



#### **Hwy 1- HOV Lanes**

### **Hwy 1- Auxiliary Lanes**

#### **Hwy 1- Metering Ramps**

#### **Project Description**

Either the inside or outside shoulder and potential use of existing and future auxiliary lanes between Morrissey Blvd and State Park Drive



#### **Project Description**

Construct High Occupancy Vehicles (HOV) lanes for nine miles between Morrissey Blvd and San Andreas Rd in both directions including auxiliary lanes and reconstruction of interchanges and ramps and over and under-crossings



#### **Project Description**

Construct auxiliary lanes along Highway 1 between interchanges from State Park Dr. to San Andreas Rd. (These are in addition to auxiliary lanes approved in Measure D)

Reconfiguration of on-ramps and local streets to allow for ramp metering and installation of ramp meters at interchanges between Morrissey Blvd and San Andreas Rd.





#### Project Benefits

- Project specific planning effort underway
- Consistent with 2040 RTP project list
- Improves transit travel time and access to jobs, education. and services
- Reduces vehicle miles traveled and greenhouse gas emissions by providing more transit options
- Minor or no change in operating costs
- Minor amounts of right-of-way may need to be acquired
- Could accommodate future technologies
- Minor new investment for capital costs may be required

#### **Project Benefits**

- Planning effort underway
- Multi-agency support
- Improves auto travel times consistent with legislative requirements
- Improves transit travel times
- Improves access to jobs, education and services
- Potential to increase land use and business development
- Provides greater incentive to carpool
- Improves transit access for people who do not drive
- Could accommodate future technologies

#### **Project Benefits**

- Planning effort underway
- Improves safety
- Improves traffic flow
- Minor amounts of right of way may need to be acquired
- Could accommodate future technologies
- Moderate new investment for capital costs

#### **Project Benefits**

**Project Description** 

- Improves auto travel time consistent with legislative requirements
- Improves access to jobs, education, and services
- Potential to reduce greenhouse gas emissions
- Improves safety
- Minor new investment for capital costs required
- Some right-of-way may need to be acquired
- Can accommodate future technologies

#### Project Challenges

- Limited shoulder width for buses at certain locations
- Potential conflict with emergency, police, and disabled vehicles who use the shoulder
- Traffic impacts at highway ramps due to bus priority
- Safety concerns where buses cross on and off ramps
- Environmentally sensitive areas may be impacted due to increased right-of-way

- **Project Challenges** Potential increase in green house gas emissions and vehicle miles traveled
- Moderate amounts of right-of-way may need to be acquired
- Design exceptions required to avoid impacting environmentally sensitive areas
- Major new investment for capital costs required
- Some funding sources may be available but unlikely Highway 1 will be competitive for amount of funds needed

#### **Project Challenges**

- Environmentally sensitive areas may be impacted
- Design exceptions required to avoid impacting environmentally sensitive areas

#### **Project Challenges**

- Could result in queue overflow onto local streets
- · Ramps may need to be widened
- Design exceptions required to reduce impacts to residential, commercial, and existing infrastructure
- Environmentally sensitive areas may be impacted

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## Hwy 1- Additional Lanes on San Lorenzo River Bridge

### Hwy 1- Mission St. Intersection Improvements

## **Hwy 1- Rail Transit**

Project Description	Project Description	Project Description	
Widen the Highway 1 bridge over the San Lorenzo River (just south of the Highway 1/9 intersection) from 2 lanes in each direction to 3 lanes southbound and 4 lanes northbound and bring the bridge up to seismic safety standards.	Improve intersections along Mission St. in Santa Cruz to improve traffic flow and safety.	Bi-directional rail service along Highway 1 between Depot Park in Santa Cruz and Pajaro Station just south of Watsonville.	
	MARIENTA DE LA CONTRACTOR DEL CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR		
Project Benefits  Consistent with City of Santa Cruz Capital Improvement Program Improves traffic operations and safety Improves access to jobs, education, and services Brings structure up to seismic safety standards Moderate new funding sources for capital costs required New bridge design may reduce environmental impacts	Project Benefits  Multi-agency support Improves traffic flow and safety consistent with legislative requirements Improves access to jobs, education, and services Minor new investment for capital costs required No new investment for operational costs Minor amounts of right-of-way may need to be acquired	Project Benefits  Improves transit travel time and access to jobs, education, and services Improves safety Improves access for people who do not drive Reduces vehicle miles traveled and greenhouse gas emissions by providing more transit options Could accommodate future technology Some funding sources may be available for capital costs	
<ul> <li>Project Challenges</li> <li>May impact river habitat and species</li> <li>Construction challenges to reduce impacts on traffic and environmentally sensitive areas</li> <li>Few funding sources may be available for capital costs</li> </ul>	Project Challenges  • Design exceptions required to minimize impacts to residential, commercial, and existing infrastructure	Project Challenges  Not included in any planning studies and community input has not been solicited  Major new investment in capital costs and operations required  Environmentally sensitive areas may be impacted  Complex permitting process  Moderate amounts of right-of-way may need to be acquired  Construction challenges may require significant additional funds  Ridership may be limited by limited number of stops and distance to employment areas	
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## Soquel/Freedom – Dedicated Lanes for BRT and Biking

