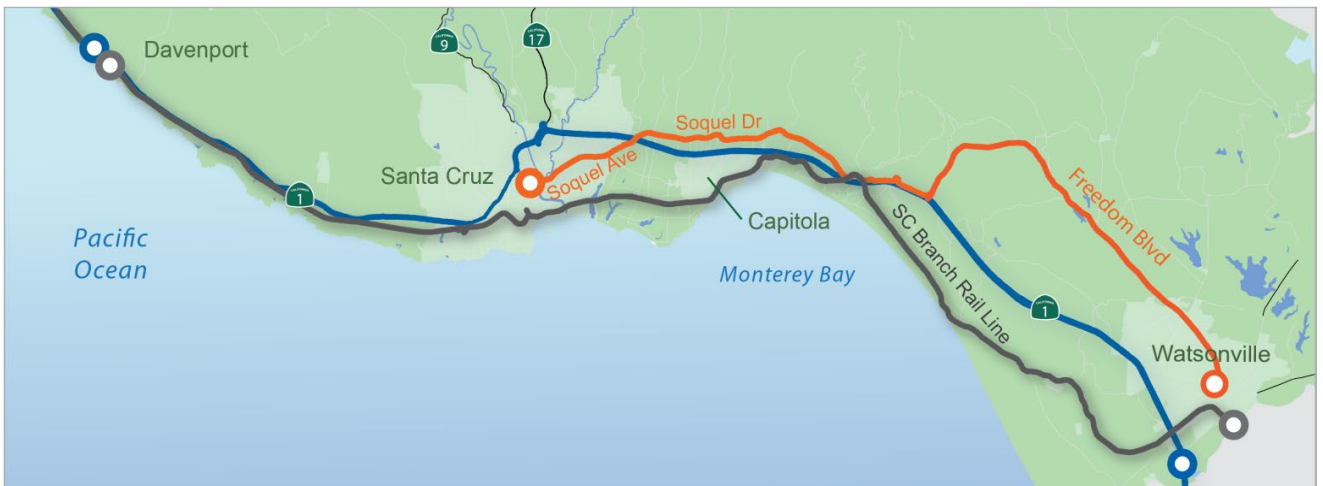


Unified Corridor Investment Study Performance Dashboard



Kimley»Horn



Project Description

Three parallel routes - Highway 1, Soquel/Freedom and the Santa Cruz Branch Rail Line - link the communities along the Santa Cruz County coast from Davenport through Watsonville. The Unified Corridor Study examines how well complimentary transportation improvements on all three routes - when designed to function together as a single unified corridor – perform to meet the community’s transportation needs.

The Unified Corridor Study performance dashboard presents the result of the second, in a two step analysis and the preferred scenario. The Step 2 Analysis groups projects into scenarios and compares how each of the scenarios address the study goals of Safety, Efficiency, Economics, Environmental Sustainability, and Social Equity by 2035.

The evaluation of 16 performance measures for each of the scenarios and a comparison to a no build and baseline conditions is designed to increase understanding of transportation project benefits by transparently evaluating their impacts and lead to effective investments in the corridor.



Goals & Performance Measures

Approved by RTC on May 4, 2017

The goals and performance measures below support a vision for an integrated, multimodal transportation network based on a triple bottom line approach that maximizes the environmental, economic and equity benefits.

Goal 1: Safer transportation for all modes

- ✓ Injury and fatal collisions by mode

Goal 2: Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods

- ✓ Peak period mean automobile travel time
- ✓ Peak period mean transit travel time
- ✓ Peak period travel time reliability
- ✓ Mode share
- ✓ Person trips across N-S screenline

Goal 3: Develop a well-integrated transportation system that supports economic vitality

- ✓ Level of public investment
- ✓ Visitor tax revenues
- ✓ Cost associated with fatalities and injuries

Goal 4: Minimize environmental concerns and reduce adverse health impacts







- ✓ Automobile vehicle miles traveled
- ✓ Criteria pollutants
- ✓ Greenhouse gas emissions
- ✓ Environmentally sensitive areas

Goal 5: Accessible and equitable transportation system that is responsive to the needs of all users

- ✓ Transit Vehicle Miles Traveled
- ✓ Household transportation costs
- ✓ Benefits and impacts to transportation disadvantaged communities

Step 2 Scenarios for Analysis

Approved by RTC on December 7, 2017

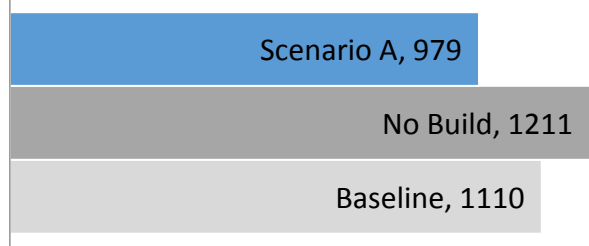
	Scenario A	Scenario B	Scenario C	Scenario E	No Build
Highway 1 Projects					
Buses on shoulders					
High occupancy vehicle lanes (HOV) and increased transit frequency					
Auxiliary lanes to extend merging distance IN ADDITION TO MEASURE D					
Metering of on-ramps					
Additional lanes on bridge over San Lorenzo River					
Mission St intersection improvements					
Soquel Avenue/Drive and Freedom Blvd					
BRT lite (faster boarding, transit signal priority and queue jumps)					
Increased frequency of transit with express services					
Buffered/protected bike lanes					
Intersection improvements for auto					
Intersection improvements for bikes/pedestrians					
Rail Corridor					
Bike and pedestrian trail					
Local rail transit with interregional connections					
Bus rapid transit					
Freight service on rail			 Only Watsonville		
Overall Project Area/Connections between Routes					
Improved bike/pedestrian facilities throughout urban area closing gaps in network	These projects will be evaluated in all scenarios.				
Additional transit connections					
Bike share, bike amenities, transit amenities, park and ride lots					
Multimodal transportation hubs					
Automated vehicles/connected vehicles					
Transportation Demand and System Management					
Employers and residences - incentive programs	These projects will be evaluated in all scenarios.				
Education and enforcement - electric vehicle, motorist safety, and bike safety					

Scenario A

Step 2 Performance Measures

PM: Total Collisions

(Fatal, Injury, and Property Damage Only per year)



Highway 1 Projects

- HOV and auxiliary lanes, ramp meters, San Lorenzo bridge widening, multimodal intersection improvements

Soquel / Freedom

- BRT Lite with increased transit frequency, multimodal intersection improvements

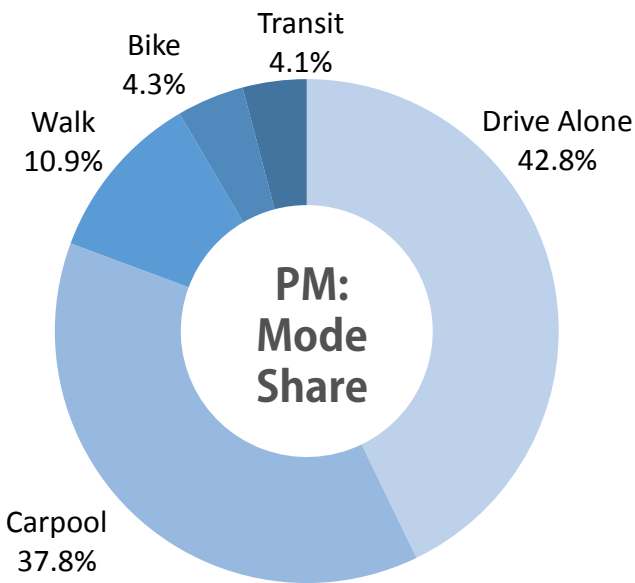
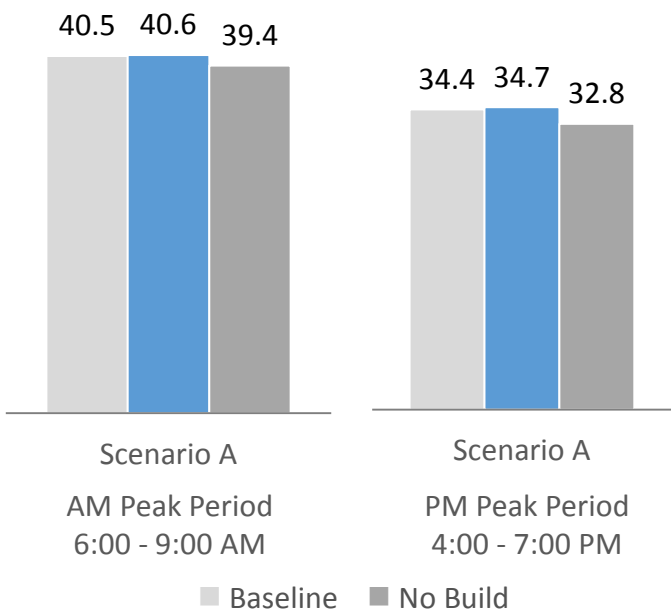
Rail ROW

- Bike and pedestrian trail

Goal 1 Safer transportation for all modes.



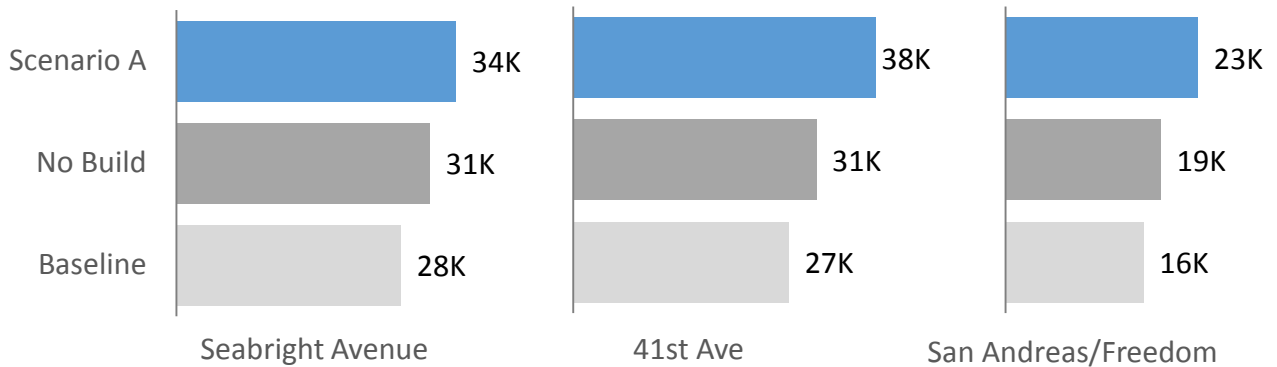
PM: Countywide Mean Auto Speed (mph)



Goal 2 Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods.

PM: Person trips across N-S Screenline 4:00-6:00 PM

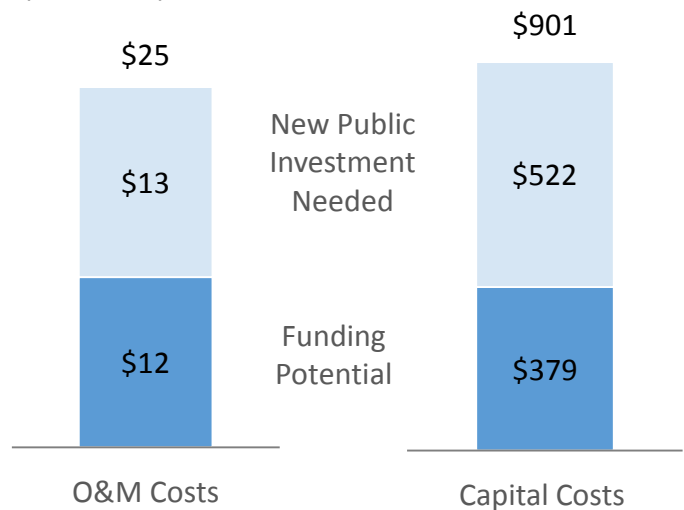
(In thousands)



Goal 3 Develop a well-integrated transportation system that supports economic vitality.

