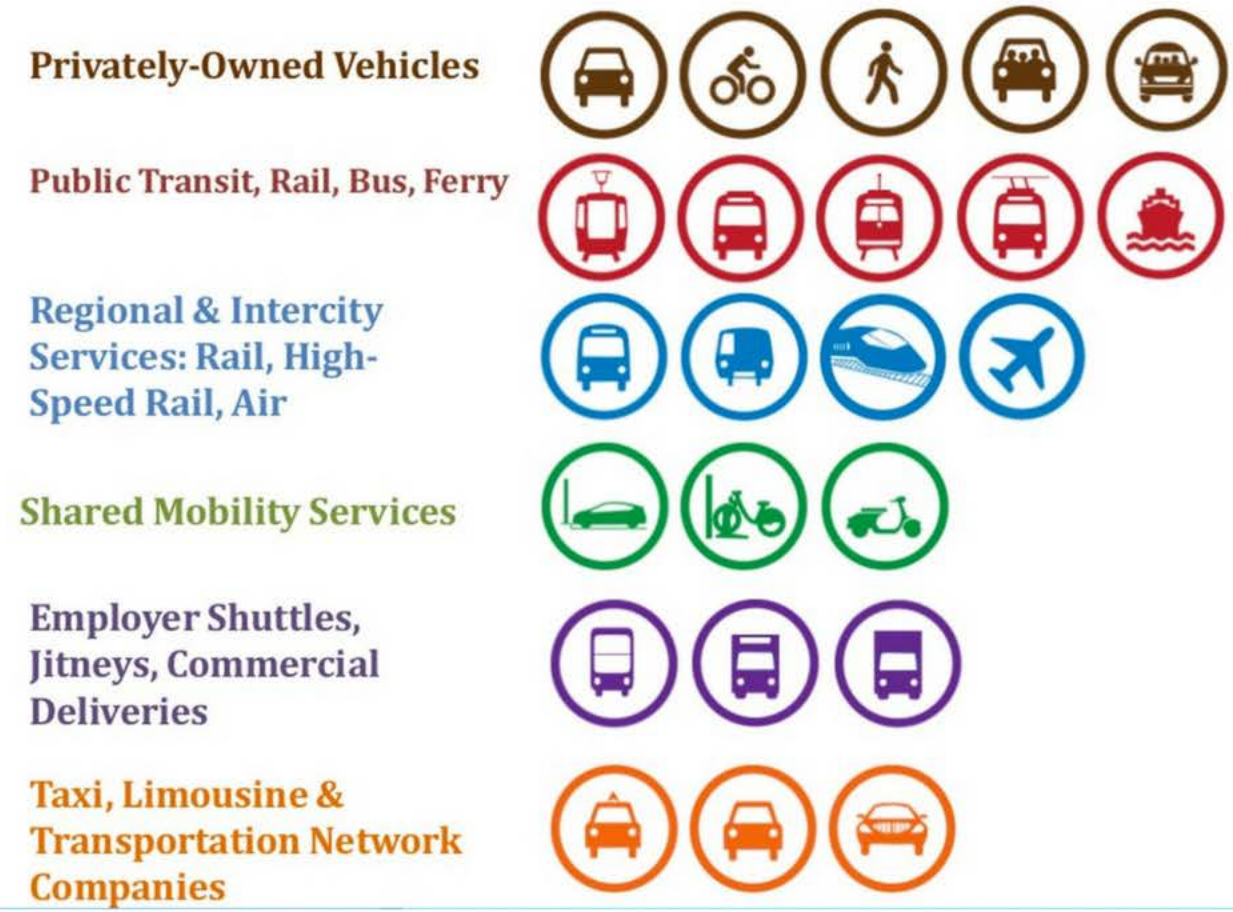
Minimal integration with other public and private operators

7

Intermittent in-journey connectivity

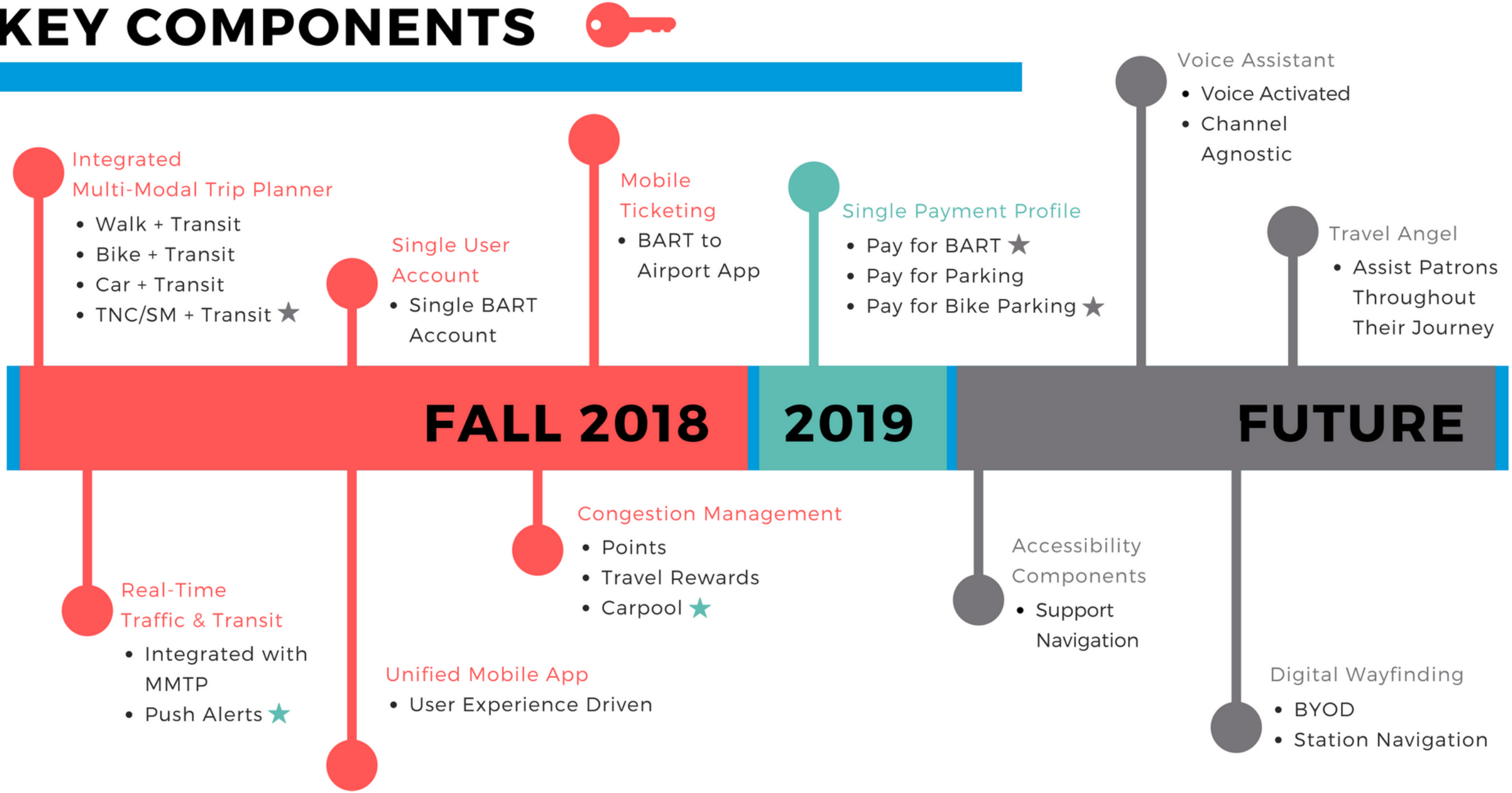
OUR CHALLENGE

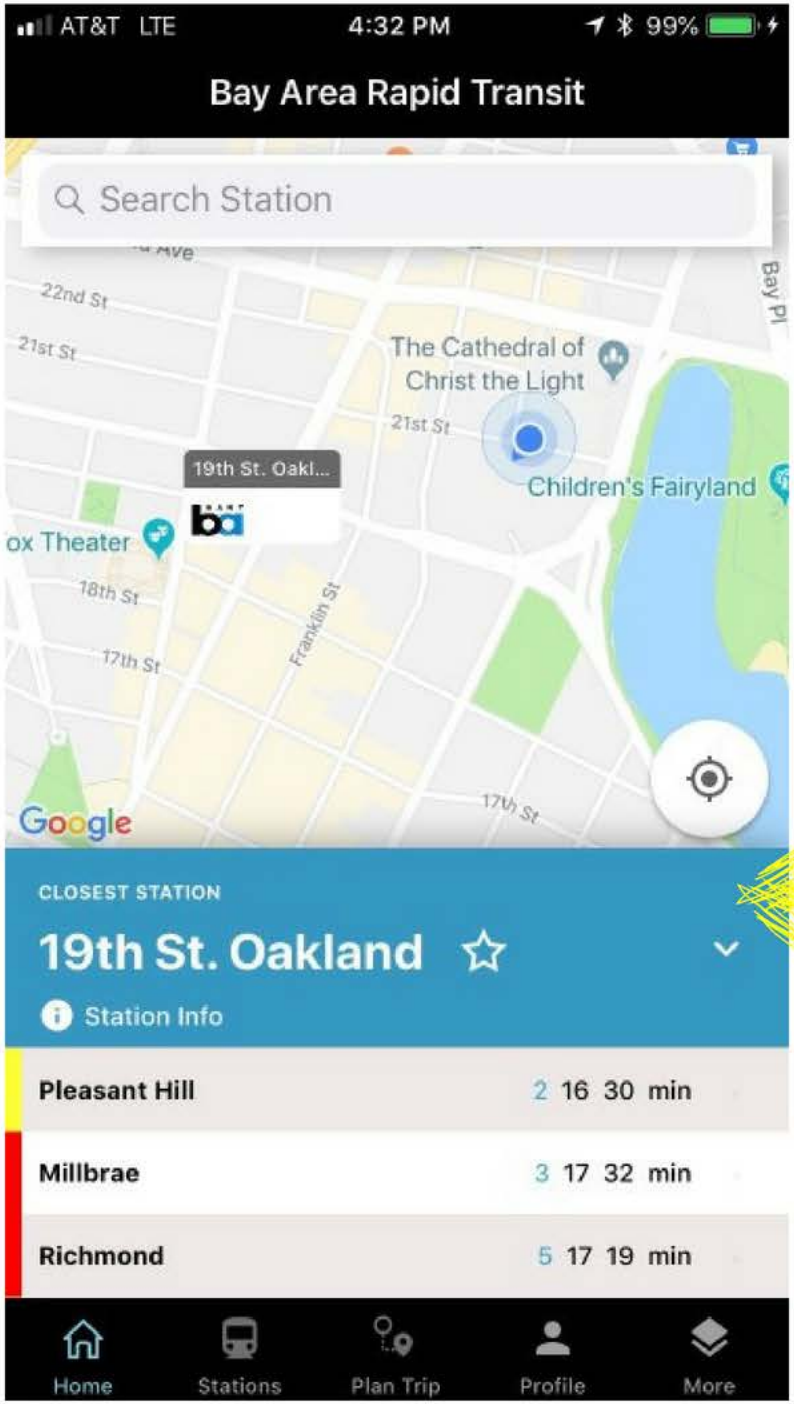
Patrons now have access to many more mobility providers and they are combining them in a single trip