### Soquel/ Freedom – Increase Transit Frequency

#### **Project Description** Project Description Project Description Increase bus frequency on Soquel Ave/Dr and Freedom Blvd to increase headways Bus Rapid Transit (BRT) lite would reconfigure intersections where feasible for transit Lanes dedicated to buses and shared with bicycles that would occupy the existing to every 10 minutes along Soquel Ave/Dr, every 10 minutes along Freedom Blvd queue jumps and transit signal priority, and could include platform level boarding and within the City of Watsonville, and every 15 minutes on Freedom Blvd in rural areas right hand general purpose lane in segments where there are a minimum of two lanes electronic off-board fare collection for faster bus travel times. in each direction. **Project Benefits Project Benefits Project Benefits** Consistent with other planning efforts Consistent with other planning efforts Consistent with other planning efforts • Improves transit travel times and access for people who do not drive Improves transit travel time and access for people who do not drive Improves access to jobs, education, and services Reduces vehicle miles traveled and greenhouse gas emissions by providing faster Improves access to jobs, education, and services Improves access for people who do not drive transit options Reduces vehicle miles traveled and greenhouse gas emissions by providing faster Reduces vehicle miles traveled and greenhouse gas emissions by providing more Minor new investment for capital costs required transit and safer biking options frequent transit No new investment for operational costs Minor new capital and operational costs required Minor new investment for capital and operational costs Minor amounts of right-of-way may need to be acquired · Minor amounts of right-of-way may need to be acquired · Could accommodate future technologies Project Challenges Project Challenges **Project Challenges** · On-street parking may need to be relocated Traffic impacts due to transit priority at intersections Increases in ridership may be limited without improvements to travel time Few funding sources may be available for operational costs · Traffic impacts due to transit priority at intersections On-street parking may need to be relocated · Increased auto travel times Increased auto travel times \$ \$ 66 \$ \$ 1 **(**) **\$** THE THE P (Neutral) (Neutral) (Neutral) (\$ (P) (P) (\$ (\$ ( ) ( )



## <u>Soquel/Freedom –</u> <u>Buffered/Protected Bike Lanes</u>

## <u>Soquel/Freedom – Intersection</u> <u>Improvements for Automobiles</u>

## Soquel/ Freedom – Bike and Pedestrian Improvements

Project Description	Project Description	Project Description
Widen the bicycle lanes to five feet and provide a buffer next to the lanes with either striping or a physical barrier. Bike boxes at signalized intersections where there are shared lanes to improve bike visibility and safety.	Automobile improvements at intersections including modifying the design and adding turn lanes in numerous locations to improve traffic flow.	Bicycle and pedestrian improvements at intersections using a variety of best practices including bike boxes, green lane treatments and bulb outs, islands, and bicycle and pedestrian signal priority.
O Jonathan Maus/BlkePortland	SOQUELAVE STEEL SE	
<ul> <li>Project Benefits</li> <li>Reduces vehicle miles traveled and greenhouse gas emissions by providing safer bike options</li> <li>Improves health and bike safety for citizens</li> <li>Improves access for people who do not drive</li> <li>Minor new investment for capital and operational costs required</li> <li>Minor amounts of right-of-way may need to be acquired</li> </ul>	Project Benefits  Multi-agency support  Improves traffic flow and safety at intersections consistent with legislative requirements  Improves access to jobs, education, and services  Minor amounts of right-of-way may need to be acquired  Minor new investment for capital costs required  No new investment for operational costs	Project Benefits Consistent with other planning efforts Improves access to jobs, education, and services Reduces vehicle miles traveled and greenhouse gas emissions by providing safer bike and walk options Improves safety for pedestrians and bicyclists Minor amounts of right-of-way may need to be acquired Could accommodate future technologies Minor new investment for capital and operational costs
<ul> <li>Project Challenges</li> <li>On street parking may need to be relocated</li> <li>Traffic may be impacted if car lane width needs to be reduced.</li> <li>Environmentally sensitive areas may be impacted if right-of-way is required</li> </ul>	Project Challenges  • Design exceptions required to minimize impacts to residential, commercial, and existing infrastructure	Project Challenges     Traffic may be impacted to accommodate bicycle and pedestrian improvements
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## UNIFIED CORRIDOR INVESTMENT STUDY