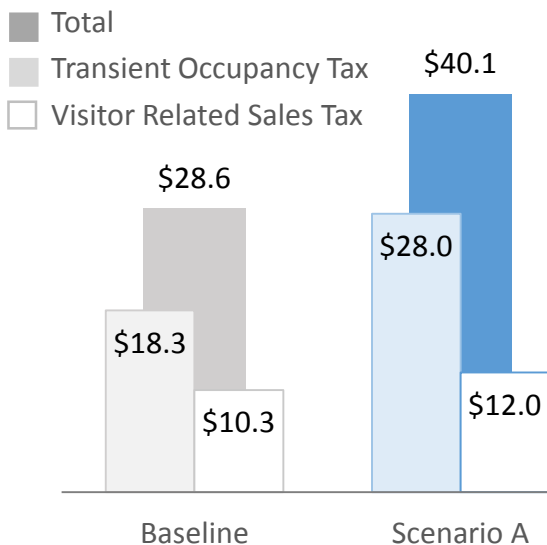
PM: Level Of Public Investment

(\$ millions)



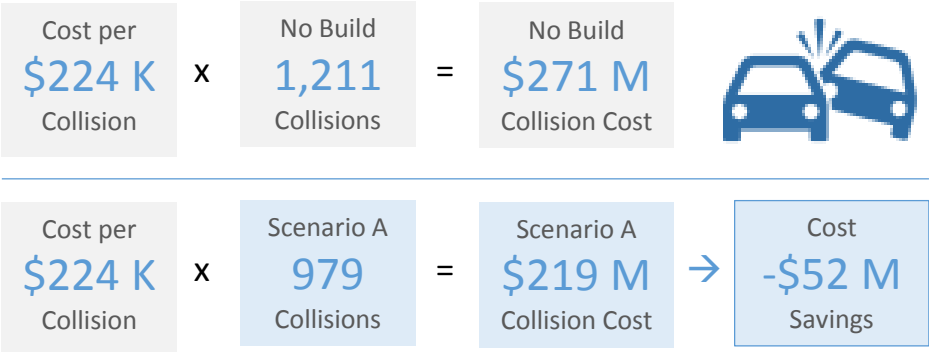
PM: Visitor Tax Revenues

(per year in millions)



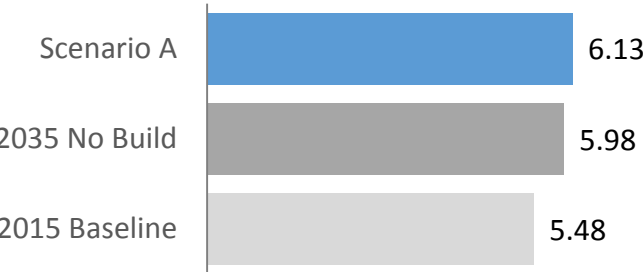
PM: Cost Associated with Collisions

(per year)



PM: Automobile Vehicle Miles Traveled

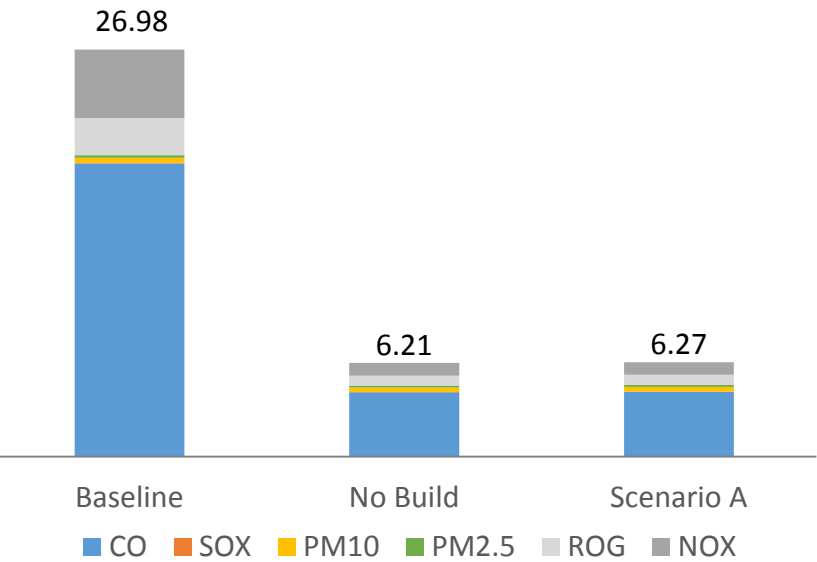
(Countywide VMT per day in millions)



Goal 4
Minimize environmental concerns and reduce adverse health impacts.

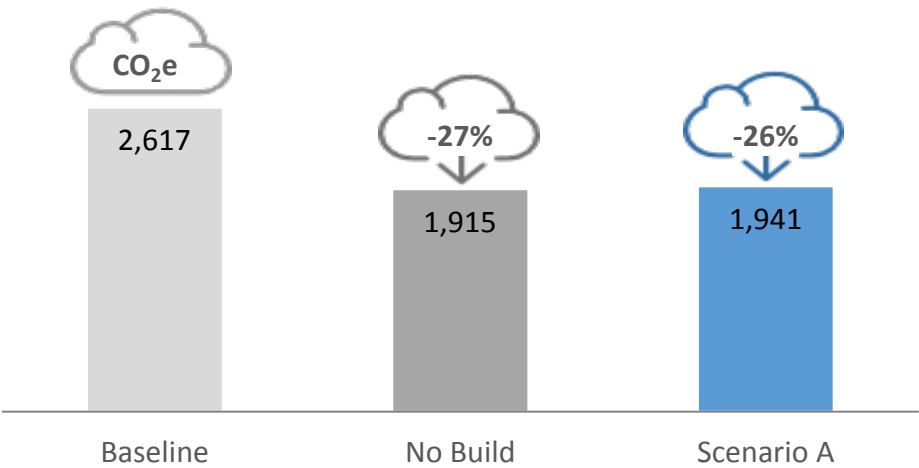
PM: Total Criteria Pollutants

(metric tons per day)



PM: Greenhouse Gas Emissions

CO₂e Emissions (metric tons per day) and Percentage Reduction from 2015 Baseline



PM: Environmentally Sensitive Areas

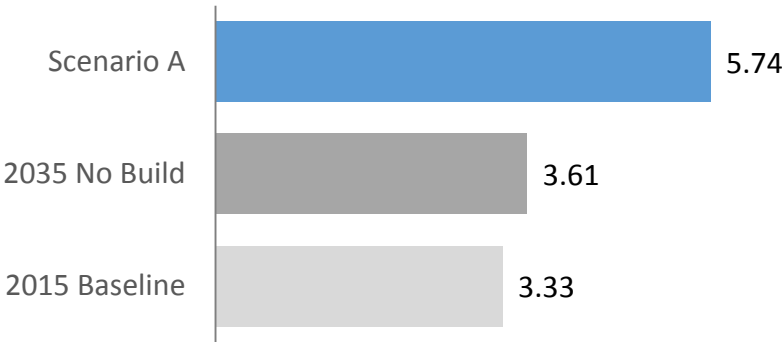
(# linear miles along 3 routes)

36.5 2nd lowest score

Goal 5 Accessible and equitable transportation system that is responsive to the needs of all users.

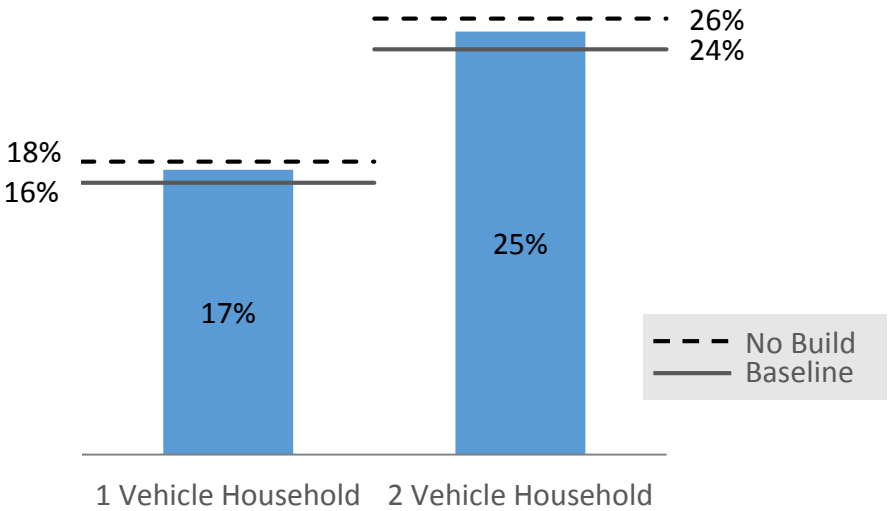
PM: Transit Vehicle Miles Traveled

(per year in millions)



PM: Household Transportation Cost

Percentage of Income Spent on Transportation
(by median income households per year)



Daily Costs for 2-Vehicle Households

Scenario A

\$48.64

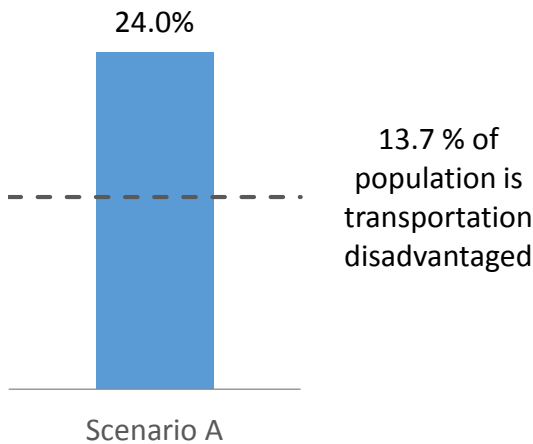
2015 Baseline

\$46.63 ▼\$2.01

2035 No Build

\$50.14 ▲\$1.50

PM: Share of Investment Benefit for Transportation Disadvantaged Population

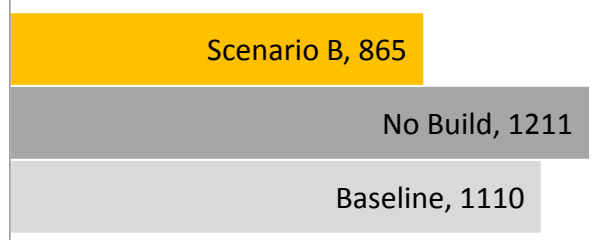


Scenario B

Step 2 Performance Measures

PM: Total Collisions

(Fatal, Injury, and Property Damage Only per year)

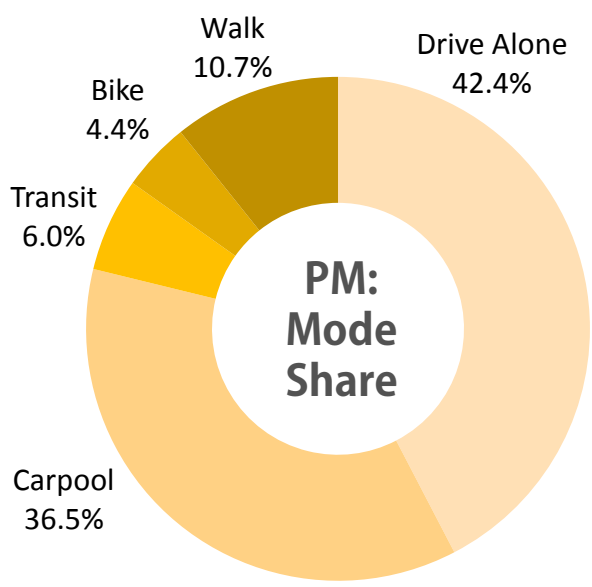
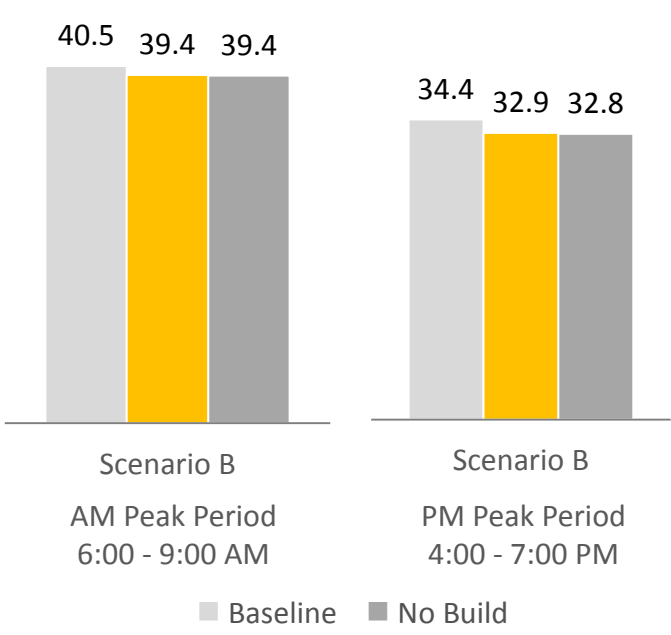


- Highway 1 Projects**
 - Bus on shoulder, ramp metering, Mission St. intersection improvements
- Soquel / Freedom**
 - BRT Lite with increased transit frequency, buffered/protected bike lanes, bike/ped intersection improvements
- Rail ROW**
 - Bike and pedestrian trail, rail transit

Goal 1 Safer transportation for all modes.



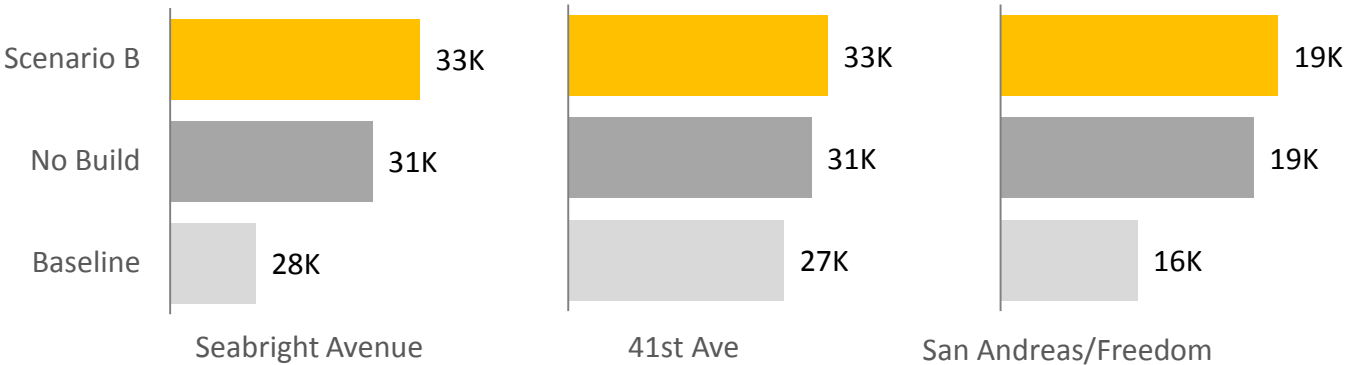
PM: Countywide Mean Auto Speed (mph)



Goal 2 Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods.