IMPLEMENTATION APPROACH

KEY COMPONENTS





BART MOBILE APP TRIP PLANNER

The first step in our connected journey

ATCMTD Grant Application

Mobility as a Service Partnerships

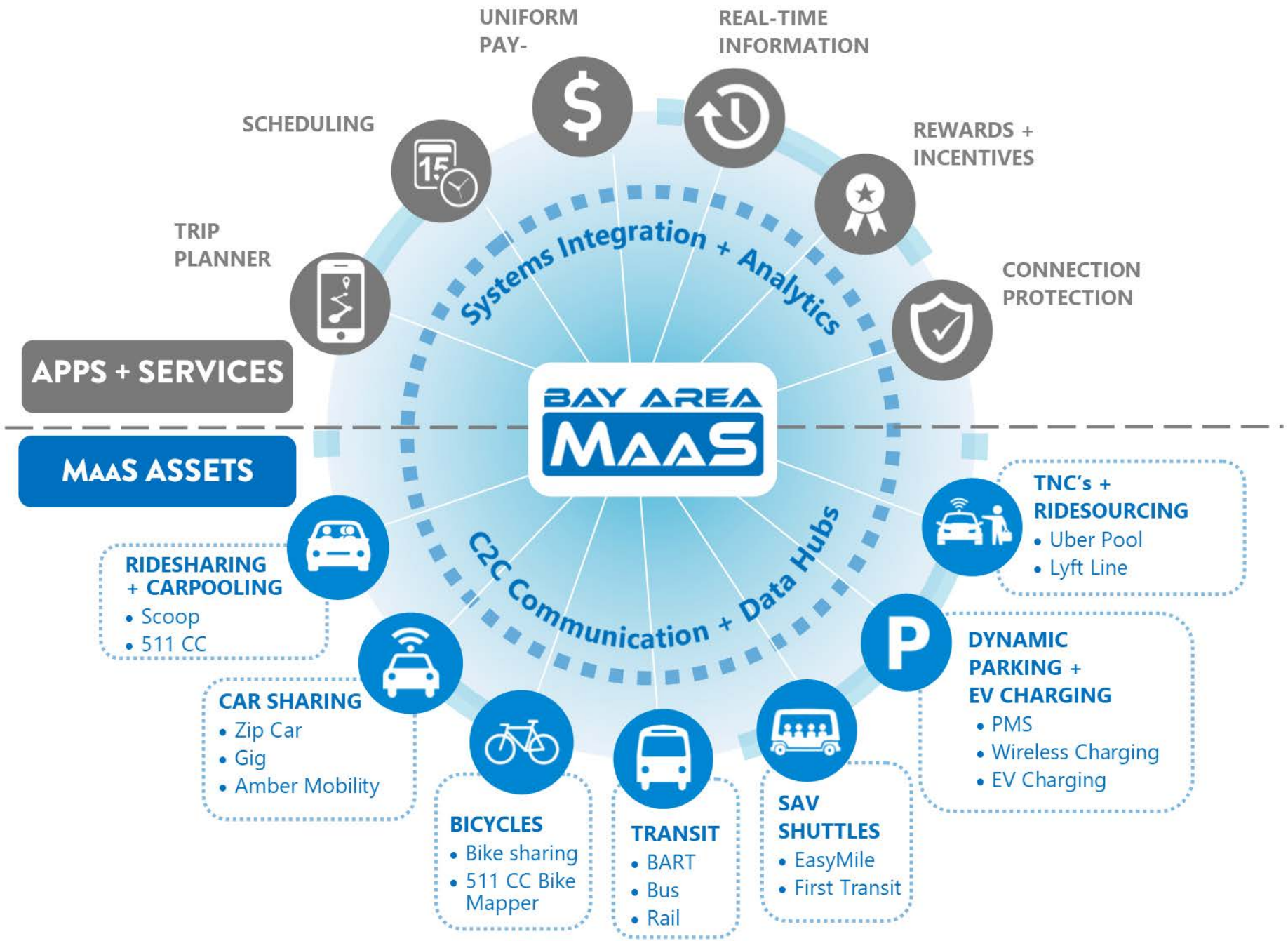
CONTRA COSTA
transportation
authority

Northern California,
Nevada & Utah

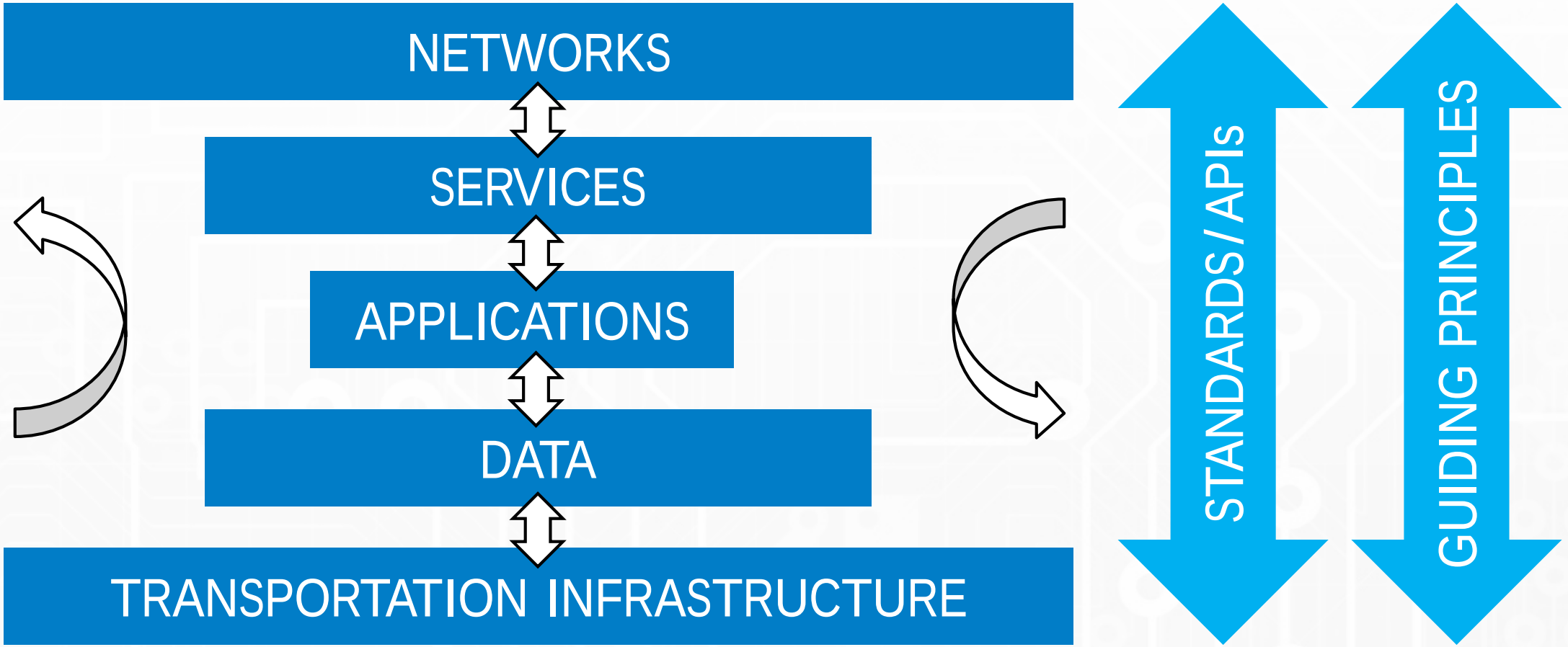
METROPOLITAN
TRANSPORTATION
COMMISSION

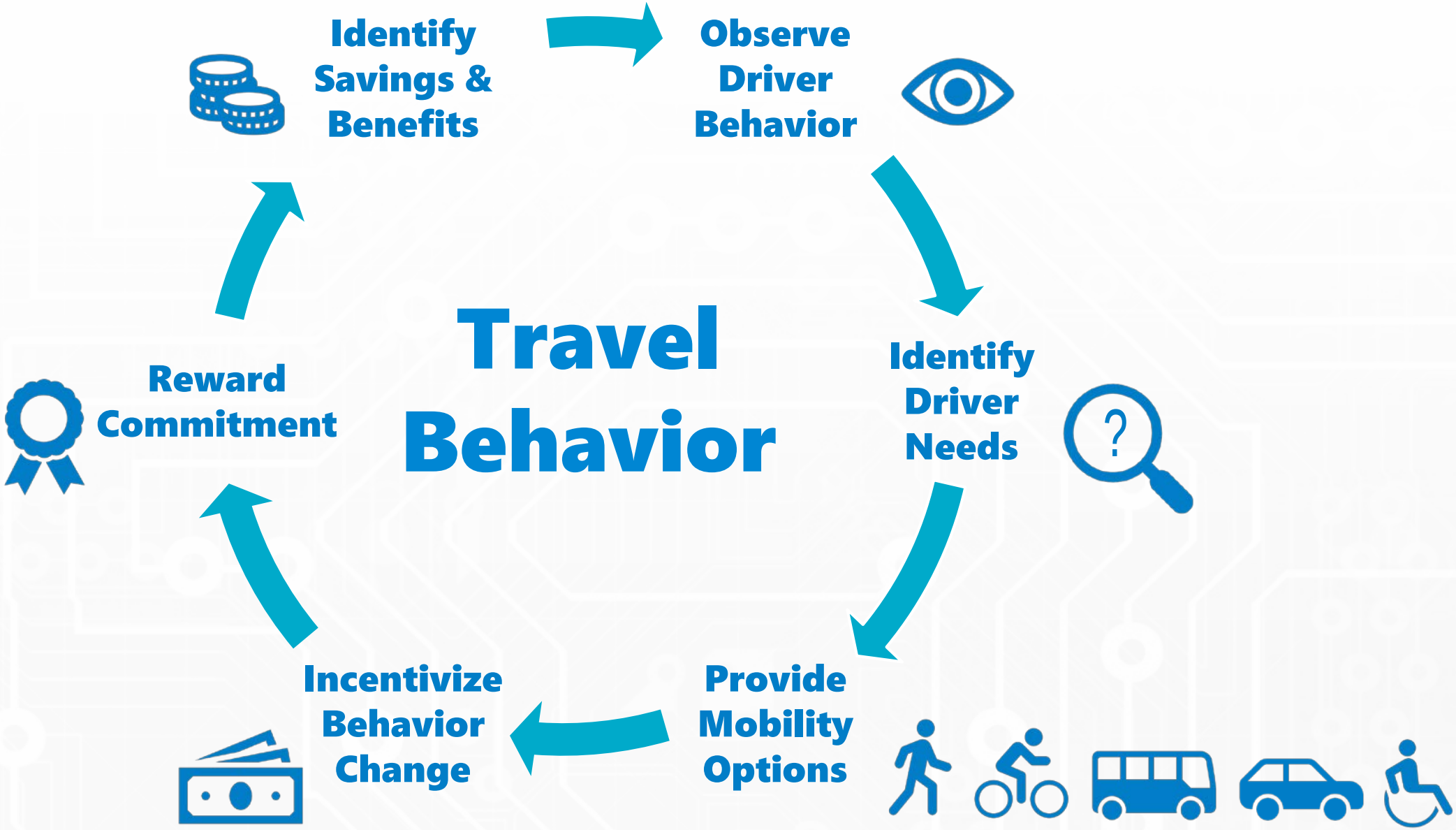
County Connection

UNIVERSITY OF CALIFORNIA Berkeley
Transportation Sustainability
RESEARCH CENTER

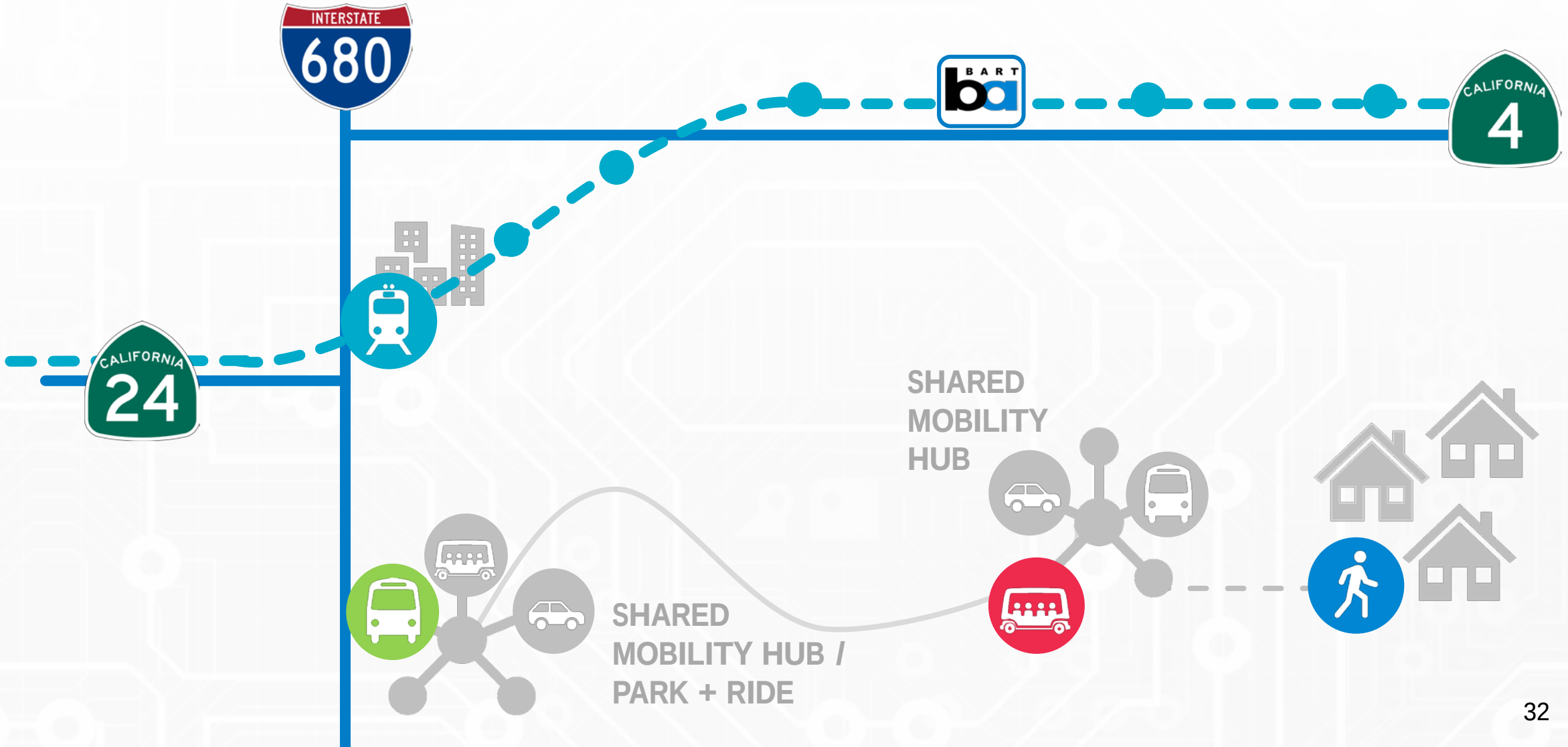

UNIFORM PAY-
REAL-TIME INFORMATION
SCHEDULING
REWARDS + INCENTIVES
TRIP PLANNER
CONNECTION PROTECTION
Systems Integration + Analytics
APPS + SERVICES
BAY AREA MAAS
MAAS ASSETS
C2C Communication + Data Hubs
TNC's + RIDESOURCING
• Uber Pool
• Lyft Line
RIDESHARING + CARPOOLING
• Scoop
• 511 CC
DYNAMIC PARKING + EV CHARGING
• PMS
• Wireless Charging
• EV Charging
CAR SHARING
• Zip Car
• Gig
• Amber Mobility
BICYCLES
• Bike sharing
• 511 CC Bike Mapper
TRANSIT
• BART
• Bus
• Rail
SAV SHUTTLES
• EasyMile
• First Transit

Multimodal Architecture: Seamless Integration




Identify Savings & Benefits
Observe Driver Behavior
Identify Driver Needs
Provide Mobility Options
Incentivize Behavior Change
Reward Commitment
Travel Behavior

Mobility Management



Roles

Framework
-Regional-

- Manage Application
- Manage Users
- Manage Service Providers
- Uniform Payment
- Rewards Program
- Concierge Customer Service Center

Mobility Options
-Local-

- Identify Transportation Service Providers
- Infrastructure Needs
- Identify Local Rewards

Data Collection

BAY AREA MAAS

Regional Data Center

REAL-TIME INFORMATION

SCHEDULING

TRIP PLANNER

UNIFORM PAYMENT SYSTEM

CONNECTION PROTECTION

REWARDS + INCENTIVES

SAVs

RIDESHARING

BICYCLES/ BIKE SHARE

RAIL TRANSIT

RIDESOURCING

DYNAMIC PARKING

CAR SHARING

PEDESTRIAN

CONNECTED VEHICLE

BUS TRANSIT

ELECTRIC VEHICLES

Benefits of MaaS

- Increase Transit Efficiency
- Provide First and Last Mile Solutions
- Leverage Existing Transportation System
- Understand Travel Behavior
- Smart investments

BAY AREA MAAS

The Connected Journey

Image credit: SkedGo Pty Ltd, adrian@skedgo.com

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0796	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Regional Measure 3 Implementation Update Update on Regional Measure 3 approved by voters on June 5, 2018, with an overall 55% yes vote among the nine Bay Area counties.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	06_RM3 Update.pdf				

Date	Ver.	Action By	Action	Result

Subject:
Regional Measure 3 Implementation Update

Update on Regional Measure 3 approved by voters on June 5, 2018, with an overall 55% yes vote among the nine Bay Area counties.