#### Rail ROW - Bike/Pedestrian Trail Rail ROW - Local Rail Transit Rail ROW - Bus Rapid Transit Rail ROW - Freight Service **Project Description Project Description Project Description Project Description** Bike and walk trial between Davenport and Watsonville/Pajaro Daily bi-directional passenger rail service between Westside Bi-directional BRT between Westside Santa Cruz and Watsonville Freight between Davenport and Watsonville/Pajaro. Freight with separation for bicyclists and walkers where feasible. Santa Cruz and Watsonville/Pajaro and weekend service between utilizing the rail ROW between State Park Dr. and Natural Bridges service would be primarily during the non-peak hours to not conflict Davenport and Santa Cruz. Dr. where feasible, Hwy 1 and local streets. with passenger rail schedules Project Benefits Project Benefits **Project Benefits Project Benefits** RTC policy based on MBSST Master Plan Rail Transit Feasibility Study solicited public input and provides Improves transit travel time and access to jobs, education, and Current RTC policy Multi-agency support information on rail transit option Supported by voters through Measure D Supported by voters through Measure D Consistent with other planning efforts (MBSST Master Plan) Alternative option for goods movement to/from businesses Reduces vehicle miles traveled and greenhouse gas emissions Measure D funds available for trail Improves transit travel time and access to jobs, education, and by providing faster transit options Reduces greenhouse gas emissions Improves health and safety of pedestrians and bicyclists Improves access for people who do not drive Improves safety by removing trucks off of roadways Improves access to jobs, education, and services Reduces vehicle miles traveled and greenhouse gas emissions Minor amounts of right-of-way may need to be acquired Moderate new investment for capital costs required Reduces vehicle miles traveled and green house gas emissions by providing faster transit options Moderate new investment for capital and operational costs Minor new investment for operational costs required by providing safer bike and walk options Minor amounts of right-of-way may need to be acquired Could accommodate future technologies Could accommodate future technologies Recreational asset · Improves access for people who do not drive Potential to increase land use and business development near Improves access for people who do not drive rail right-of-way Project Challenges **Project Challenges Project Challenges Project Challenges** Some farmers have expressed concerns about impacts of trail Horn noise from train has raised concerns from residents Has not gone through public process and would require a new Horn noise from train has raised concerns from residents Environmentally sensitive areas may be impacted planning effort to solicit public input on crop production Environmentally sensitive areas may be impacted Soil sampling, testing, and remediation of contaminated soils may Environmentally sensitive areas may be impacted Soil Sampling, testing, and remediation of contaminated soils Soil sampling, testing, and remediation of contaminated soils may Major new investment for capital and operational costs required be needed may be needed Potential conflicts between different users New funding source required for operations Traffic impacts at intersections Trail only or trail with BRT will not meet Prop 116 funding Traffic impacts at intersections Potential conflicts with bikes and pedestrians on trail requirements and may require \$11 million - \$25 million or more Potential conflicts with bikes and pedestrians on trail Not consistent with Proposition 116 funding requirements for purchase of rail right-of-way and therefore may require \$11 funds to be returned Potential to lose construction funds from grants with trail only or million - \$25 million or more in funds to be returned trail with BRT Minor amounts of right-of-way may need to be acquired Construction challenges may require additional funds Potential agricultural impacts \$ \$ \$ \$ 4 1 B \$ (\$ (\$