PM: Person trips across N-S Screenline 4:00-6:00 PM

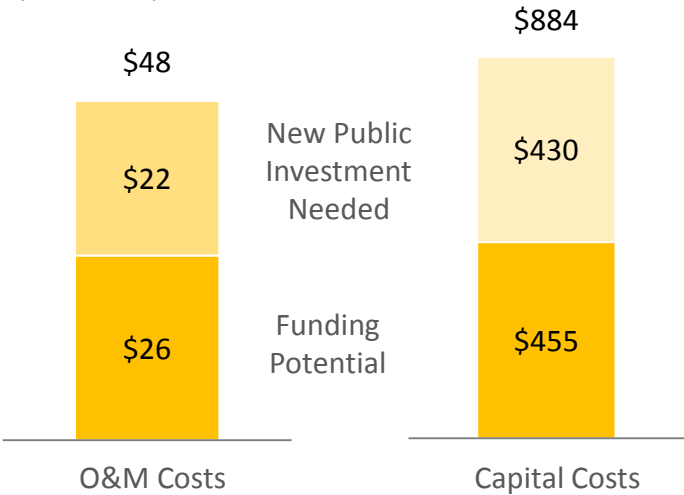
(In thousands)



Goal 3 Develop a well-integrated transportation system that supports economic vitality.

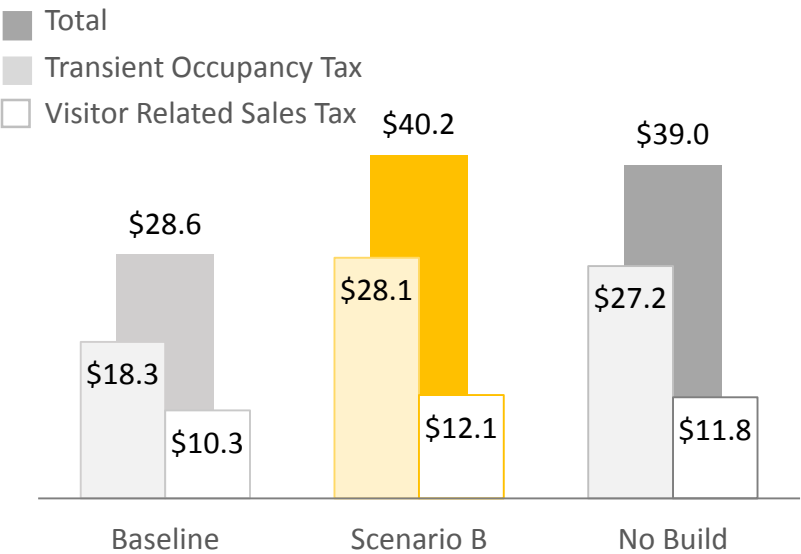
PM: Level Of Public Investment

(\$ millions)



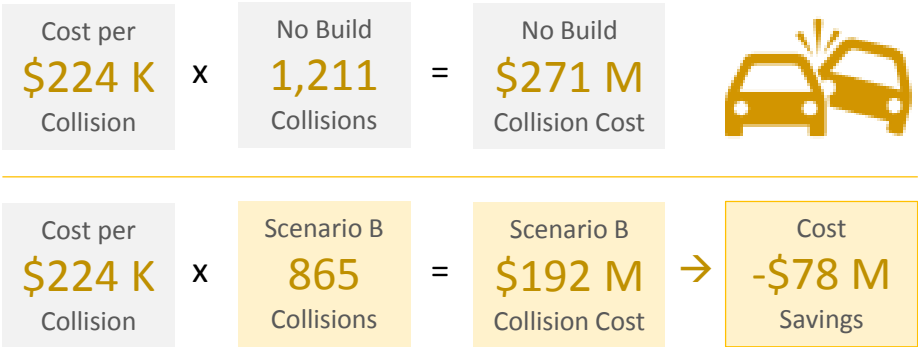
PM: Visitor Tax Revenues

(per year in millions)



PM: Cost Associated with Collisions

(per year)



Goal 4 Minimize environmental concerns and reduce adverse health impacts.

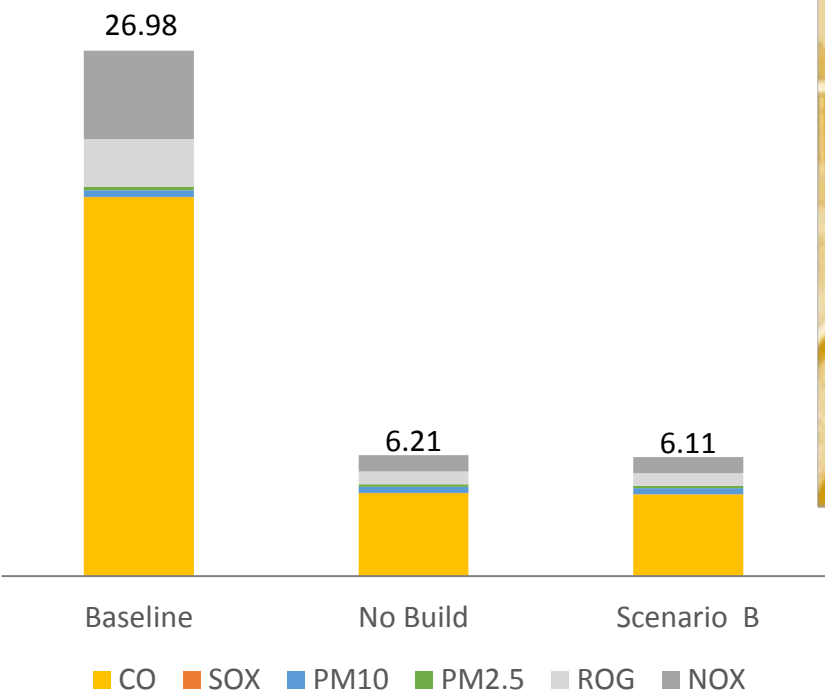
PM: Automobile Vehicle Miles Traveled

(Countywide VMT per day in millions)



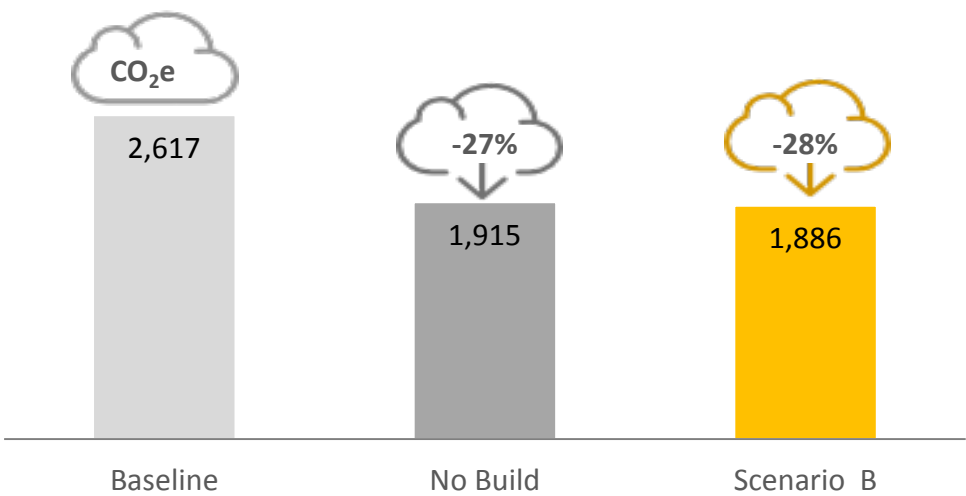
PM: Total Criteria Pollutants

(metric tons per day)



PM: Greenhouse Gas Emissions

CO₂e Emissions (metric tons per day) and Percentage Reduction from 2015 Baseline



PM: Environmentally Sensitive Areas

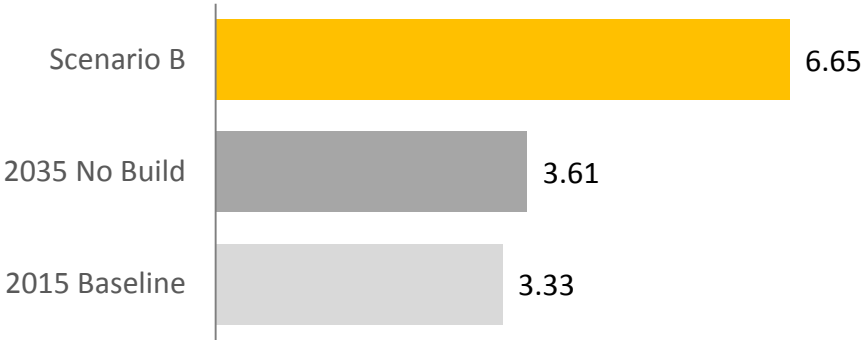
(# linear miles along 3 routes)

38.3 2nd highest score

Goal 5 Accessible and equitable transportation system that is responsive to the needs of all users.

PM: Transit Vehicle Miles Traveled

(per year in millions)



PM: Household Transportation Cost

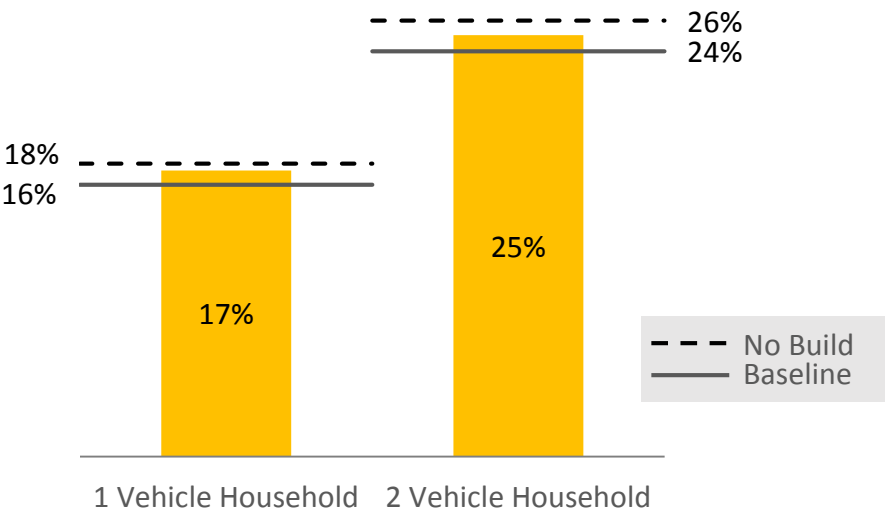
Percentage of Income Spent on Transportation
(by median income households per year)

Daily Costs for
2-Vehicle
Households

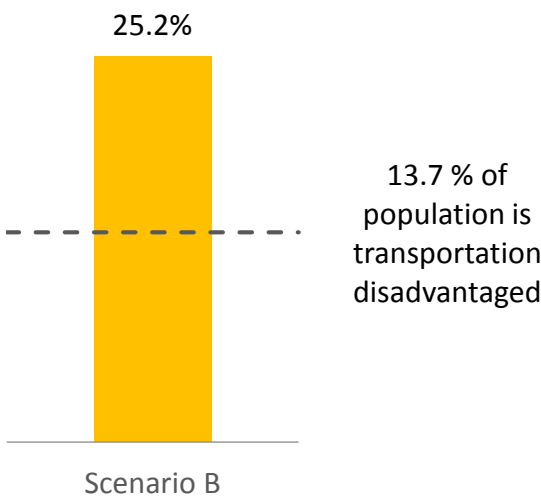
Scenario B
\$48.48

2015 Baseline
\$46.63 ▼\$1.85

2035 No Build
\$50.14 ▲\$1.66



PM: Share of Investment Benefit for Transportation Disadvantaged Population

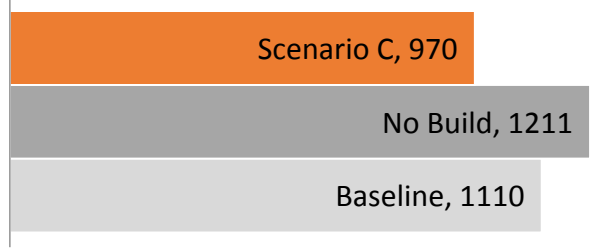


Scenario C

Step 2 Performance Measures

PM: Total Collisions

(Fatal, Injury, and Property Damage Only per year)