Presenter:
Craig Bosman

Recommended Action:
Information

Attachments:

METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 6
Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Bay Area Partnership Board DATE: September 21, 2018

FR: Executive Director

RE: Regional Measure 3 Implementation Update

Election Results
Voters approved Regional Measure 3 (RM3) on June 5, 2018, with an overall 55% yes vote among the nine Bay Area counties. The following table shows the final results for each county.

County	Yes Votes	No Votes	Yes %
Alameda	173,275	148,245	53.9%
Contra Costa	101,070	125,851	44.5%
Marin	48,090	31,366	60.5%
Napa	17,350	16,828	50.8%
San Francisco	153,812	81,383	65.4%
San Mateo	89,524	73,533	54.9%
Santa Clara	212,661	133,488	61.4%
Solano	24,182	56,334	30.0%
Sonoma	67,006	58,556	53.4%
Regionwide Total	**886,970**	**725,584**	**55.0%**

Toll Implementation
Senate Bill 595 (SB 595), the legislation authorizing the RM3 election and governing program implementation, provides that BATA can phase in the toll. The ballot question specified a three-dollar phase in according to the following schedule:

- First dollar: January 1, 2019
- Second dollar: January 1, 2022
- Third dollar: January 1, 2025

Lawsuits
A lawsuit regarding RM3 has been filed against the Bay Area Toll Authority and the California State Legislature. A second lawsuit regarding RM3 has been filed against MTC. MTC/BATA is pursuing all available defenses and moving as fast as possible with regard to each lawsuit's defense.

Capital Program Implementation – Initial Project Reports
SB 595 requires project sponsors to submit an initial project report to MTC within six months of the election (i.e., in December 2018). Staff is preparing Initial Project Report templates for release in September. At a minimum, per statute, the report will include all information required to describe the project in detail, including:

- The status of any environmental documents relevant to the project
- Additional funds required to fully fund the project
- The amount, if any, of funds expended to date
- A summary of any impediments to the completion of the project
- A detailed financial plan
- Whether the project sponsor will request toll revenue within the subsequent 12 months

Per statute, no funds shall be allocated by MTC to a project until the project sponsor submits the initial project report, and the report is reviewed and approved by the Commission. Additionally, for projects with multiple project sponsors MTC shall identify a lead sponsor in coordination with all identified sponsors for purposes of allocating funds. For the handful of projects this applies to, MTC staff will coordinate with multiple project sponsors regarding the Initial Project Report.

Operating Program Implementation
Up to 16% of RM3 revenues generated each year (up to $60 million per year) will be made available for operating programs, broken down as follows:

- Transbay Terminal: 8% (of the 16% available for operating programs), not to exceed $5 million annually
- Regional Express Bus: 34% (of the 16%), not to exceed $20 million annually
- Expanded Ferry Service: 58% (of the 16%), not to exceed $35 million annually

The annual amount available for operating is subject to the amount of toll revenue collected, and is also dependent on the toll phase-in schedule.

Prior to allocation of the Transbay Terminal and Regional Express Bus funds, MTC is required to adopt performance measures related to fare-box recovery, ridership, or other indicators, in consultation with affected project sponsors. MTC is also required to adopt an operating agreement with the sponsor of the project. Prior to allocation of ferry operating funds, WETA is required to adopt a plan, and MTC and WETA are required to execute an operating agreement.

Policies and Procedures
Staff proposes development of policies and procedures for both the RM3 capital and operating programs, and will work with project sponsors over the coming months.

Key Links

- Senate Bill 595 text: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB595
- RM3 Ballot Description: https://mtc.ca.gov/sites/default/files/RM_3_Ballot_Description_041218_Corrected.pdf
- MTC RM3 Information Page: https://mtc.ca.gov/our-work/advocate-lead/regional-measure-3

Schedule
Some key milestones indicated in SB 595 and/or the RM3 ballot language includes:

#	Milestone	Schedule
1	Adoption of BATA Resolution certifying election results	September
2	Conduct public hearing on toll schedule	November
3	Adoption of BATA resolution containing revised toll schedule	December
4	Deadline for project sponsors to submit Initial Project Reports to MTC	December
5	First $1 toll increase goes into effect	January 1, 2019
6	Establish Independent Oversight Committee	By June 2019
7	First annual report to Legislature	December 2019

Steve Heminger

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375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0797	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Proposition 6: Overview, Bay Area Impacts and Public Information Plan Update on the Senate Bill 1 Repeal Initiative.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	07_Prop 6.pdf				

Date	Ver.	Action By	Action	Result

Subject:
Proposition 6: Overview, Bay Area Impacts and Public Information Plan

Update on the Senate Bill 1 Repeal Initiative.

Presenter:
Rebecca Long

Recommended Action:
Information

Attachments:

METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street, Suite 800
San Francisco, CA 94105
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www.mtc.ca.gov

Agenda Item 7

TO: Bay Area Partnership Board DATE: September 21, 2018

FR: Executive Director

RE: Proposition 6: Overview, Bay Area Impacts and Public Information Plan

As you know, Proposition 6 on the November ballot would cut funding for California's transportation system on a level that is hard to overstate. Its repeal of the $5 billion in annual funding sources approved by Senate Bill 1 (2017) would cut state funding for the Bay Area's local roads – distributed directly to cities and counties – by over $200 million per year. In most cases, local governments would lose about 40 percent of their local streets and roads funding. Without a replacement source of revenue, staff estimates that the region's pavement condition would deteriorate to the "at risk" level, driving up the cost of road repairs as well as the cost to motorists from driving on rough roads.

For public transit, operating funding from the State Transit Assistance Program would be cut in half, a loss of over $150 million per year. Numerous high priority projects, including BART to Silicon Valley Phase 2, BART Transbay Core Capacity, San Mateo U.S. 101 Managed Lanes, the Marin-Sonoma Narrows and the Interstate 80/Interstate 680/State Route 12 Interchange would lose funds that were awarded through SB 1's competitive programs, creating significant funding gaps that would put their current schedules at risk.

Attached is a presentation summarizing the specific impacts of Proposition 6 for Bay Area and describing the agency's public information efforts. Staff will be available to answer any questions on the material at your meeting.

Steve Heminger

Attachment

- Attachment A: Memo and Presentation from September 14, 2018 Legislation Committee Meeting

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METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 3a
Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Legislation Committee DATE: September 7, 2018

FR: Executive Director

RE: Proposition 6: Overview, Bay Area Impacts and Public Information Plan

Proposition 6 ballot would cut funding for California's transportation system on a level that is hard to overstate. Its repeal of the $5 billion in annual funding sources approved by Senate Bill 1 (2017) would cut state funding for the Bay Area's local roads – distributed directly to cities and counties – by over $200 million per year. In most cases, local governments would lose about 40 percent of their local streets and roads funding. Without a replacement source of revenue, staff estimates that the region's pavement condition would deteriorate to the "at risk" level, driving up the cost of road repairs as well as the cost to motorists from driving on rough roads.

For public transit, operating funding from the State Transit Assistance Program would be cut in half, a loss of over $150 million per year. Numerous high priority projects, including BART to Silicon Valley Phase 2, BART Transbay Core Capacity, San Mateo U.S. 101 Managed Lanes, the Marin-Sonoma Narrows and the Interstate 80/Interstate 680/State Route 12 Interchange would lose funds that were awarded through SB 1's competitive programs, creating significant funding gaps that would put their current schedules at risk, as illustrated in Attachment A. A flow chart detailing the source and uses of new SB 1 revenues is included in Attachment B.

If Proposition 6 passes, it would also be very difficult to replace the funds approved by SB 1. The measure provides that the Legislature will no longer have the authority to raise fees on fuel or vehicles without statewide voter approval. Local taxes dedicated to transportation are subject to a two-thirds vote and are generally geared towards congestion relief and transit expansion rather than state of good repair, which was the focus of SB 1. Lastly, given the condition of the federal Highway Trust Fund and the political climate in Washington, it's hard to imagine Congress augmenting California's funding by hundreds of millions of dollars, let alone $5 billion per year.

In July, the Commission acted to oppose Proposition 6 and requested that staff return with a public information plan for communicating the risks of the measure to Bay Area voters. At your September meeting staff will present the attached presentation, which highlights the specific impacts of Proposition 6 for Bay Area local roads, transit operators and specific high priority projects, including projects that received funding in the recently approved bridge toll measure, Regional Measure 3. A summary of the information we will present is contained in the attached PowerPoint presentation.

Steve Heminger

Attachment:

- Attachment A: Map of SB 1 Competitively Funded Projects
- Attachment B: Flow chart of SB 1 Programs Prepared by CALCOG
- Attachment C: Transportation Funds at Risk: Proposition 6

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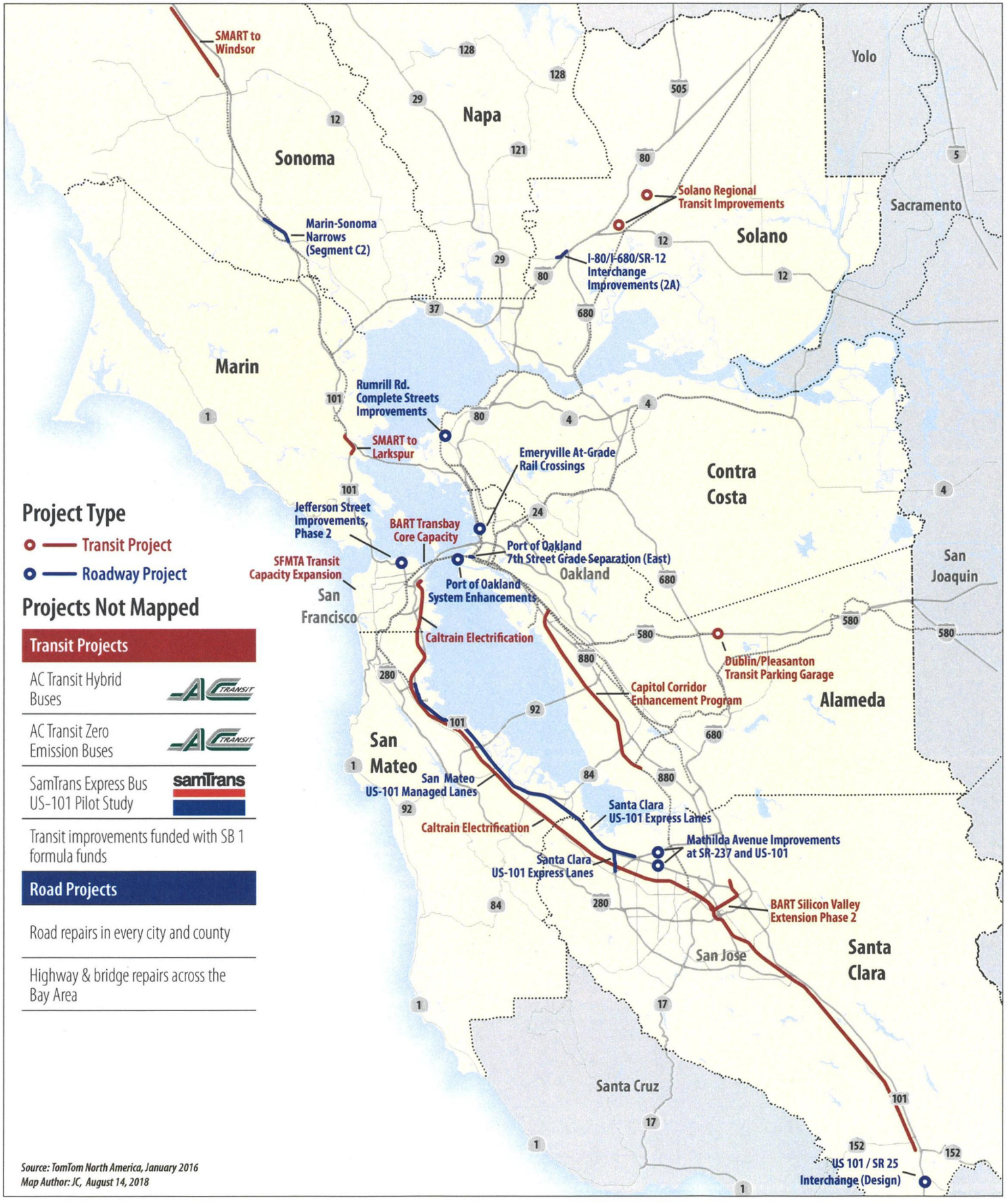
Projects At Risk of Funding Cuts from Proposition 6

Improvements Funded by Senate Bill 1 Competitive Programs



Project Type

- Transit Project
- Roadway Project

Projects Not Mapped

Transit Projects

- AC Transit Hybrid Buses
- AC Transit Zero Emission Buses
- SamTrans Express Bus US-101 Pilot Study
- Transit improvements funded with SB 1 formula funds