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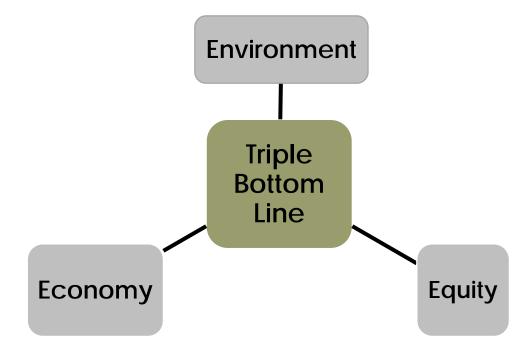


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## **Unified Corridor Study Scenarios**

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	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F	No Build	If you would like to recommend your own scenario, please use the column below
Highway 1 Projects								
Bus on Shoulders		#						
High Occupancy Vehicle Lanes (HOV) & Increased Transit Frequency	<b> </b>				<b> </b>			
Auxiliary Lanes to Extend Merging Distance								
Metering of On-Ramps								
Additional Lanes on Bridge Over San Lorenzo River								
Mission St Intersection Improvements								
Rail Transit on Hwy 1 - Santa Cruz to Watsonville				À				
Self-Driving Cars								
Soquel Avenue/Drive and Freedo	m Blvd							
Bus Rapid Transit Lite (faster boarding, transit signal priority & queue jumps)	<b>=</b>	#	<b>=</b>					
Dedicated lane for Bus Rapid Transit & bikes				<b>⊕ ♦</b>		<b>₽ ⁄</b> ₽		
Increased Frequency of Transit with Express Services	<b>=</b>	#	<b>=</b>					
Buffered/Protected Bike Lanes		Ø₹0			Ø₹0			
Intersection Improvements for Auto								
Intersection Improvements for Bikes/Pedestrians		<b>☆</b> ◆			<b>☆</b> Ø®	<b>☆ ☆</b>		
Rail Corridor								
Bike and Pedestrian Trail	<b>* €</b>	<b>À</b> 6√40	<b>★ %</b>	次加	<b>₹</b> Ø₹0	<i>\$</i> Ø₹0		
Local Rail Transit with Interregional Connections		梟			梟	À		
Bus Rapid Transit			=					
Freight Service					梟			
Overall Project Area/Connections	betwee	n Routes						
Improved Bike/Pedestrian Facilities to Close Gaps in Network								
Additional Transit Connections		_						
Bike Share, Bike Amenities, Transit Amenities, and Park & Ride Lots	These projects will be evaluated in all scenarios.							
Multi-modal Transportation Hubs								
<b>Transportation Demand and Syste</b>	m Mana	gement						
Employers & Residences - Incentive Programs			, ,					
Education & Enforcement - Electric Vehicle, Motorist Safety, & Bike Safety		ihese p	orojects will be ev	raiuated in all sc	enarios.			

Please consider the Three E's of the Triple Bottom Line definition of sustainability when evaluating the scenarios – Environment, Equity, & Economy:







## **Unified Corridor Study Scenarios**

## Scenario A



Scenario A	Highway 1	Soquel/ Freedom	Rail ROW
Projects	HOV Lanes, Auxiliary Lanes, Ramp Meters, San Lorenzo Bridge Widening, Mission St. Intersection Improvements	BRT Lite, Increased Transit Frequency, Auto Intersection Improvements	Bike & Pedestrian Trail
Increasing Capacity	Auto, Bus Transit (using HOV)	Bus Transit	Biking, Walking
Operational Improvements	Auto, Bus Transit	Auto, Bus Transit	
Cost	Major	Minor	Moderate
Potential Significant Benefits	Auto & Transit Travel Time/Reliability and Auto Safety	Transit Travel Time/Reliability, Equity, Reduction in VMT/GHG	Bike/Ped Safety, Health. Reduction in VMT/GHG
Potential Significant Challenges	ROW, Environmental		Regulatory

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):