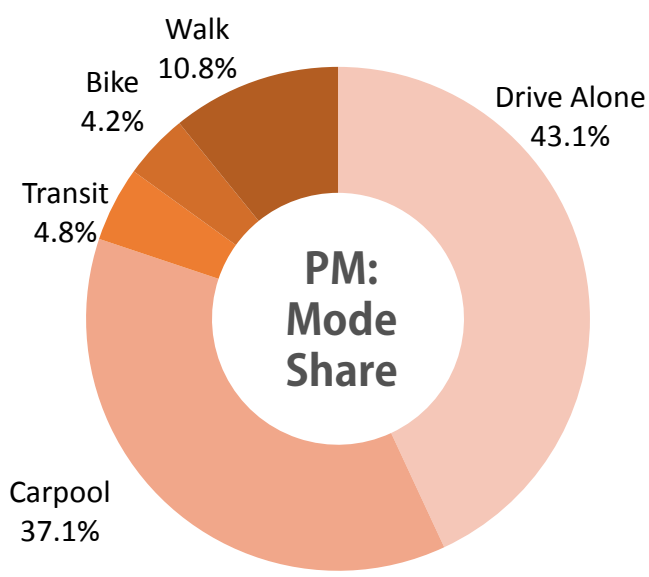
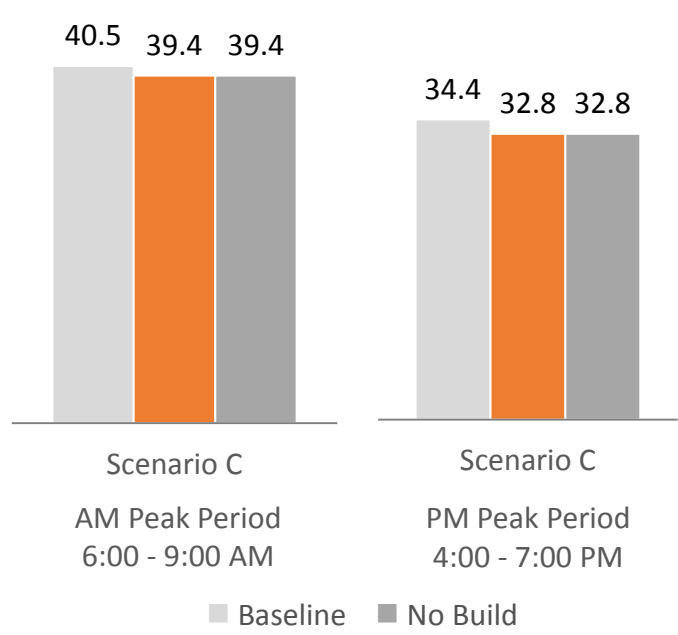


- Highway 1 Projects**
 - Bus on shoulders, auxiliary lanes
- Soquel / Freedom**
 - BRT Lite with increased transit frequency, multimodal intersection improvements
- Rail ROW**
 - Bike and pedestrian trail, bus rapid transit, freight service (in Watsonville)

Goal 1 Safer transportation for all modes.



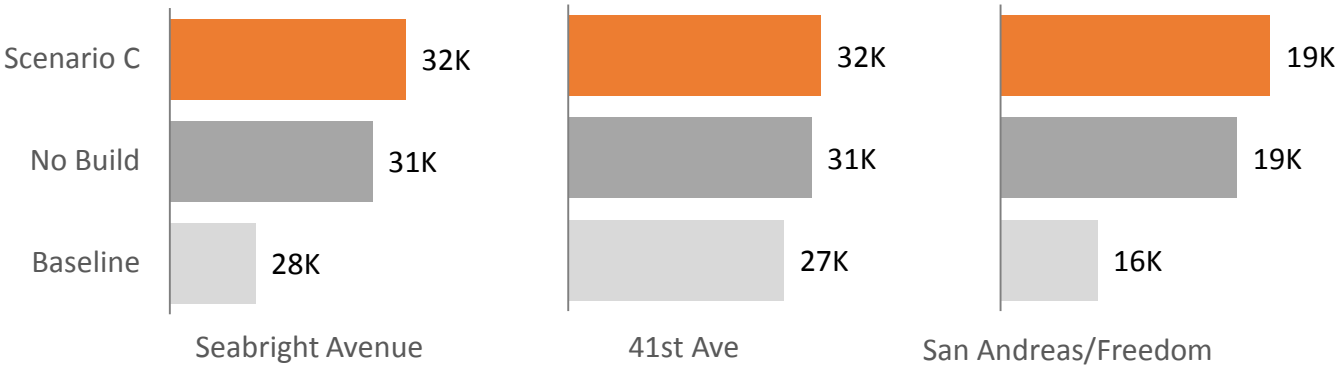
PM: Countywide Mean Auto Speed (mph)



Goal 2 Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods.

PM: Person trips across N-S Screenline 4:00-6:00 PM

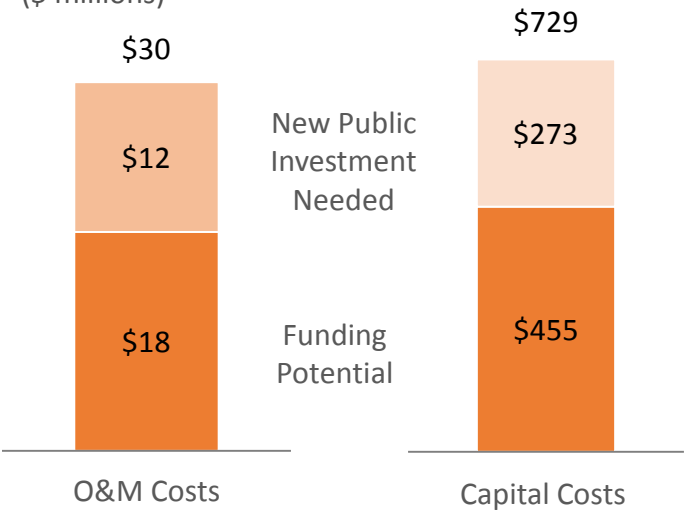
(In thousands)



Goal 3 Develop a well-integrated transportation system that supports economic vitality.

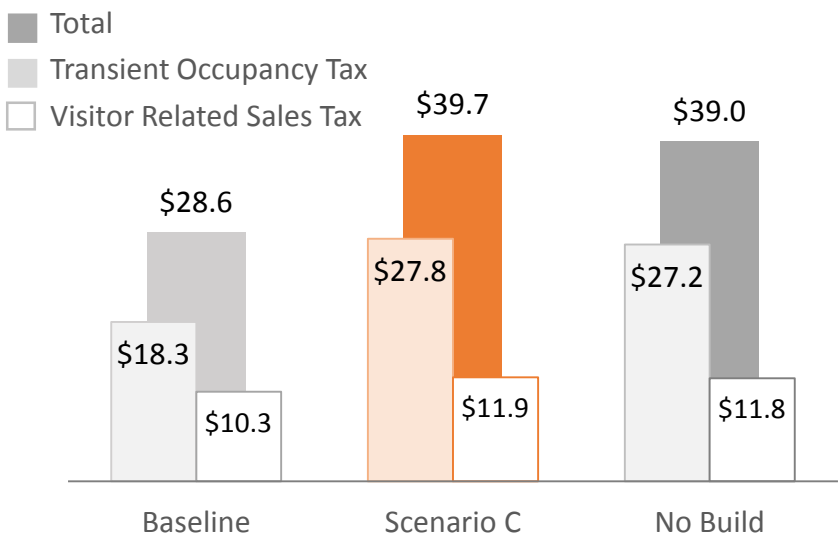
PM: Level Of Public Investment

(\$ millions)



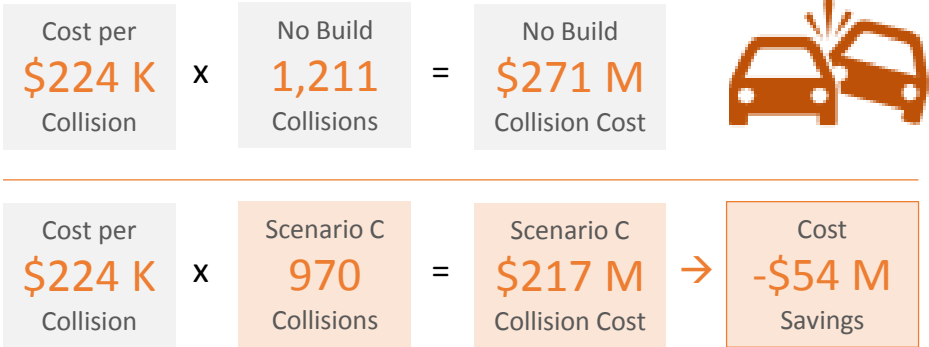
PM: Visitor Tax Revenues

(per year in millions)



PM: Cost Associated with Collisions

(per year)



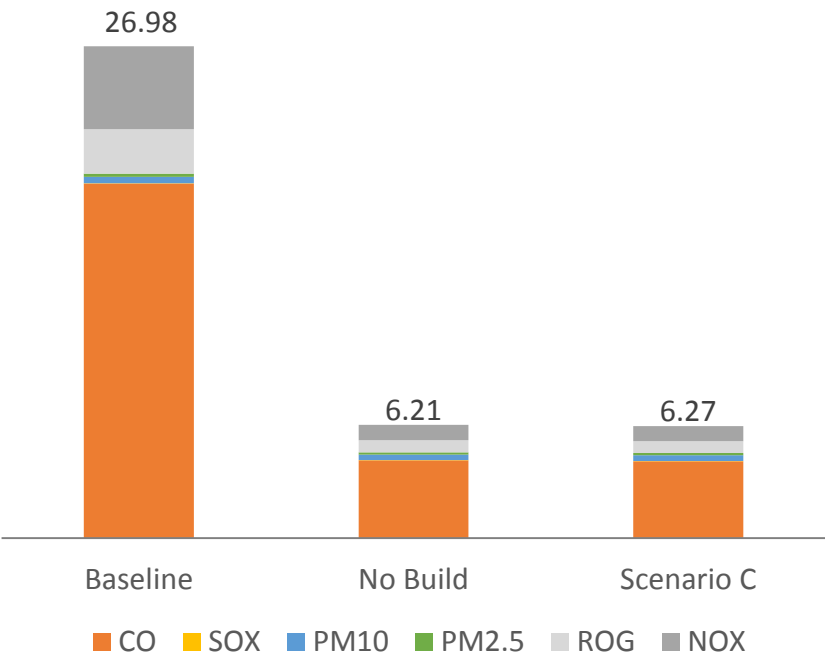
Goal 4 Minimize environmental concerns and reduce adverse health impacts.

PM: Automobile Vehicle Miles Traveled



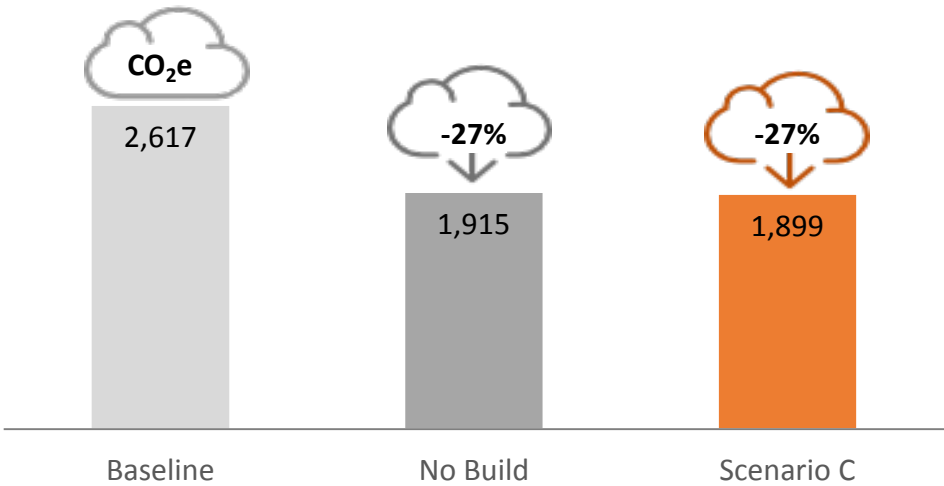
PM: Total Criteria Pollutants

(metric tons per day)



PM: Greenhouse Gas Emissions

CO₂e Emissions (metric tons per day) and Percentage Reduction from 2015 Baseline



PM: Environmentally Sensitive Areas

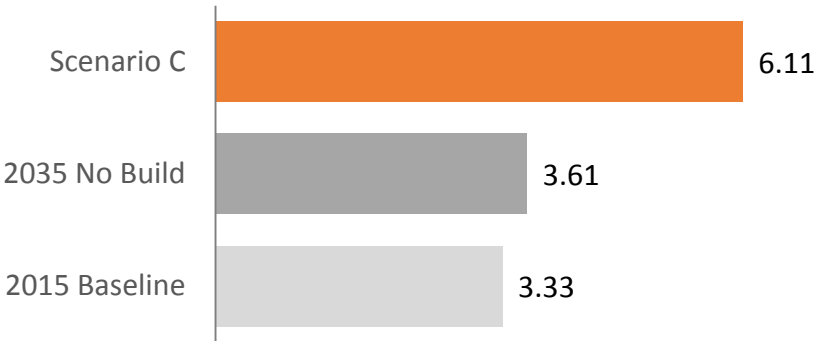
(# linear miles along 3 routes)

36.0 Lowest score

Goal 5 Accessible and equitable transportation system that is responsive to the needs of all users.