Road Projects

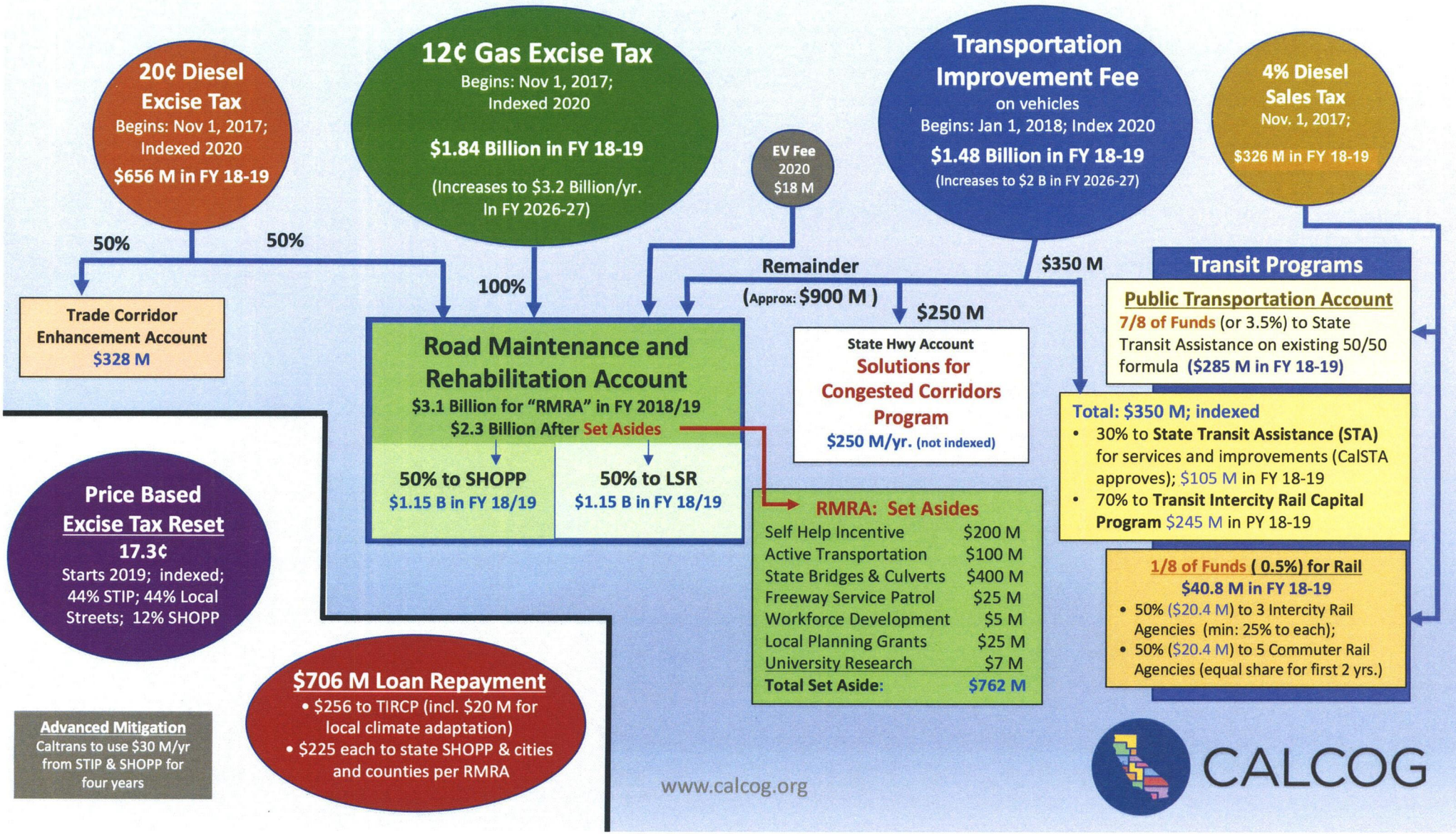
- Road repairs in every city and county
- Highway & bridge repairs across the Bay Area

Source: TomTom North America, January 2016
Map Author: JC, August 14, 2018

SB 1: TRANSPORTATION ACCOUNT FLOWS

FY 18-19 is selected because it is the first full year when most of the new revenues are fully implemented. Figures are from from Senate Appropriations Committee Analysis

Note: Certain revenue estimates are out of date but flow of funds to programs is still accurate



Transportation Funds at Risk: Proposition 6

Bay Area Impacts and
MTC Public Information Strategy

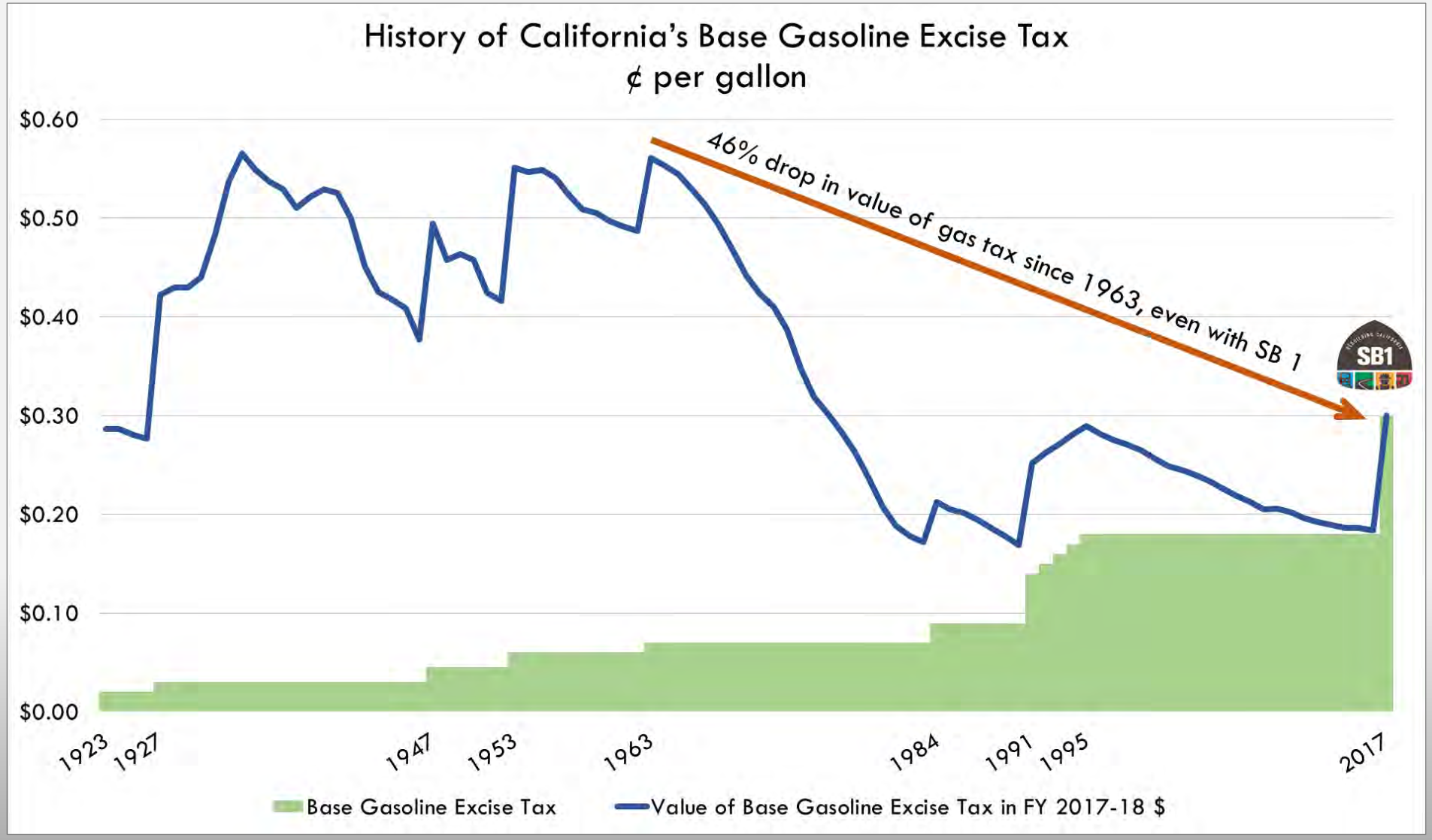
Presentation Outline

1. Overview of Proposition 6
2. Senate Bill 1 (SB 1) funding programs
3. Bay Area SB1 funding at risk: roads, transit, congestion relief
4. What to Do? MTC communication and public information strategy

Background on Proposition 6

- Qualified for the November ballot through the initiative process
- Repeals funding for Senate Bill 1 (Beall, 2017), the Road Repair and Accountability Act, the first major statewide funding increase in decades
- SB 1 is funded by an increase in the gas tax, a new vehicle registration charge, a new electric vehicle fee and an increase in the diesel sales tax.
- The Prop 6 campaign is funded by Republican gubernatorial candidate John Cox, House Majority Leader Kevin McCarthy, the California Republican Party, and numerous California Republican Congressional candidates.

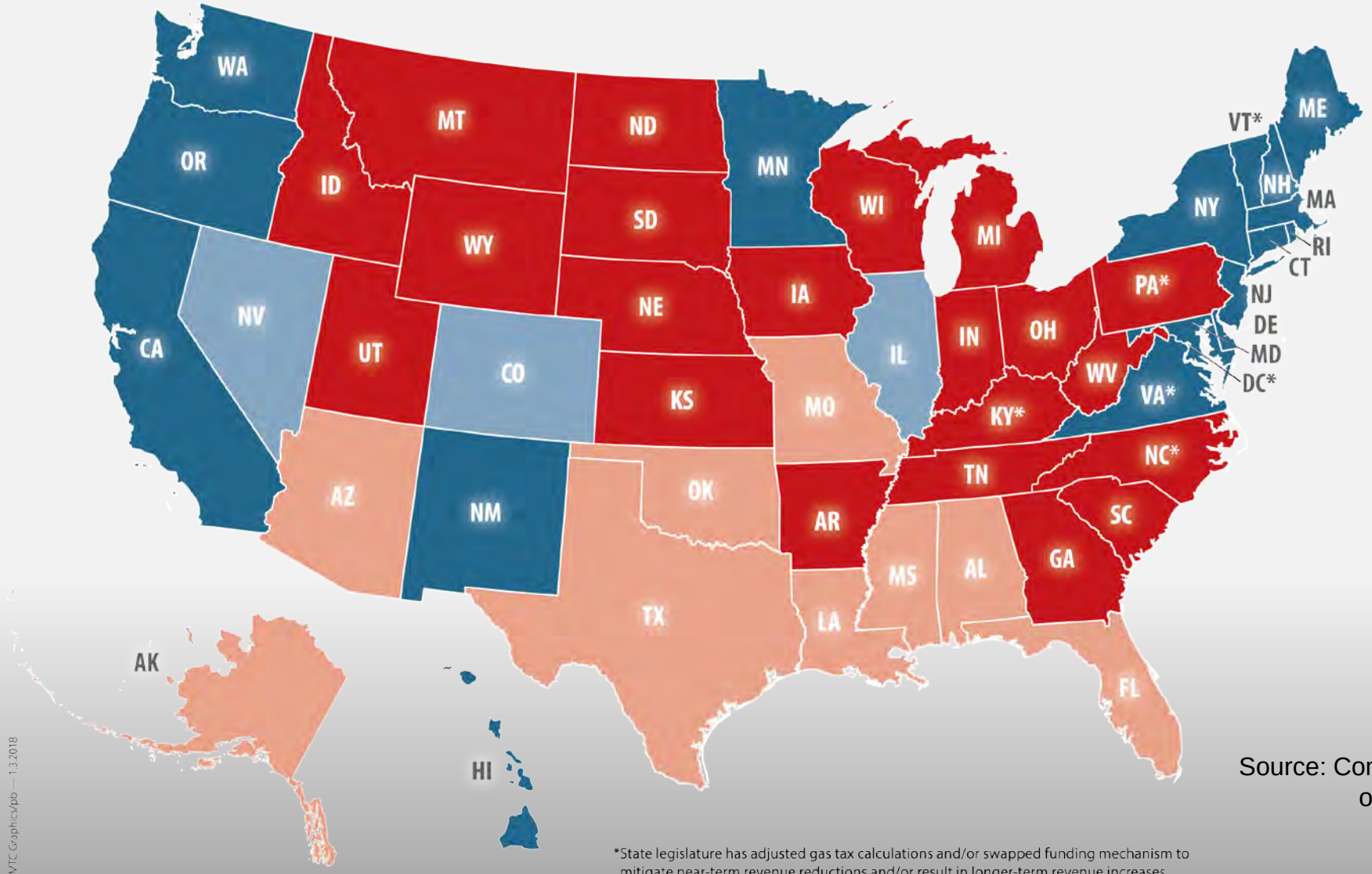
Why Was SB 1 Needed?

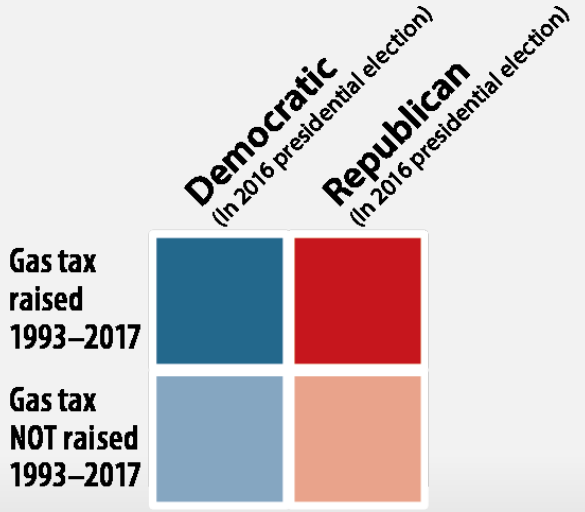


Cost of Today's Neglected Transportation System to Motorists

Source: *California by the Numbers: Meeting the State's Need for Safe, Smooth and Efficient Mobility*, TRIP, 2018
* Includes San Benito County data

CA is Not An Outlier:
Gas Tax Increases Since 1993





Source: Compiled by MTC Staff from state departments of transportation and state legislative records

*State legislature has adjusted gas tax calculations and/or swapped funding mechanism to mitigate near-term revenue reductions and/or result in longer-term revenue increases.