## Scenario B



Scenario B	Highway 1	Soquel/ Freedom	Rail ROW
Projects	Bus On Shoulder, Ramp Metering, Mission St. Intersection Improvements	BRT Lite, Increased Transit Frequency, Buffered/ Protected Bike Lanes, Bike/Pedestrian Intersection Improvements	Bike & Pedestrian Trail, Rail Transit
Increasing Capacity		Bus Transit, Biking	Biking, Walking, Rail Transit
Operational Improvements	Auto, Bus Transit	Biking, Walking, Bus Transit	
Cost	Minor	Minor	Major
Potential Significant Benefits	Auto & Transit Travel Time/Reliability	Bike & Pedestrian Safety, Health, Transit Travel Time/Reliability, Equity, Reduction in VMT/GHG	Equity, Bike/Pedestrian Safety, Health, Transit Travel Time/Reliability Reduction in VMT/GHG, Transit Oriented Development
Potential Significant Challenges	Regulatory, Traffic Impact on local streets	Traffic & Parking Impacts	Environmental

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):

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	YES		NO
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## Scenario C



Scenario C	Highway 1	Soquel/ Freedom	Rail ROW
Projects	Auxiliary Lanes	BRT Lite, Increased Transit Frequency, Auto Intersection Improvements	Bike & Pedestrian Trail, Bus Rapid Transit
Increasing Capacity		Bus Transit	Biking, Walking, Bus Transit
Operational Improvements	Auto	Auto, Bus Transit	
Cost	Moderate	Minor	Major
Potential Significant Benefits	Safety, Improves Traffic Flow	Transit Travel Time/Reliability, Equity, Reduction in VMT/GHG	Equity, Bike/Pedestrian Safety, Transit Travel Time/Reliability Reduction in VMT/GHG
Potential Significant Challenges	Environmental		Environmental, Regulatory

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):

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YES	<b>≯</b> NO							



## **Unified Corridor Study Scenarios**

## Scenario D



Scenario D	Highway 1	Soquel/ Freedom	Rail ROW
Projects	Rail Transit, Automated Vehicles	Dedicated Lane for BRT and Bike	Bike & Pedestrian Trail
Increasing Capacity	Rail Transit	Bus Transit, Biking	Biking, Walking
Operational Improvements	Auto*		
Cost	Major	Minor	Moderate
Potential Significant Benefits	Transit Travel Time/ Reliability, Auto Safety*, Reduction in VMT/GHG	Transit Travel Time/Reliability, Reduction in VMT/GHG	Bike/Pedestrian Safety, Health. Reduction in VMT/GHG
Potential Significant <sup>®</sup> hallenges	ROW, Environmental, Regulatory	Traffic Impacts	Regulatory

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):

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YES	<b>▶</b> NO						

### Scenario E



Scenario E	Highway 1	Soquel/ Freedom	Rail ROW
Projects	HOV Lanes, Auxiliary Lanes, Ramp Metering	Buffered/Protected Bike Lanes, Bike/Pedestrian Intersection Improvements	Bike & Pedestrian Trail, Rail Transit, Freight Service
Increasing Capacity	Auto, Bus Transit (using HOV lanes)	Biking	Biking, Walking, Rail Transit
Operational Improvements		Biking, Walking	Rail Freight
Cost	Major	Minor	Major
Potential Significant Benefits	Auto & Transit Travel Time/Reliability, Auto Safety	Bike/Pedestrian Safety, Health, reduction in VMT/GHG	Equity, Bike/Pedestrian Safety, Health, Transit Travel Time/Reliability Reduction in VMT/GHG, Transit Oriented Development, Goods Movement
Potential Significant Challenges	ROW, Environmental	Traffic & Parking Impacts	Environmental

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):

tall up (tes) or whale tall down (No):		
YES	<b>≯</b> NO	

### Scenario F



Scenario F	Highway 1	Soquel/ Freedom	Rail ROW
Projects	Bus on Shoulders, Ramp Metering	Dedicated lane for BRT & Bike, Bike/Pedestrian Intersection Improvements	Bike & Pedestrian Trail, Rail Transit
Increasing Capacity		Bus Transit, Biking	Biking, Walking, Rail Transit
Operational Improvements	Auto, Bus Transit	Biking, Walking	
Cost	Minor	Minor	Major
Potential Significant Benefits	Auto & Transit Travel Time/Reliability	Transit Travel Time/Reliability, Health, Reduction in	Equity, Bike/Pedestrian Safety, Health, Transit Travel Time/Reliability Reduction in
Deriellis		VMT/GHG	VMT/GHG, Transit Oriented Development

Please provide your input on this scenario by giving it a whale tail up (Yes) or whale tail down (No):