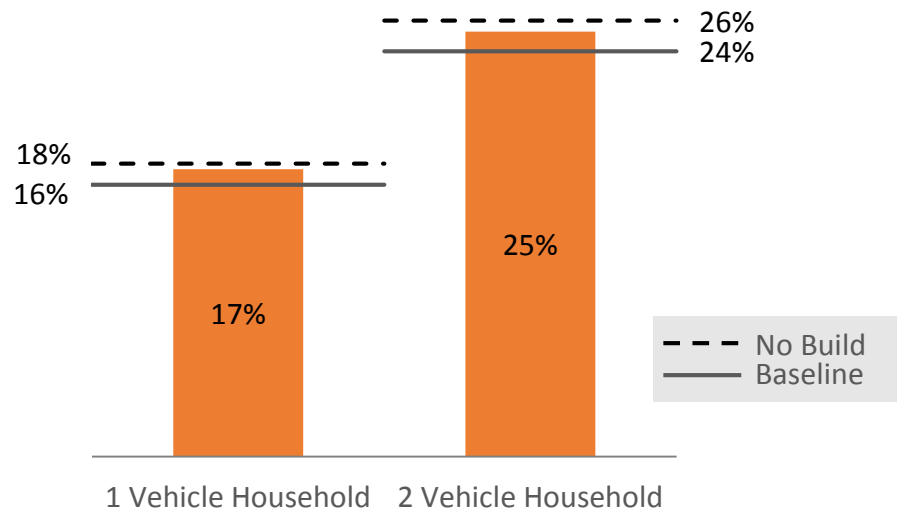
PM: Transit Vehicle Miles Traveled

(per year in millions)



PM: Household Transportation Cost

Percentage of Income Spent on Transportation
(by median income households per year)



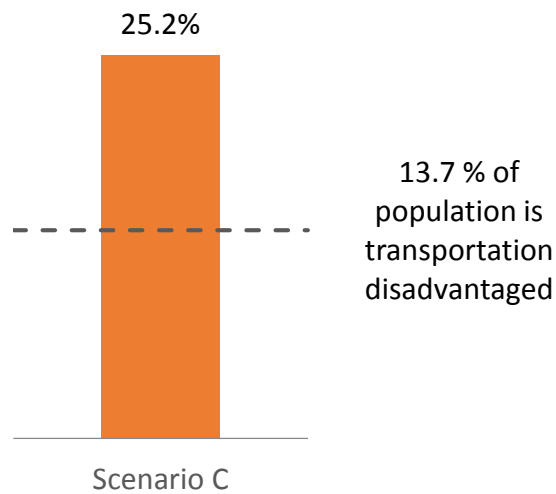
Daily Costs for 2-Vehicle Households

Scenario C
\$48.90

2015 Baseline
\$46.63 ▼\$2.27

2035 No Build
\$50.14 ▲\$1.25

PM: Share of Investment Benefit for Transportation Disadvantaged Population

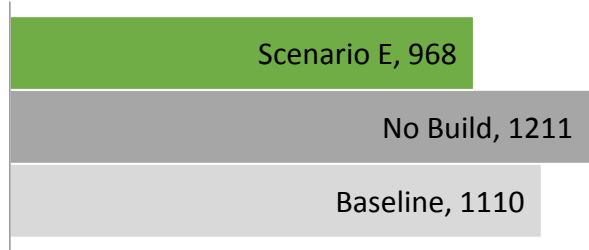


Scenario E

Step 2 Performance Measures

PM: Total Collisions

(Fatal, Injury, and Property Damage Only per year)



Highway 1 Projects

- HOV and auxiliary lanes, ramp meters

Soquel / Freedom

- Buffered/protected bike lanes, bike/pedestrian intersection improvements

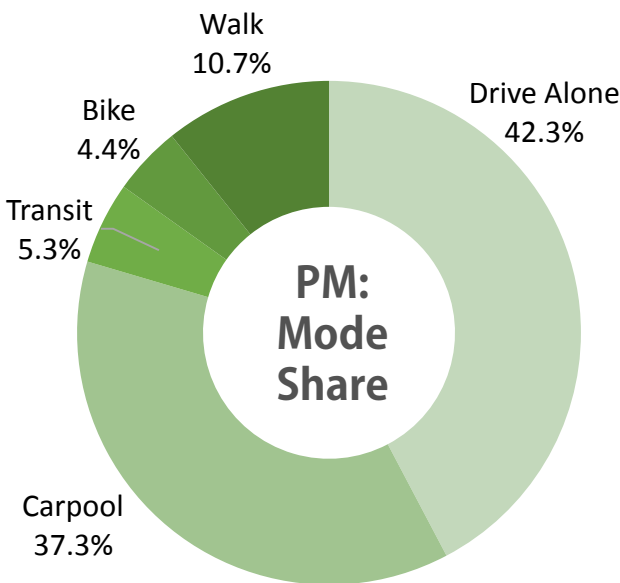
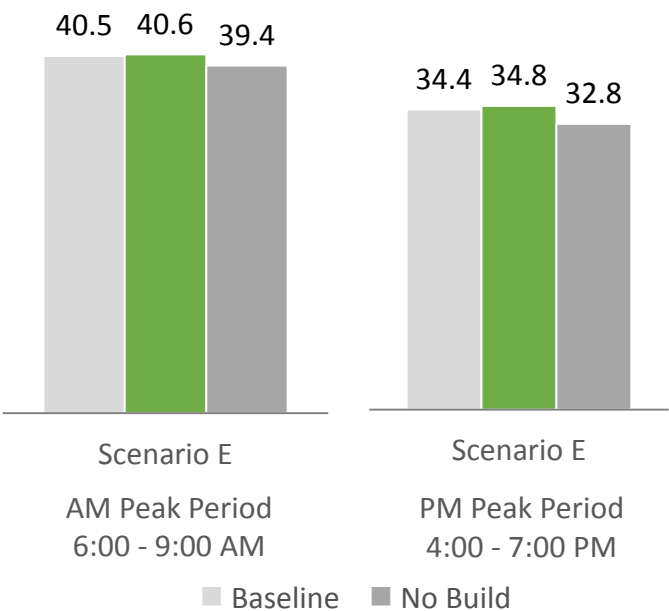
Rail ROW

- Bike and pedestrian trail, rail transit, freight service

Goal 1 Safer transportation for all modes.



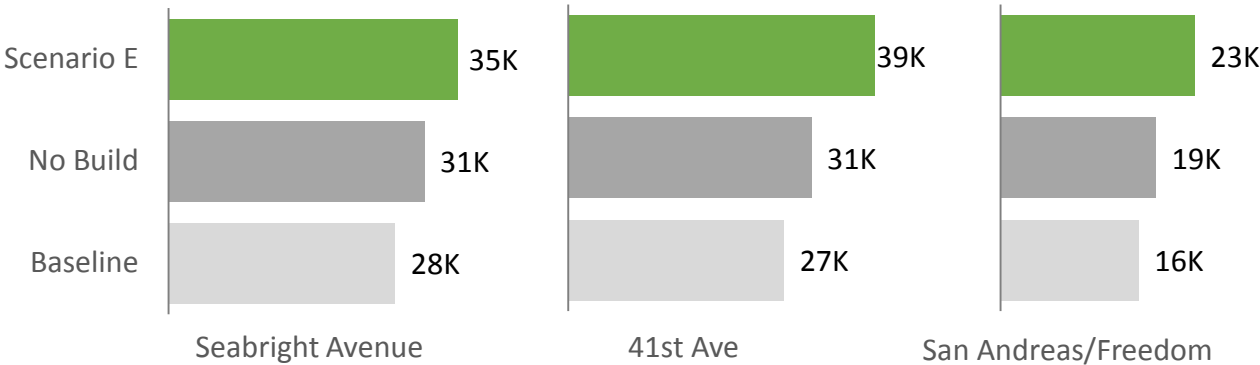
PM: Countywide Mean Auto Speed (mph)



Goal 2 Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods.

PM: Person trips across N-S Screenline 4:00-6:00 PM

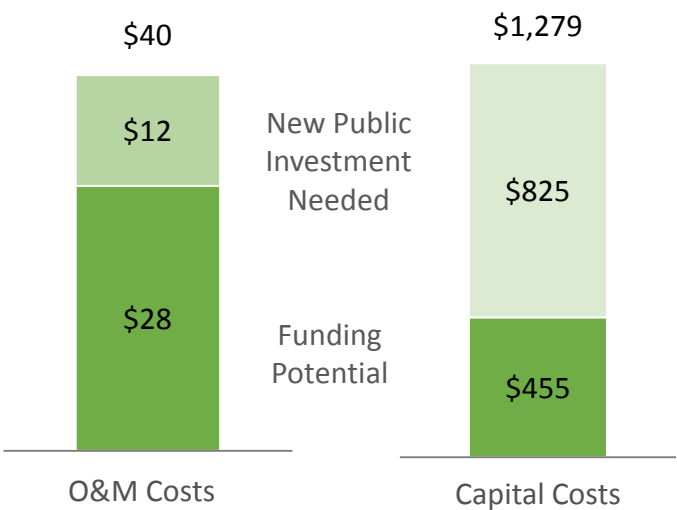
(In thousands)



Goal 3 Develop a well-integrated transportation system that supports economic vitality.

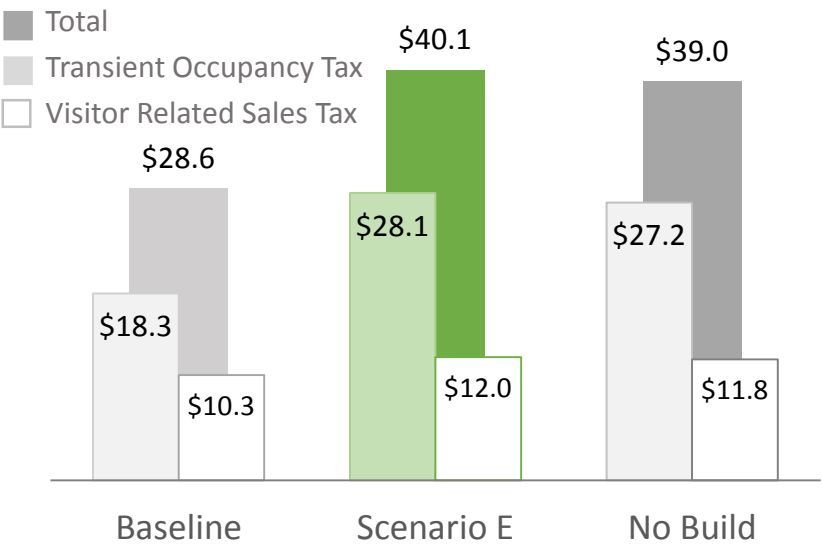
PM: Level Of Public Investment

(\$ millions)



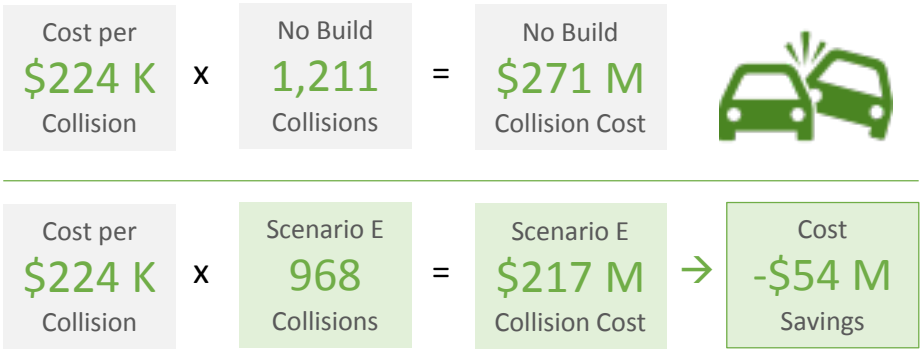
PM: Visitor Tax Revenues

(per year in millions)



PM: Cost Associated with Collisions

(per year)



Goal 4 Minimize environmental concerns and reduce adverse health impacts.