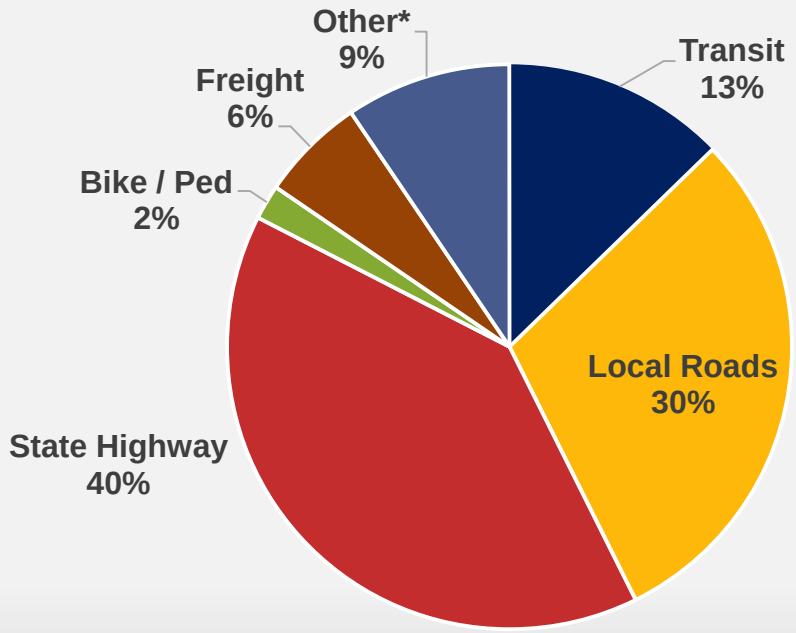
MTC Graphics/pb — 1.3.2018

SB 1 Funding Overview

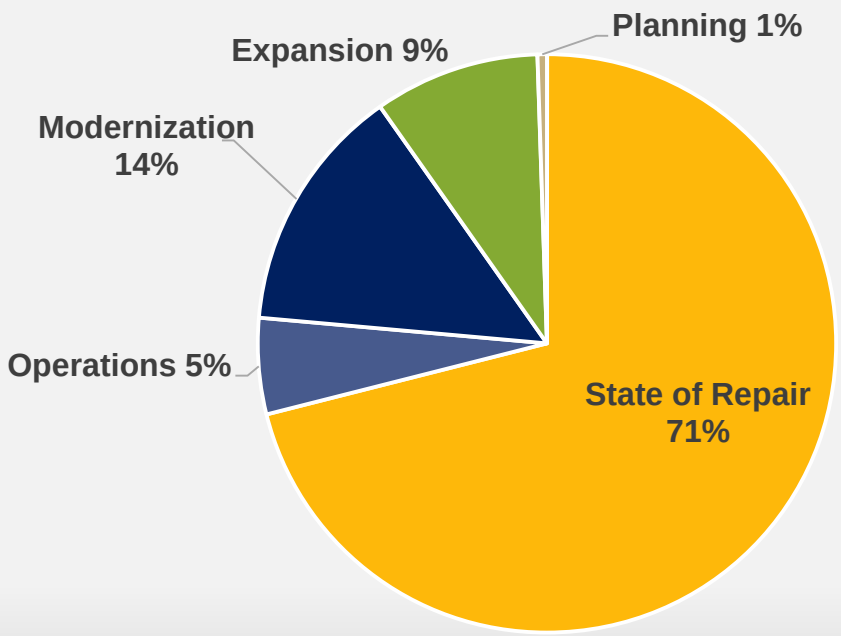
- An average of $5 billion per year over 10 years, indexed to inflation so fund sources will maintain their value over time
- Funds are split roughly 50/50 between the state and local agencies
- Largest category of spending is local road and state highway system repairs/maintenance
- Congestion relief, public transit and bike/ped. projects also funded through competitive and formula funding programs

How Are SB 1 Funds Spent?

SB1 Funding by Mode



SB1 Funding by Function

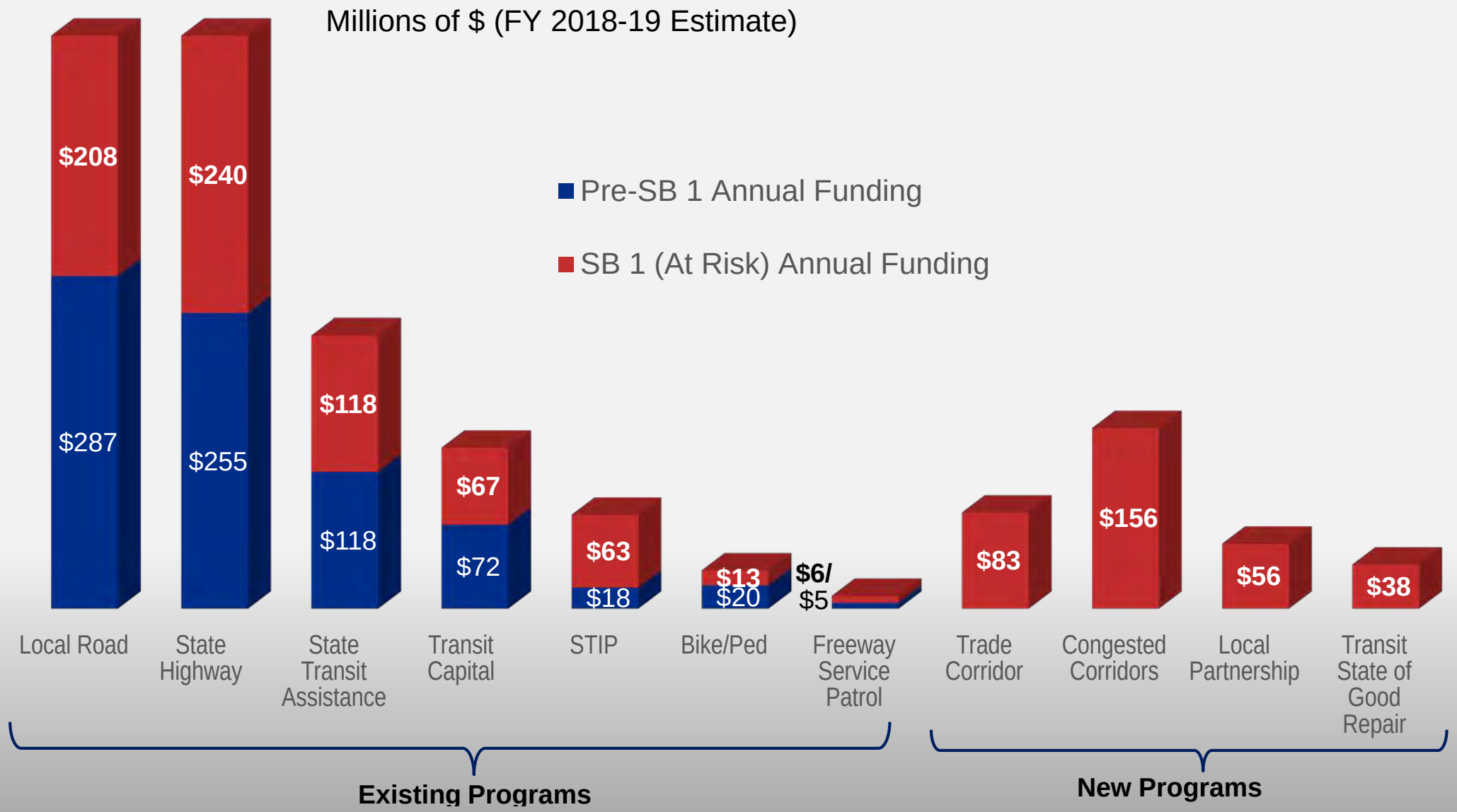


- **To provide the public with information on how the new taxes are spent, SB 1 includes strong reporting requirements. For details by jurisdiction, visit rebuildingca.ca.gov which includes an interactive map and project descriptions.**

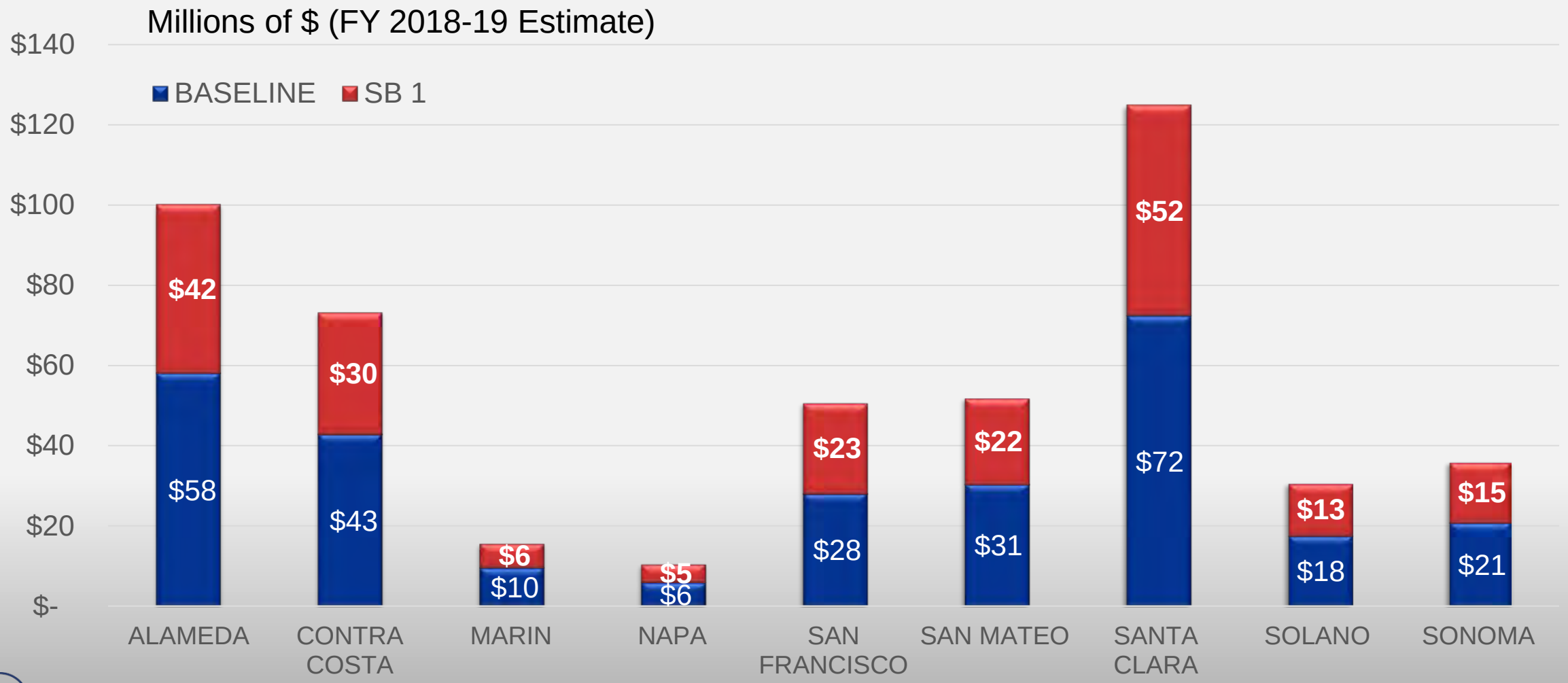
What's at Stake for the Bay Area?

- A 40% funding cut to every city and county for local road repairs – over $200 million per year for Bay Area jurisdictions
- Over $150 million per year in funding cuts for transit services, including BART, SF MUNI, AC Transit, VTA, Caltrain and SF Bay Ferry
- A cut of over $60 million per year in funding for the State Transportation Improvement Program (STIP)
- Approximately $950 million in bridge and highway safety, maintenance and rehabilitation projects at risk over multiple years; funded by the State Highway Operation and Protection Program (SHOPP) and Caltrans' maintenance program
- Over $700 million in funding for 23 projects from SB1 competitive programs