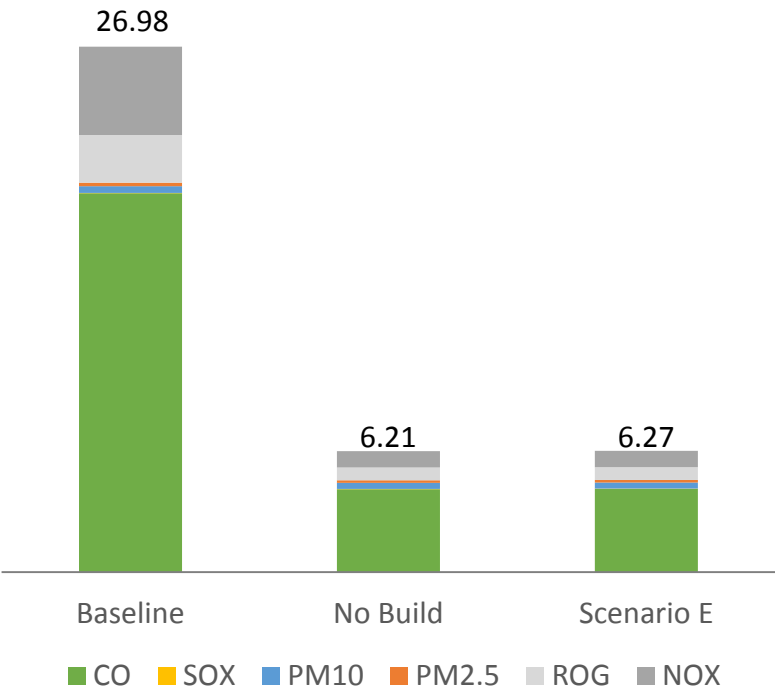
PM: Automobile Vehicle Miles Traveled

(Countywide VMT per day in millions)



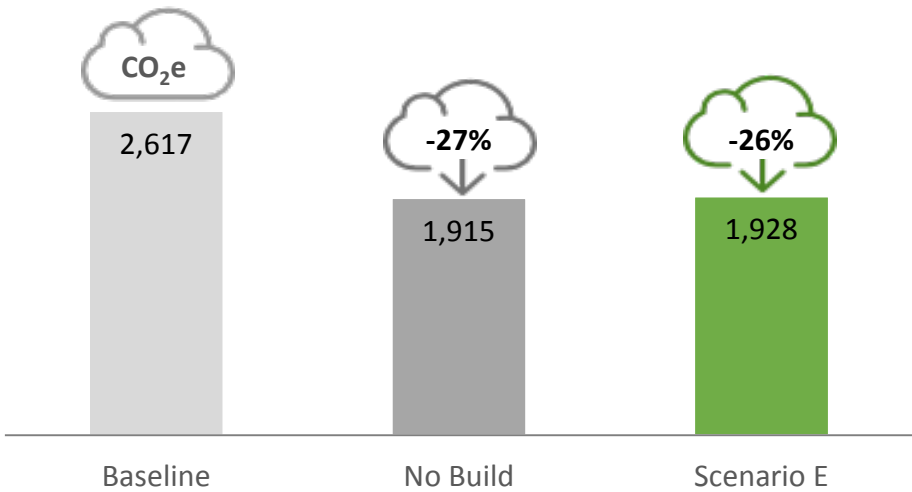
PM: Total Criteria Pollutants

(metric tons per day)



PM: Greenhouse Gas Emissions

CO₂e Emissions (metric tons per day) and Percentage Reduction from 2015 Baseline



PM: Environmentally Sensitive Areas

(# linear miles along 3 routes)

40.7 Highest score

Goal 5
Accessible and equitable transportation system that is responsive to the needs of all users.

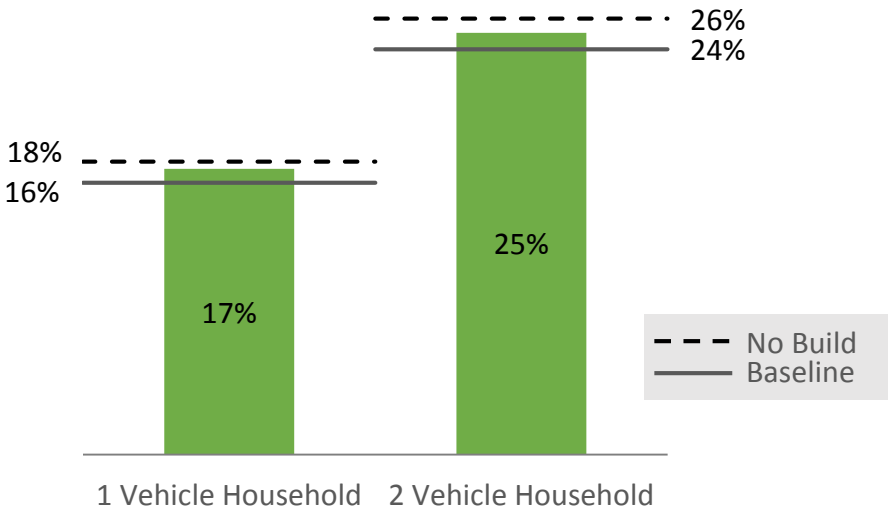
PM: Transit Vehicle Miles Traveled

(per year in millions)



PM: Household Transportation Cost

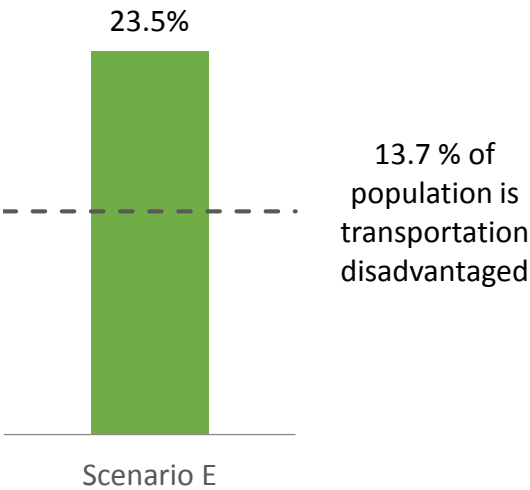
Percentage of Income Spent on Transportation
(by median income households per year)



Daily Costs for 2-Vehicle Households














































































Scenario E
\$48.52
2015 Baseline
\$46.63 ▼\$1.89
2035 No Build
\$50.14 ▲\$1.62

PM: Share of Investment Benefit for Transportation Disadvantaged Population



All Scenarios Comparison

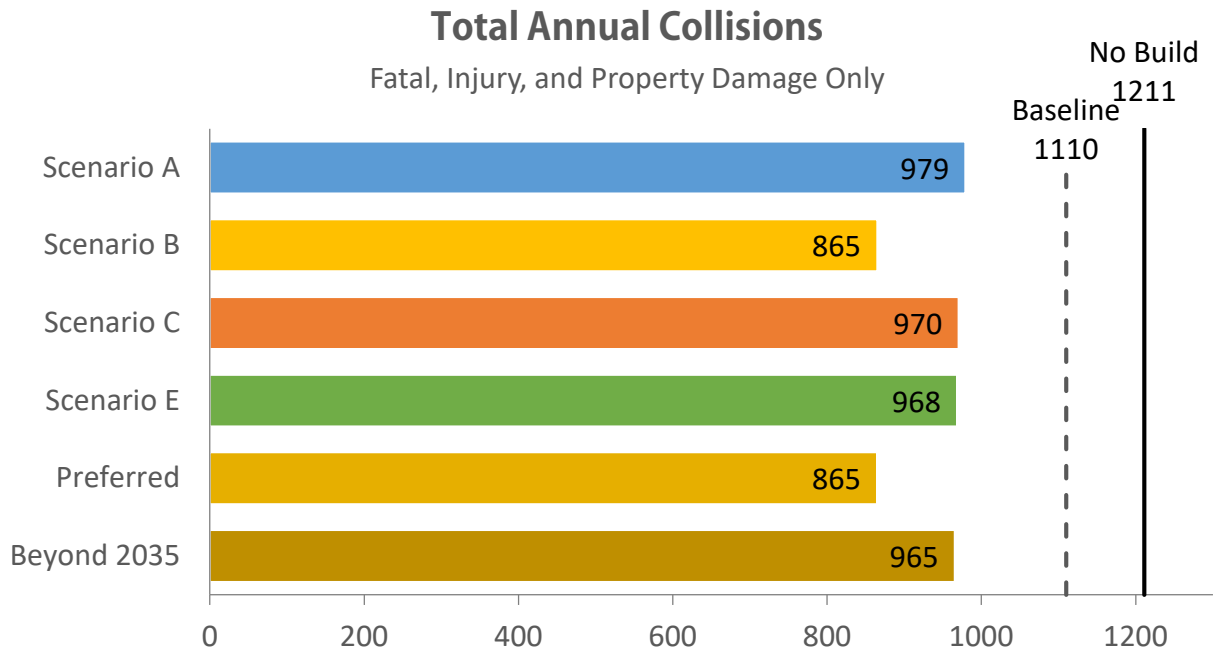
Including Preferred Scenario

	2035 Preferred	Beyond 2035	Scenario A	Scenario B	Scenario C	Scenario E
Highway 1 Projects						
Buses on shoulders						
High occupancy vehicle lanes (HOV) and increased transit frequency		 	 			 
Auxiliary lanes to extend merging distance IN ADDITION TO MEASURE D						
Metering of on-ramps						
Additional lanes on bridge over San Lorenzo River						
Mission St intersection improvements						
Soquel Avenue/Drive and Freedom Blvd						
BRT lite (faster boarding, transit signal priority and queue jumps)						
Increased frequency of transit with express services						
Buffered/protected bike lanes	 	 		 		 
Intersection improvements for auto						
Intersection improvements for bikes/pedestrians*	  	  	 	 	 	 
Rail Corridor						
Bike and pedestrian trail	 	 	 	 	 	 
High-capacity public transit service	 / 	 / 				
Local rail transit with interregional connections						
Bus rapid transit						
Freight service on rail					 <small>Only in Watsonville</small>	
Overall Project Area/Connections between Routes						
Improved bike/pedestrian facilities throughout urban area closing gaps in network	These projects will be evaluated in all scenarios.					
Additional transit connections						
Bike share, bike amenities, transit amenities, park and ride lots						
Multimodal transportation hubs						
Automated vehicles/connected vehicles						
Transportation Demand and System Management						
Employers and residences - incentive programs	These projects will be evaluated in all scenarios.					
Education and enforcement - electric vehicle, motorist safety, and bike safety						

*Intersection improvements will include right turn pockets or bypass lanes for bus service and transit priority, if feasible.

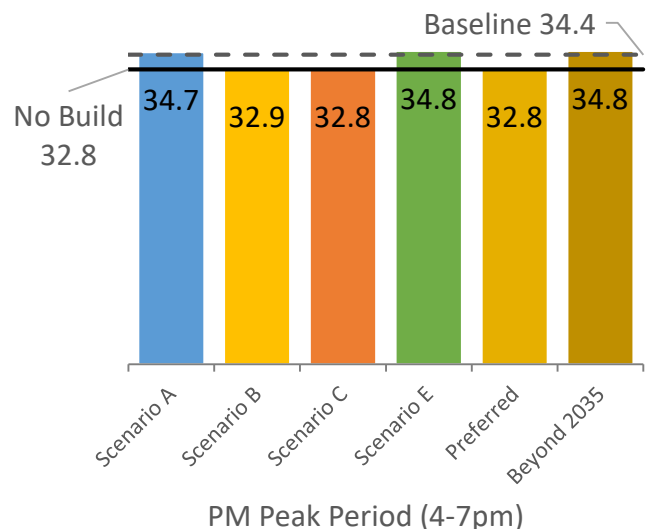
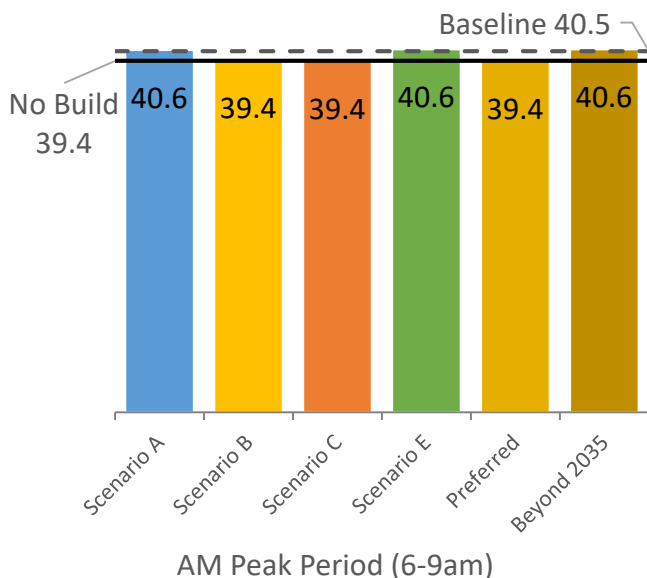
The performance measure results for the preferred scenario reflect projections if passenger rail service is implemented for comparison purposes only and is not bias against other potential high-capacity transit alternatives on the rail corridor.

GOAL 1 Safer transportation for all modes.