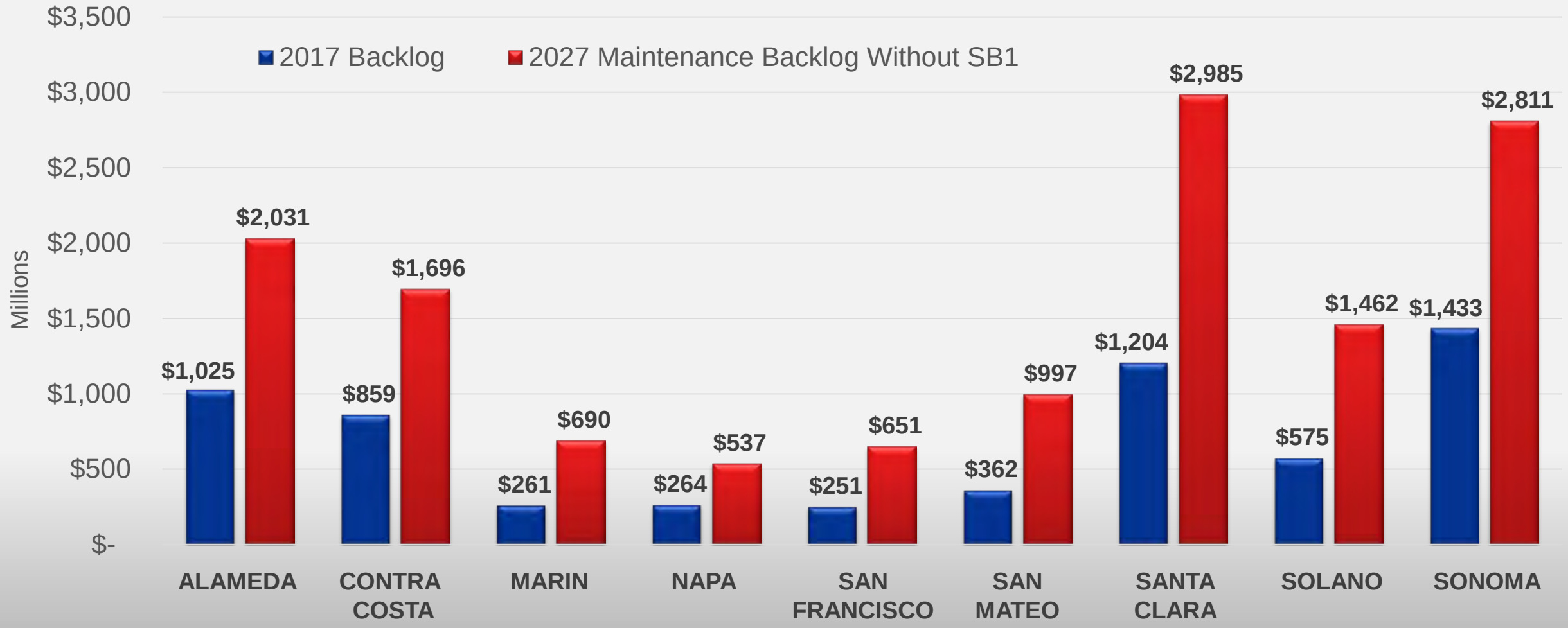
SB 1 Funding Increases for the Bay Area



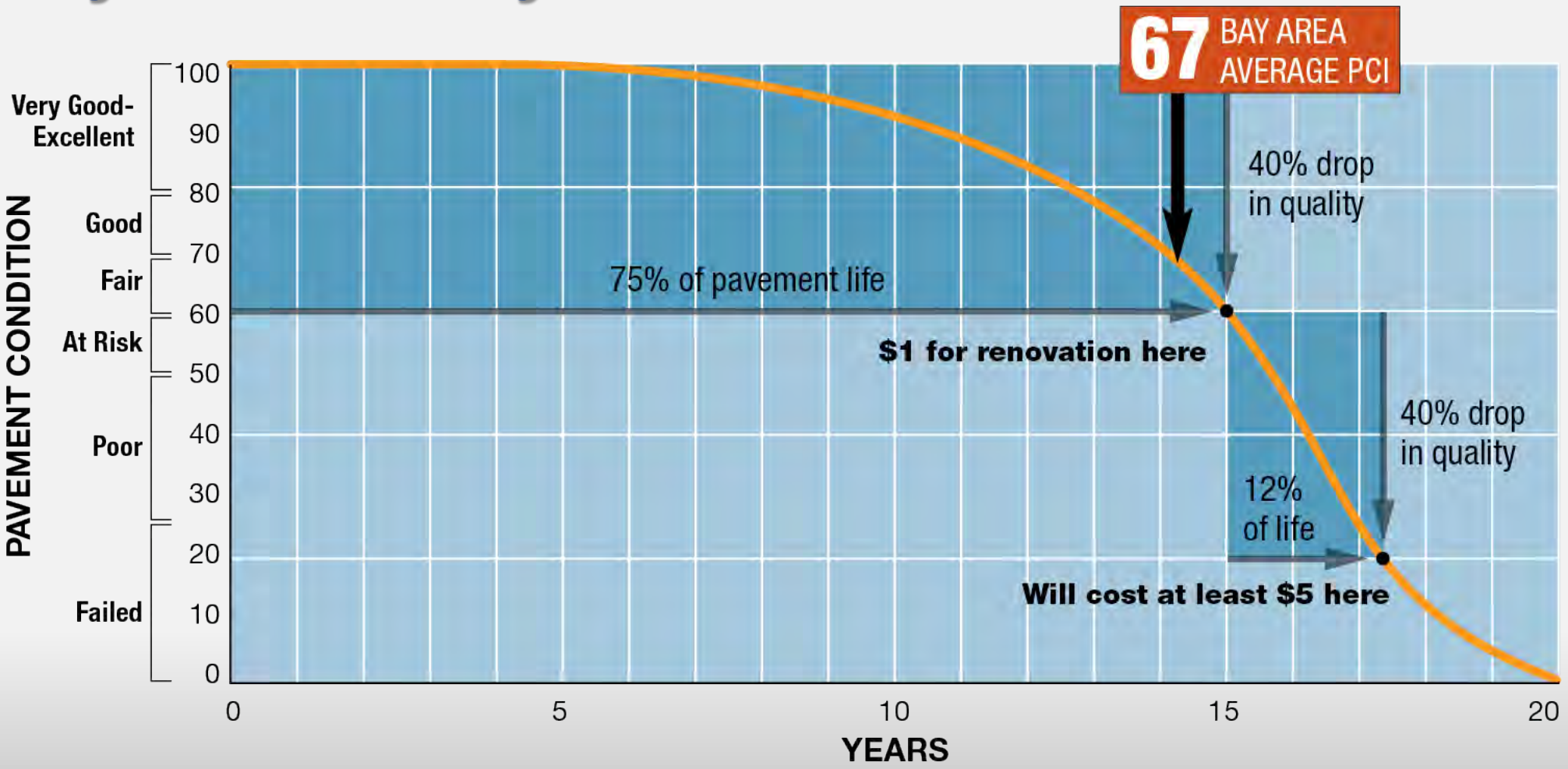
Prop 6 Would Repeal New Local Street and Road Funding from SB 1



Prop 6 Would Increase Local Road Deferred Maintenance

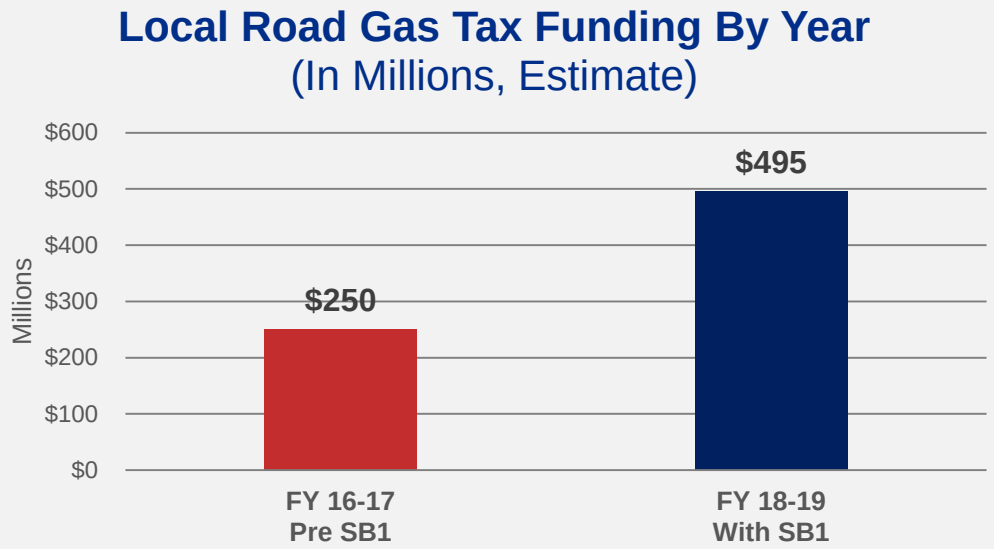


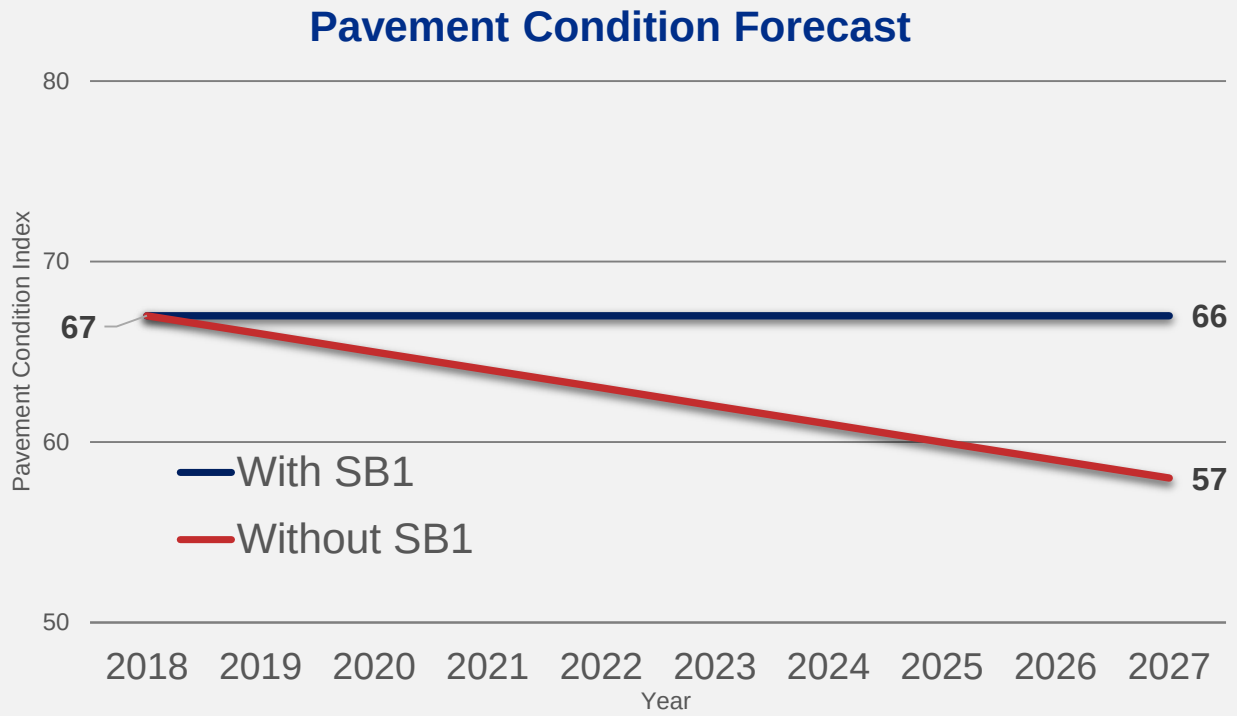
Pay Now or Pay Much More Later



Time varies depending on traffic, climate, pavement design, etc.

Loss of Road Repair Funds Would Mean More Potholes





A wide array of projects are eligible for SB 1, including:

- Safe driving conditions - road maintenance and rehabilitation
- Complete streets safety projects, such as sidewalks and bike lanes
- Traffic control safety devices such as traffic lights and crossings
- Storm water and clean water

Bay Area Congestion Relief Projects at Risk

Solutions for Congested Corridors:

- $250 million per year statewide
- Focused on early delivery and most congested corridors
- CTC approved $1 billion in May 2018 for a four-year cycle

Bay Area Funded Projects

Project Sponsor	Description	Funding
Caltrans	US-101 Marin-Sonoma Narrows	**$85**
Caltrans/ VTA	US-101 Managed Lanes in San Mateo and Santa Clara Counties	**$233**

Bay Area Transit Projects at Risk

State Transit Assistance

- SB 1 doubled STA funding, providing an additional $156 million/year for Bay Area operators, including:

Operator	Annual Amount (Millions)
BART	$25
SFMTA	$40
AC Transit	$13
Santa Clara VTA	$18

Transit & Intercity Rail Capital Program

Operator	Description	Award (Millions)
VTA	BART to San Jose	$730
BART	Transbay Core Capacity (Train Control, Fleet Expansion)	$319
Caltrain	Electrification and Fleet Conversion/Expansion	$165
Capitol Corridor	Northern California Corridor Enhancement (Oakland-San Jose)	$80
SFMTA	Transit Capacity Expansion Program	$27

Risk to RM 3-Funded Highway Projects

Dollars in millions

Project	RM3 Funding	SB1 Funding	Comments
San Mateo US-101 Express Lanes	TBD	$222	RM 3 Express Lane Program candidate project
Sonoma US-101 MSN	$120	$85	SB 1 Funding Segment C2
Alameda 7th Street Grade Separation	TBD	$175	RM 3 Goods Movement candidate project
Solano I-80/I-680/SR-12 Interchange	$150	$53	Multi-phase project

Risk to RM 3-Funded Transit Projects

Dollars in millions

Project	RM3 Funding	SB 1: Transit & Intercity Rail Capital Program
BART to Silicon Valley, Phase 2	$375	$730
BART Transbay Core Capacity	$500	$319
AC Transit High Capacity Buses	$140*	$14
SFMTA Transit Capacity Expansion	$140	$27
Capitol Corridor Enhancement Program	$90	$80
SMART Windsor Extension	$40	$21

*Part of RM 3 Core Capacity Transit Improvements project

MTC Prop 6 Public Information Plan

Web Page

- Prop 6 story on MTC home page with links to information about impacts of initiative on local road safety and repairs, public transit, congestion relief, and state highway safety

  https://mtc.ca.gov/our-work/fund-invest/funding-risk-proposition-6

Social media

- Regular posting to MTC social media channels to inform public about regional and local impacts

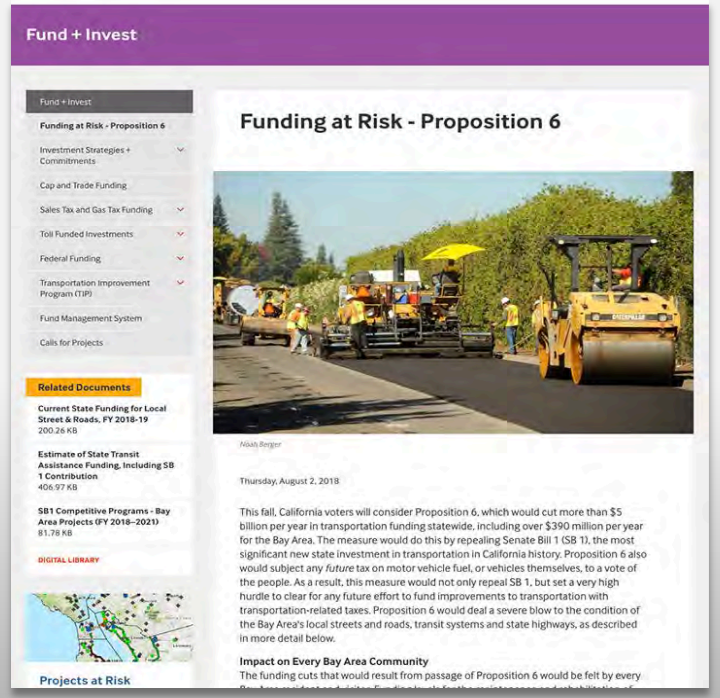
- Sample social media posts for MTC board members and local agencies to share on their social media channels

Videos

- Video for each county highlighting current condition of local roads, including footage of potholes & interviews with public works directors

Key Prop 6 Communication Efforts Underway

- ✓ Web page dedicated to Prop 6
- ✓ Maps of competitively-awarded program projects at risk
- ✓ Detailed funding impacts by agency
- ✓ Videos of local road impacts
- ✓ Social media posts



Other Public Information Activities

Press Events

- **Pothole Report**
  - September
- **Top 10 Congestion List**
  - October
- **Walk to School Day**
  - October

Partnering with Local Agencies

Public information toolkit for local agencies:

- Details of Prop 6 financial and performance impacts by local jurisdiction
- Talking points
- Powerpoint Template for Presentations to City Council meetings
- Local government resolution templates
- Videos
- Pothole report sample press release

Questions and Comments

375 Beale Street, Suite 800
San Francisco, CA 94105

Metropolitan Transportation Commission

Legislation Details (With Text)

File #:	18-0798	**Version:**	1	**Name:**	
Type:	Report			**Status:**	Informational
File created:	9/11/2018			**In control:**	Bay Area Partnership Board
On agenda:	9/28/2018			**Final action:**	
Title:	Bay Area Transit Ridership Trend Study MTC has partnered with the UCLA Luskin School of Public Affairs to develop a Bay Area transit ridership trend study, similar to the recent study released by the Southern California Association of Governments examining these trends in Southern California.				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	08_Transit Ridership Trend Study.pdf				

Date	Ver.	Action By	Action	Result

Subject:
Bay Area Transit Ridership Trend Study

MTC has partnered with the UCLA Luskin School of Public Affairs to develop a Bay Area transit ridership trend study, similar to the recent study released by the Southern California Association of Governments examining these trends in Southern California.

Presenter:
Anne Richman and Kenneth Folan

Recommended Action:
Information

Attachments:

METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street, Suite 800
San Francisco, CA 94105
415.778.6700
www.mtc.ca.gov

Agenda Item 8

TO: Bay Area Partnership Board DATE: September 21, 2018

FR: Executive Director

RE: Bay Area Transit Ridership Trend Study

Summary
The Metropolitan Transportation Commission has partnered with the UCLA Luskin School of Public Affairs (UCLA) to develop a transit ridership trend study for the Bay Area. The effort is modeled on a similar effort completed in early 2018 by the Southern California Association of Governments (SCAG) and the UCLA research team. The executive summary of this Southern California study is included as Attachment 1.

After consultation with a number of Bay Area transit general managers on a scope framework, MTC entered into an agreement with UCLA to undertake the study with a final report and recommendations expected in mid-2019. At the request of the transit general managers, MTC is in the process of forming a study Technical Advisory Committee to provide input and review findings and recommendations.

Research Questions
To examine the factors influencing transit use and trends in the Bay Area, UCLA will examine five related research questions:

- *How* is transit use changing in the Bay Area, both in terms of total number of ridership and boardings per capita?
- *Where* in the Bay Area is transit use changing? How is transit use shifting by sub-region, across transit operators, among transit modes and service types, and on individual routes?
- *How* is transit service changing, or not changing, in terms of operating speeds, service frequency, fares, modes, and locations?
- *How* are transit riders changing in the Bay Area in terms of sociodemographic, locational, and trip characteristics?
- *What* changes in the pool of potential transit users, the broader economy, and the services provided appear to be most importantly behind falling transit use in the Bay Area?
- Why is transit use changing, both in terms of factors under the control of transit operators as well as external trends?

Next Steps

Over the next several months, MTC staff will establish the Technical Advisory Committee and begin to seek input on the data collection/analysis phase of the study.

Steve Heminger

Attachments

- Attachment A: Executive Summary of SCAG Transit Ridership Study

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Falling Transit Ridership:

California and Southern California

AUTHORS

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Brian D. Taylor
Evelyn Blumenberg

Prepared for the Southern California Association of Governments
January 2018

UCLA ITS INSTITUTE OF TRANSPORTATION STUDIES

REBUILDING CALIFORNIA SB1

SCAG INNOVATING FOR A BETTER TOMORROW

EXECUTIVE SUMMARY

In the last ten years transit use in Southern California has fallen significantly. This report investigates that falling transit use. We define Southern California as the six counties that participate in the Southern California Association of Governments (SCAG) – Los Angeles, Orange, Riverside, San Bernardino, Ventura and Imperial. We examine patterns of transit service and patronage over time and across the region, and consider an array of explanations for falling transit use: declining transit service levels, eroding transit service quality, rising fares, falling fuel prices, the growth of Lyft and Uber, the migration of frequent transit users to outlying neighborhoods with less transit service, and rising vehicle ownership. While all of these factors probably play some role, we conclude that the most significant factor is increased motor vehicle access, particularly among low-income households that have traditionally supplied the region with its most frequent and reliable transit users.

Transit service and use trends in Southern California

Long associated with the automobile, in the last 25 years Southern California has invested heavily in public transportation. Since 1990, the SCAG region has added over 100 miles of light and heavy rail in Los Angeles County, and over 530 miles of commuter rail region-wide. These investments, however, have not been matched by increases in transit ridership. Transit ridership in the SCAG region reached its postwar peak in 1985. Through the 1990s and 2000s ridership rose and fell modestly, but never again reached its 1985 level. Figure ES-1 shows that per capita trips have been mostly declining in the SCAG region since 2007, and have fallen consistently since 2013.

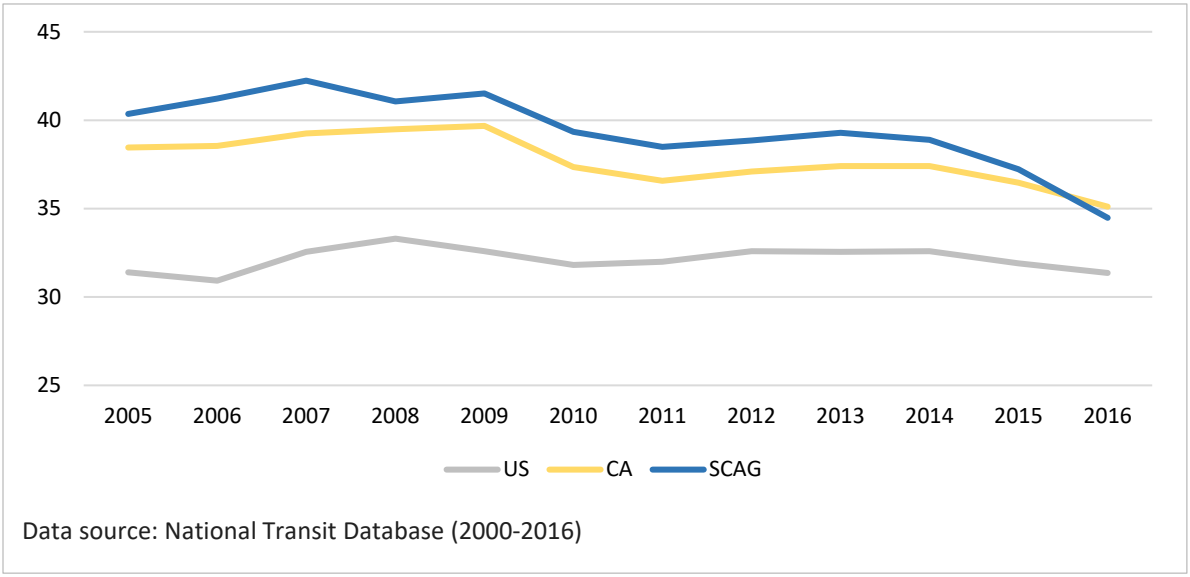

Figure ES 1. Transit trips per capita. *Relatively flat nationally, but down in California since 2009.*

This decline spans modes; it is not simply a case of bus ridership falling while rail ridership increases. Rail ridership, on net, is also down. Further, these aggregate numbers mask large asymmetries in transit service and use. Transit use in particular is heavily concentrated among a relatively small segment of the population, in a small number of the region's neighborhoods, and on a small share of the region's transit systems. As a result of these asymmetries, even small changes in these households, neighborhoods, or transit systems can have an outsized effect on regional transit use.

A few people make most of the trips

The average resident of the SCAG-region made about 35 transit trips in 2016, but the median resident made none. Only a minority of the population rides transit very frequently or even occasionally. About two percent of the population rides transit very frequently (averaging 45 trips/month), another 20 percent of the population rides transit occasionally (averaging 12 trips/month), and more than three-quarters of SCAG-region residents ride transit very little or not at all (averaging less than 1 trip/month). Heavy transit use, moreover, is concentrated among the low-income population, and especially low-income foreign born residents.

A few neighborhoods generate most of the trips

Ten percent of all of the people who commuted to and from work on transit in 2015 lived in 1.4 percent of the region's census tracts, which covered just 0.2 percent of the region's land area; the average number of transit commuters in these few tracts was almost 12 times the regional average. Fully 60 percent of the region's transit commuters lived in 21 percent of the region's census tracts, which occupied 0.9 percent of the region's land area. Overall, the most urban and transit-friendly neighborhoods in the SCAG region comprise less than one percent of the region's land area. These neighborhoods hold about 17 percent the

region's population, but 45 percent of its transit commuters. So while the region's transit systems are increasingly diverse and far reaching, transit riders remain highly concentrated.

A few operators carry most of the passengers

The SCAG region has over 100 transit operators, but just a few them carry the vast majority of riders. Figure ES-2 shows that nine percent of the region's operators are responsible for 60 percent of the region's transit service and carry about 80 percent of all transit riders.

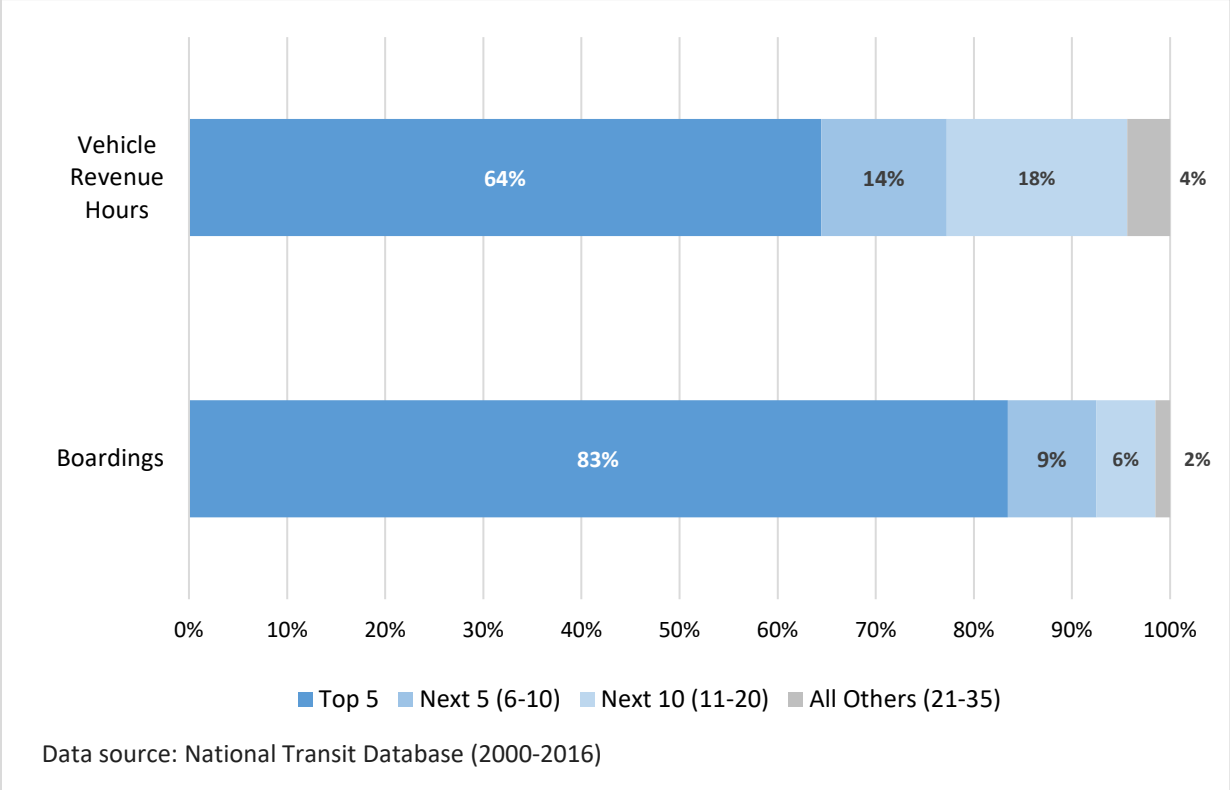

Figure ES 2. Key metrics by operating grouping. *14% of operators carry 83% of the trips.*

Because service and riders are concentrated on the largest systems, ridership losses are concentrated on these systems as well. Four SCAG-region operators—LA Metro, Orange County Transportation Authority (OCTA), Los Angeles Department of Transportation (LADOT), and the Santa Monica Big Blue Bus—accounted for 88 percent of the state's ridership losses between 2010 and 2016. LA Metro by itself accounted for a remarkable 72 percent of the state's losses. Because LA Metro's losses are themselves highly concentrated, a dozen *routes* in LA County account for 38 percent of all the lost ridership in California. In fact, half of California's total lost ridership is accounted for by 17 LA Metro routes (14 bus and 3 rail lines) and one OCTA route.

Possible causes of eroding transit use

Why is transit use falling? We consider a number of potential explanations, and review our findings below.

Changes in transit service and fares have mostly followed and not led falling ridership

Transit use can fall if transit becomes harder to use: if service declines, or fares rise. It does not appear, however, that these factors played a large role in the SCAG region's falling ridership. While transit fare increases are never popular, they are occasionally necessary to keep pace with rising costs. Figure ES-3 shows the inflation-adjusted trends in average fare paid per mile of transit travel between 2002 and 2016 in the U.S., California, and the SCAG region. Fares in Southern California are lower than those in the rest of the state and the country and have been remarkably flat over time.