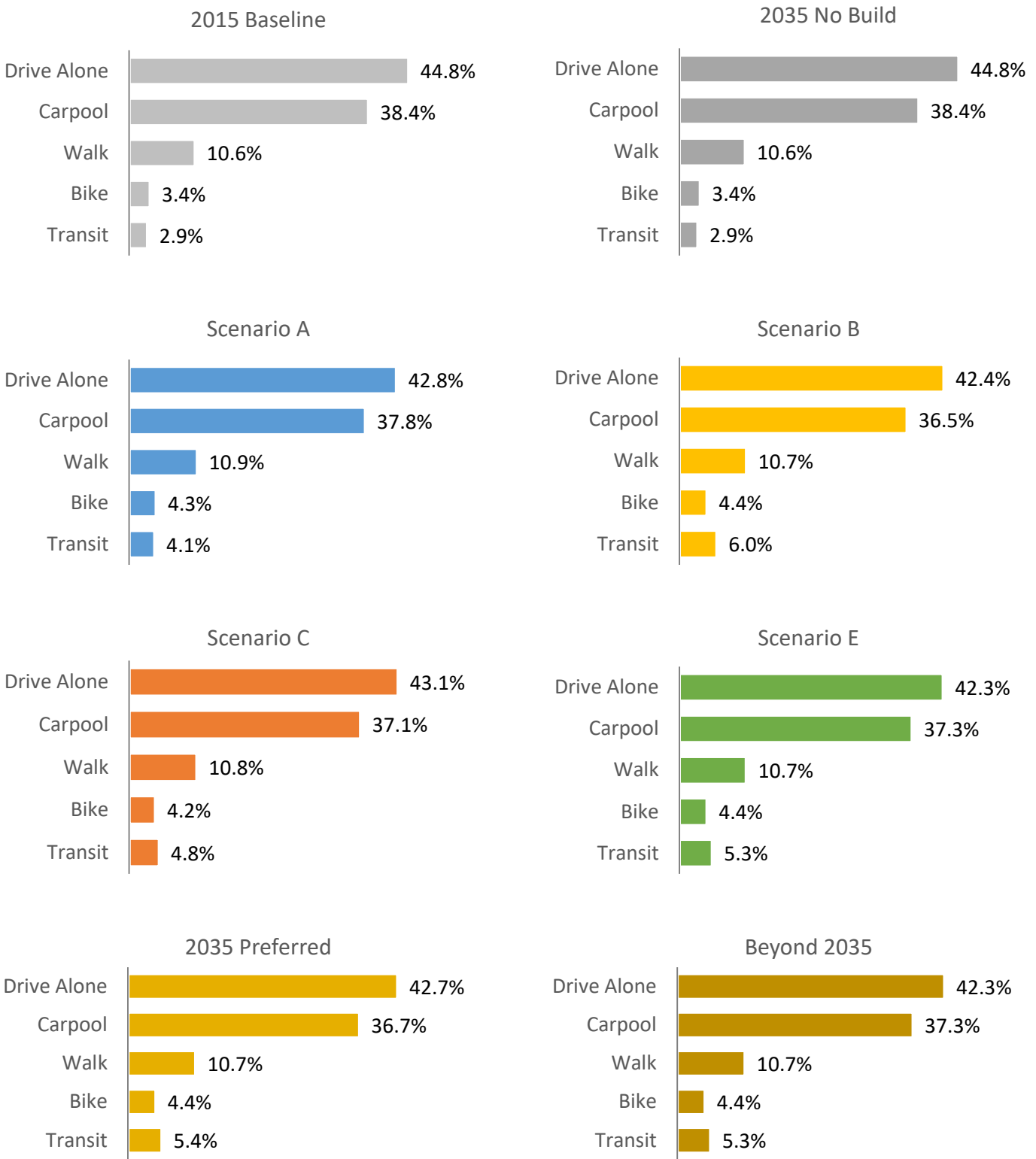
GOAL 2 Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods.

Countywide Mean Auto Speed (mph)



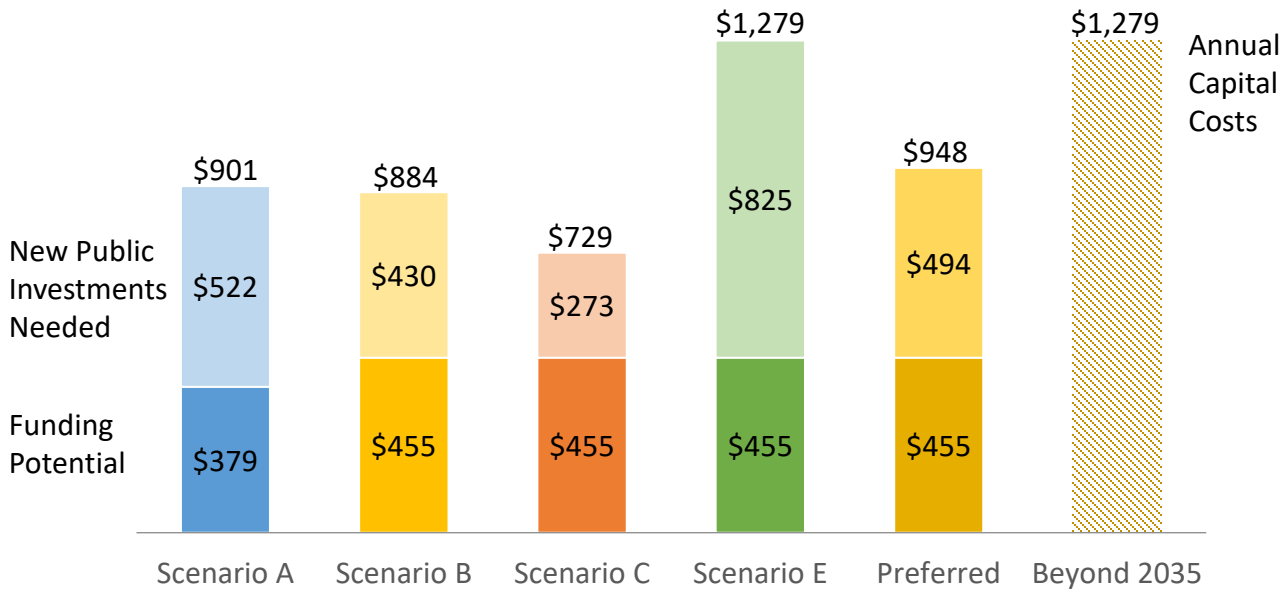
GOAL 2 Reliability and Efficiency (continued)

Mode Share

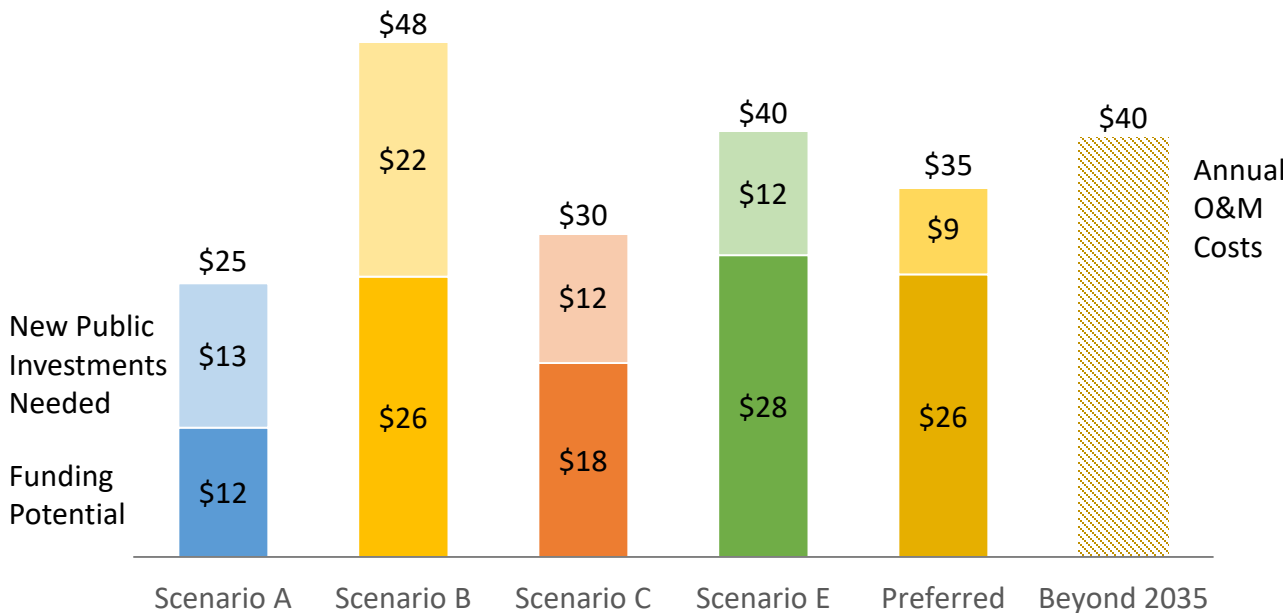


GOAL 3 Develop a well-integrated transportation system that supports economic vitality.

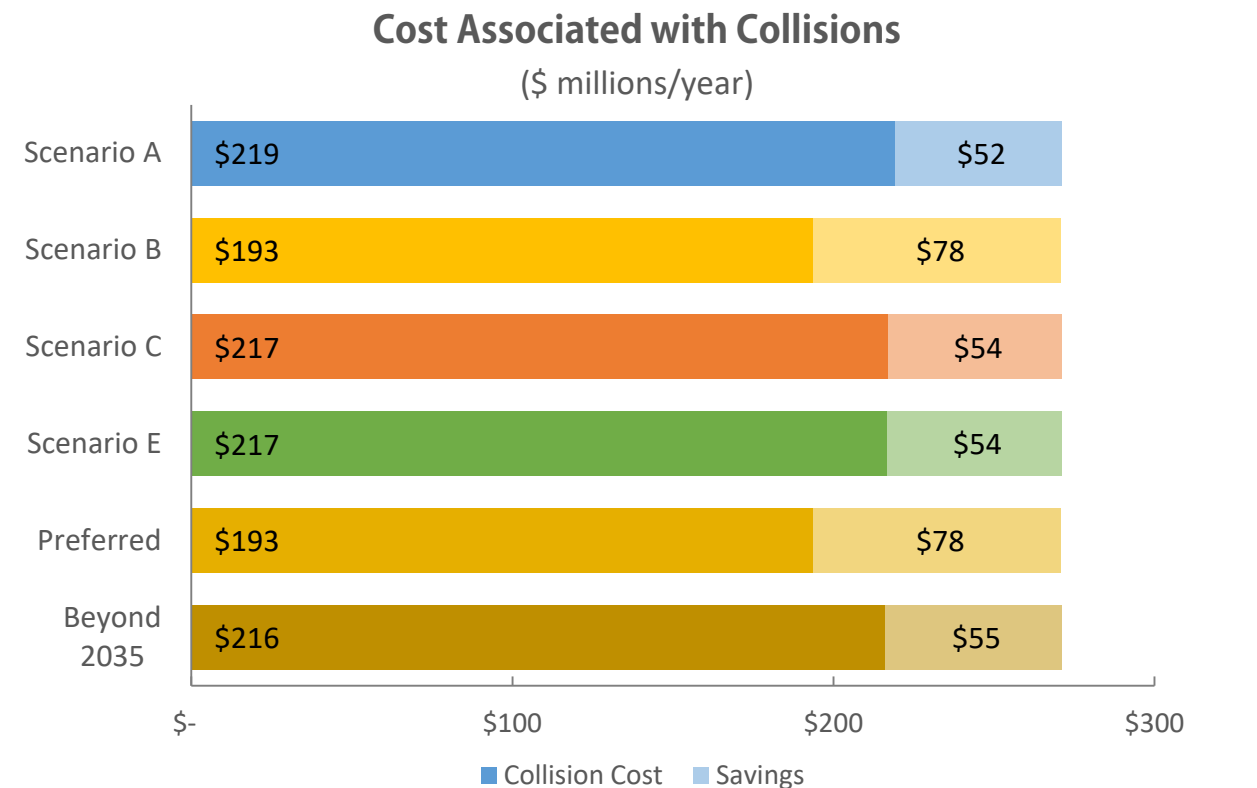
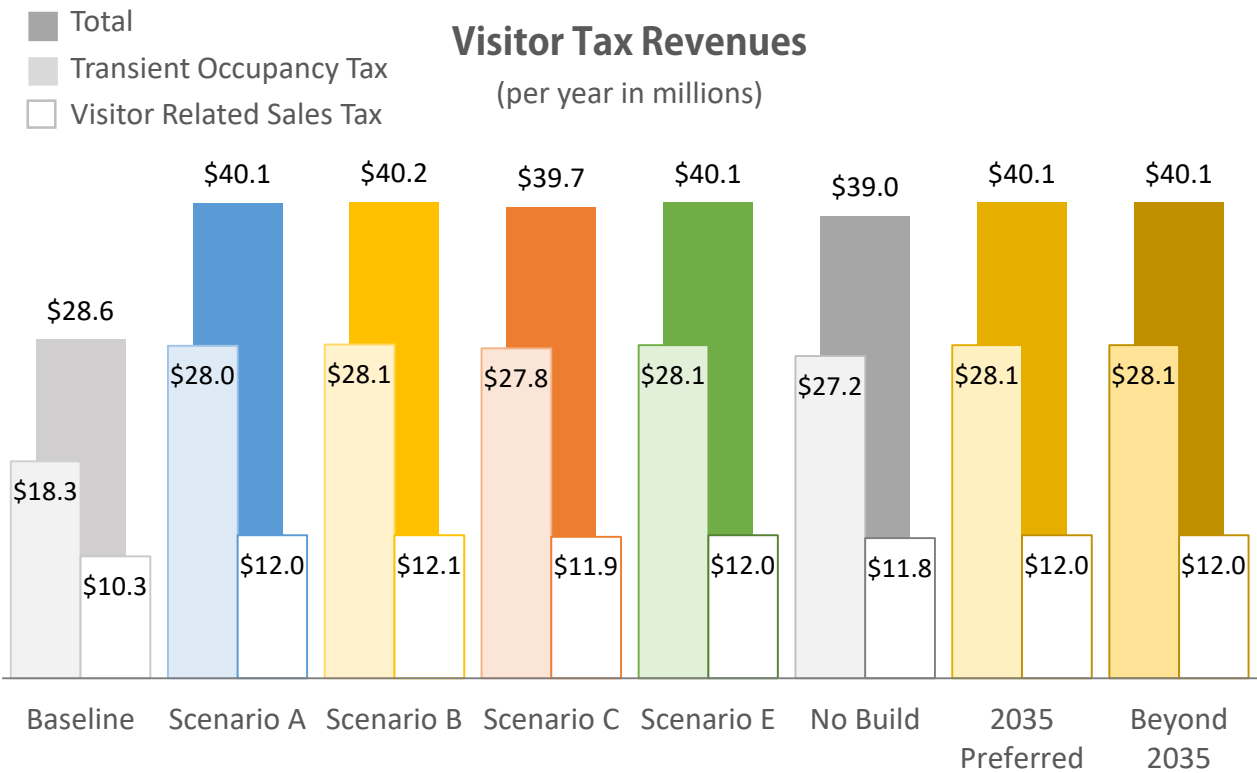
Level of Public Investment
Capital Costs and Funding Potential Estimates
(\$ millions)