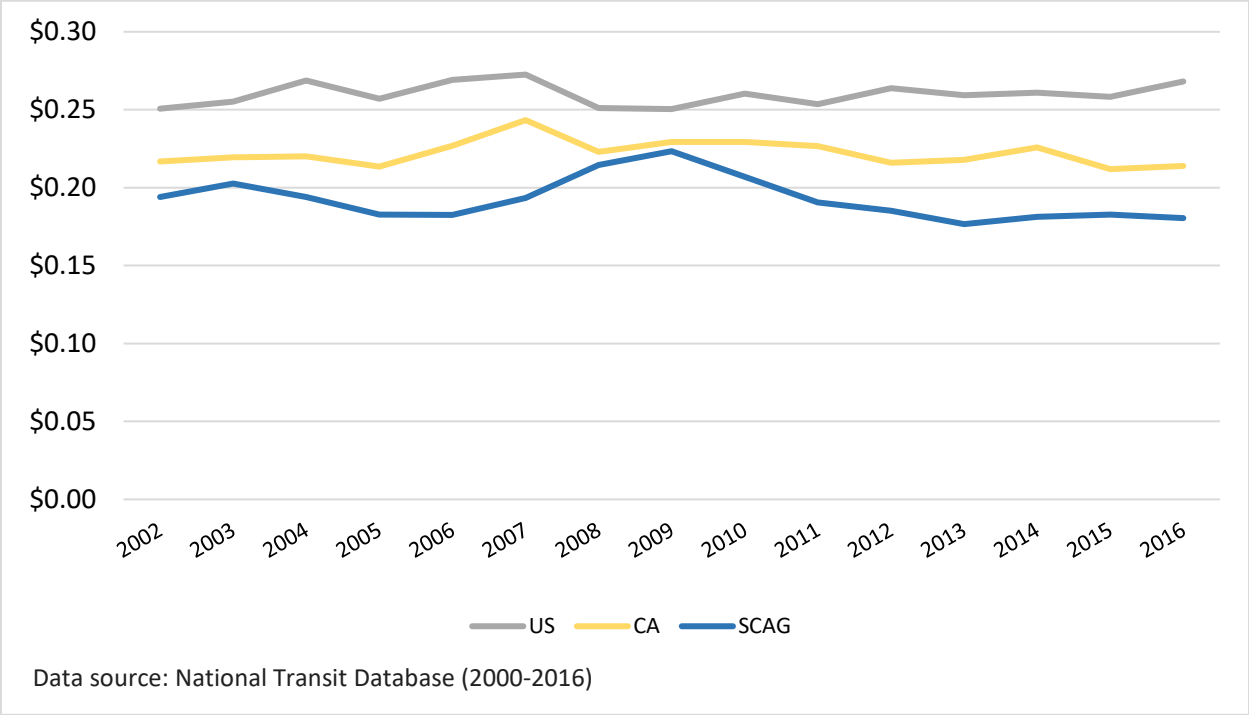

Figure ES 3. Average fare per passenger mile traveled in 2015 dollars. *Average fare per PMT remained fairly consistent and even declined a little since 2009.*

These regional averages can mask significant variation among transit operators. In particular, inflation-adjusted fares per boarding for both OCTA and the Big Blue Bus increased by about 50 percent between 2002 and 2016 — to nearly $1.25 and $0.75 per boarding respectively. So while fares have probably not caused significant ridership declines across the region, they may have played a role at operators like OCTA and Big Blue.

Transit service in the SCAG region, moreover, mostly rose while ridership was falling, and ridership fell even on routes that maintained excellent on-time records. These circumstances suggest that service quantity and reliability were not large factors in falling transit use. There is some evidence, admittedly limited, that riders felt unsafe on transit vehicles in recent years, which may have contributed to the ridership decline.

Fuel prices have likely played a contributing, but not leading role

Fuel prices have been volatile since 1998, but have fallen substantially since peaking in 2012. Figure ES-4 compares trends in fuel prices and transit use in the Los Angeles metropolitan area. While there is a generally positive relationship (as fuel prices rise so too does ridership), it is a relatively weak one – fuel prices rise and fall much more dramatically than transit patronage. The timing of transit's decline, moreover, is not conducive to a fuel price explanation. Per capita transit use in Southern California has been mostly falling since 2007, and it fell between 2009 and 2011 when fuel prices were rising sharply.

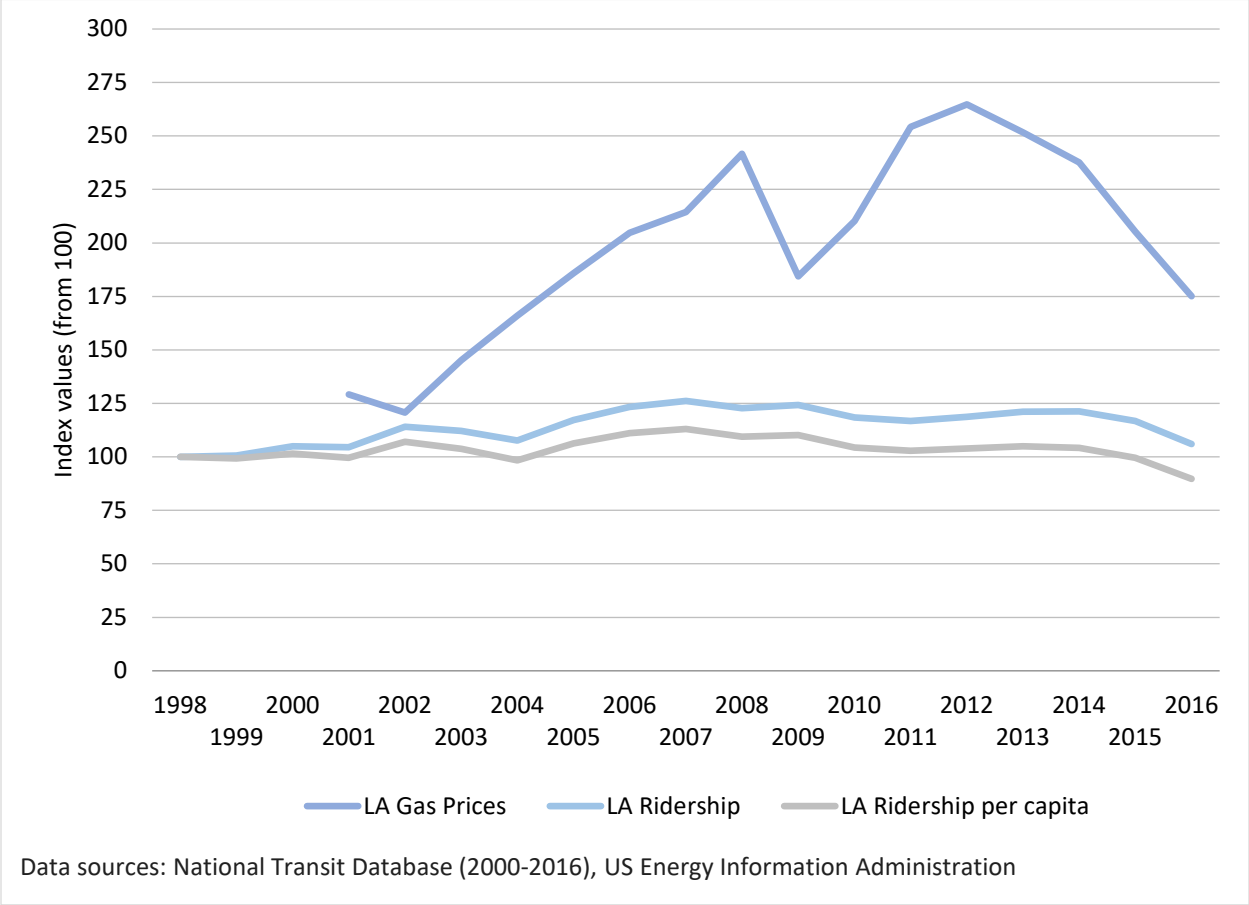

Figure ES 4. Transit ridership and gas prices in Los Angeles Metropolitan Area.

The Transportation Network Companies do not appear to have cannibalized transit

We have very little data that lets us directly measure the effect of transportation network companies (TNCs, like Lyft and Uber) on transit use. What evidence we do have suggests that most TNC trips are probably not replacing large numbers of transit trips. The typical TNC user does not resemble the typical transit rider, the typical TNC trip does not occur when and where most transit trips occur, and most TNC users report no change in their travel by other modes. However, if the pool of TNC users continues to expand, the effect of TNCs on transit use — both positive and negative — may expand as well.

Evidence about neighborhood change and migration of lower-income people is mixed, but suggestive

Transit is heavily-supplied in a small proportion of places, and heavily used by a small proportion of people. If the neighborhoods where transit quality is high change, and become less likely to hold the small group of people who use transit regularly, then transit use could fall. We find some evidence consistent with the idea that neighborhood change has been associated with less transit use. Areas that were heavily populated with transit commuters in the year 2000 became, in the next 15 years, slightly less poor, and significantly less foreign born. Perhaps most important, the share of households without vehicles in these neighborhoods fell notably. All these factors align with a narrative where a transit-using populace is replaced by people who are more likely to drive. We emphasize, however, that this relationship is not one we can measure with precision, and it would be premature to declare neighborhood change a large culprit in falling transit ridership.

Private vehicle access increased substantially from 2000 forward

A defining attribute of regular transit riders is their relative lack of private vehicle access. But between 2000 and 2015, households in the SCAG region, and especially lower-income households, dramatically increased their levels of vehicle ownership. Census data show that from 1990 to 2000 the region added 1.8 million people but only 456,000 household vehicles (or 0.25 vehicles per new resident). From 2000 to 2015, the SCAG region added 2.3 million people and 2.1 million household vehicles (or 0.95 vehicles per new resident).

The growth in vehicle access has been especially dramatic among subsets of the population that are among the heaviest users of transit. Between 2000 and 2015, the share of households in the region with no vehicles fell by 30 percent, and the share of households with fewer vehicles than adults fell 14 percent. Among foreign-born residents, zero-vehicle households were down 42 percent, and those with fewer vehicles than adults were down 22 percent. Finally, among foreign-born households from Mexico, the share of households without vehicles declined an astonishing 66 percent, while households with more adults than vehicles dropped 27 percent. Living in a household without a vehicle is perhaps the strongest single predictor of transit use; the decline of these households has powerful implications for transit in Southern California.

Vehicle ownership is not, of course, the only determinant of regional transit ridership—income, race, age, and nativity, to name a few, also matter. But vehicle access may well be the largest factor. We demonstrate the strong association between vehicle access and transit ridership by building a series of

statistical models of transit ridership. The models cover the SCAG region, all of California, Los Angeles County, and the SCAG region outside of LA County. Each model compares two predicted outcomes: the change in transit use we would expect to see based on due to changes in socioeconomic attributes *other than* vehicle ownership, and the change we would expect to see if we account, in addition, for changes in vehicle access. In short, we compare a scenario where incomes, nativity, racial composition, and various other attributes change the way they did from 2000-2015, but where vehicle access is unchanged, to a scenario where vehicle access changes as well.

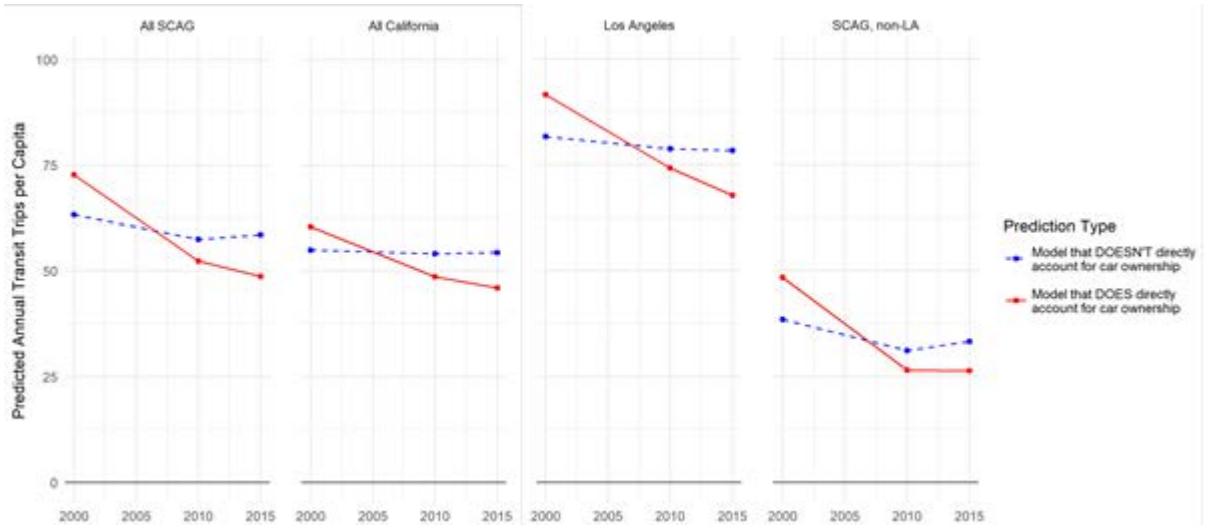

Figure ES 5. Transit use changes based on area.

Figure ES-5 shows the results of these models. The dotted blue line in each case is an estimate of transit ridership trends between 2000 and 2015 based on changes in the region's income, nativity, and so on, but assuming no change in vehicle ownership. The solid red lines represent these same models, but with the region's observed changes in vehicle access included. In all cases the blue line predicts transit use starting at a lower point and declining only modestly, while the red line shows transit use starting at a higher point and falling sharply, more in line with what we are actually observing. The models reinforce the idea that vehicle access is the decisive factor in transit use: income, age, and many other factors matter, but they matter largely because they predict the ability to access and use motor vehicles. In Southern California since 2000, that ability has increased, and transit use has fallen.

Conclusion

Public transportation is unlikely to fare well when Southern California is flooded with additional vehicles, especially when those vehicles are owned disproportionately by transit's traditional riders. Much of the region's built environment is designed to accommodate the presence of private vehicles and to punish their absence. Extensive street and freeway networks link free parking spaces at the origin and destination of most trips. Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.

The advantages of automobile access, which are particularly large for low-income people with limited mobility, suggest that transit agencies should not respond to falling ridership by trying to win back former riders who now travel by auto. A better approach may be to convince the vast majority of people who rarely or never use transit to begin riding occasionally instead of driving. This task is unquestionably more difficult than serving frequent-riding transit dependents, and it would likely require weakening or removing some of the state's and region's entrenched subsidies for motor vehicle use. But the opportunity is substantial. The SCAG region, between 2012 and 2016, lost 72 million transit rides annually. That number seems daunting, but the region has a population of 18.8 million, and about 77 percent of those people (roughly 14.5 million), ride transit rarely or never. If one out of every four of those people replaced a single driving trip with a transit trip once every two weeks, annual ridership would grow by 96 million — more than compensating for the losses of recent years. The future of public transit in the SCAG region, then, will be shaped less by the mobility needs of people who do not own vehicles, and more by policy decisions that encourage vehicle-owning households to drive less and use transit more.