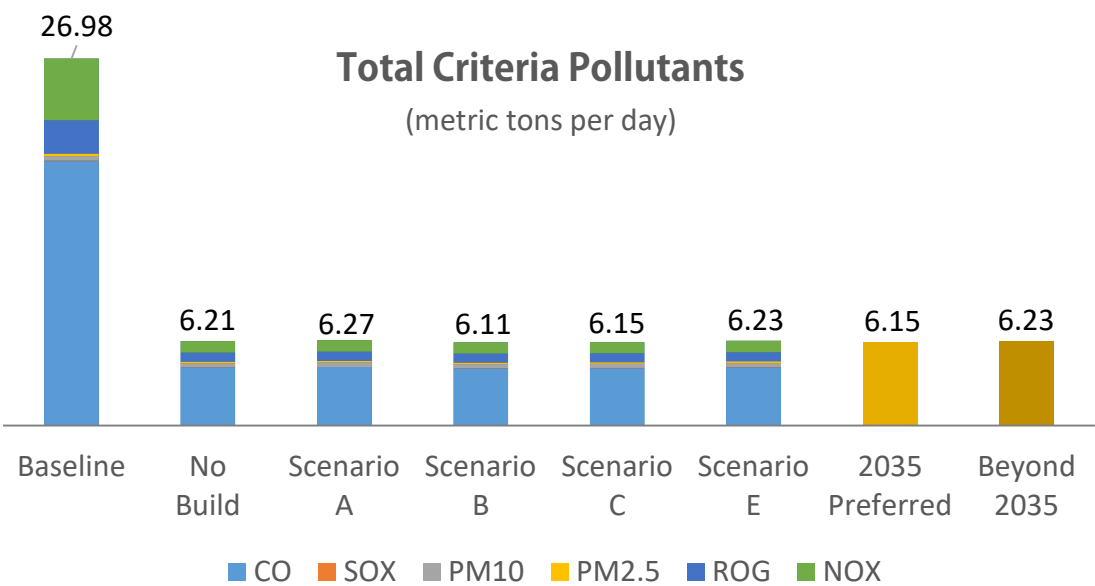
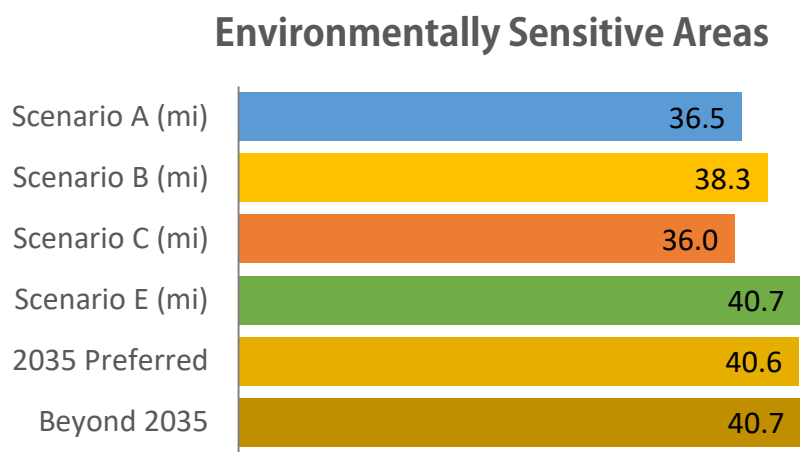
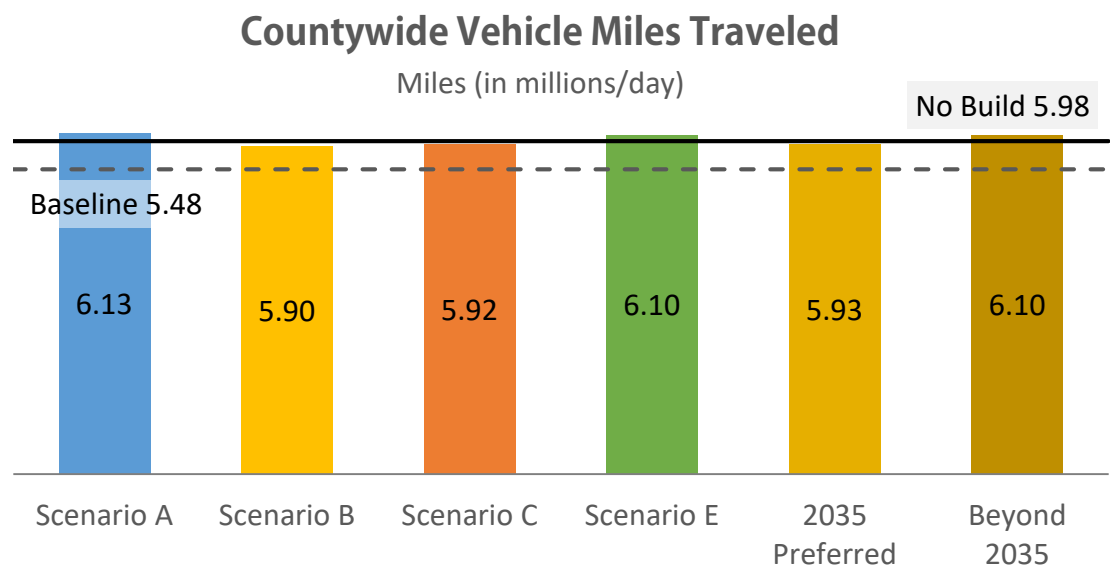
Annual Cost for Operations & Maintenance
(\$ millions)



GOAL 3 Economic Vitality (continued)

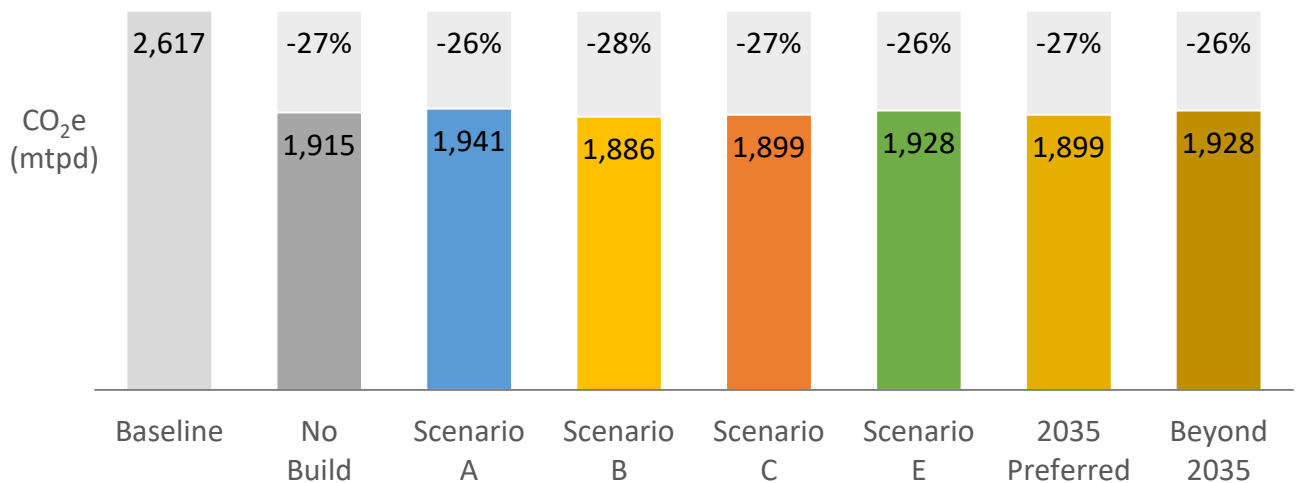


GOAL 4 Minimize environmental concerns and reduce adverse health impacts.



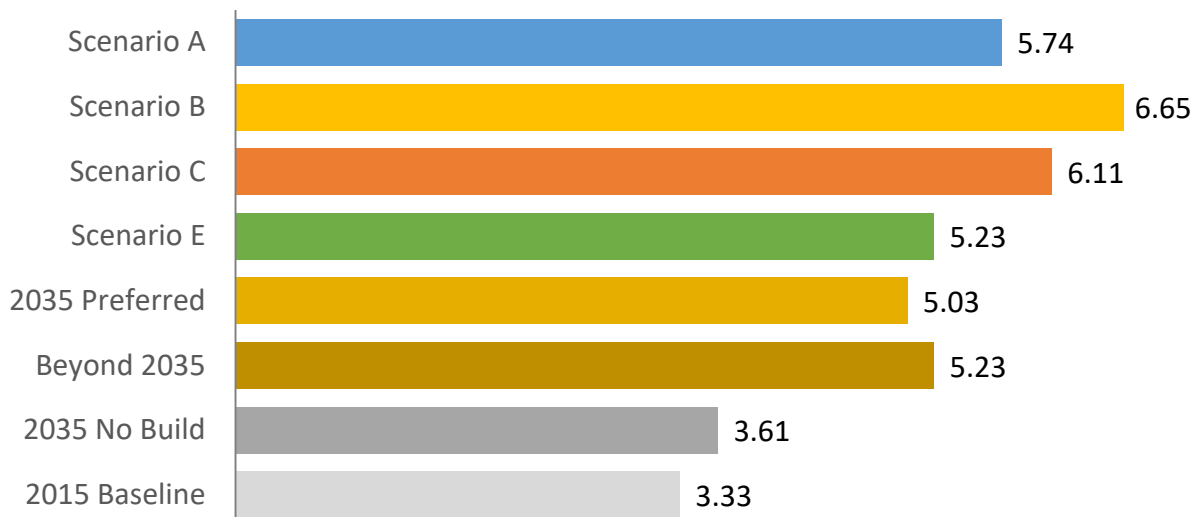
GOAL 4 Environment (continued)

CO₂e Emissions (metric tons/day)
and % Reduction from 2015 Baseline



GOAL 5 Accessible and equitable transportation system that is responsive to the needs of all users.

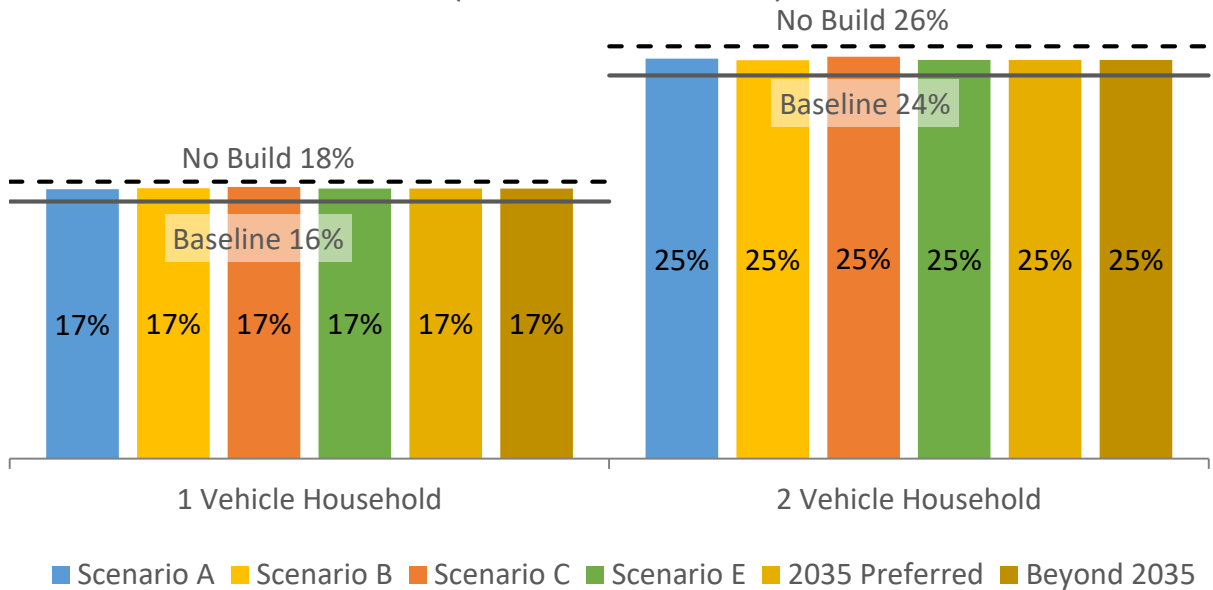
Transit Vehicle Miles Traveled
(millions/year)



GOAL 5 Equity (continued)

Household Transportation Cost

(% of Median Income)



Share of Investment Benefit for Transportation Disadvantaged Population

