

Unified Corridor Investment Study

Frequently Asked Questions

DRAFT Step 2 Scenario Analysis

Posted November 27, 2018

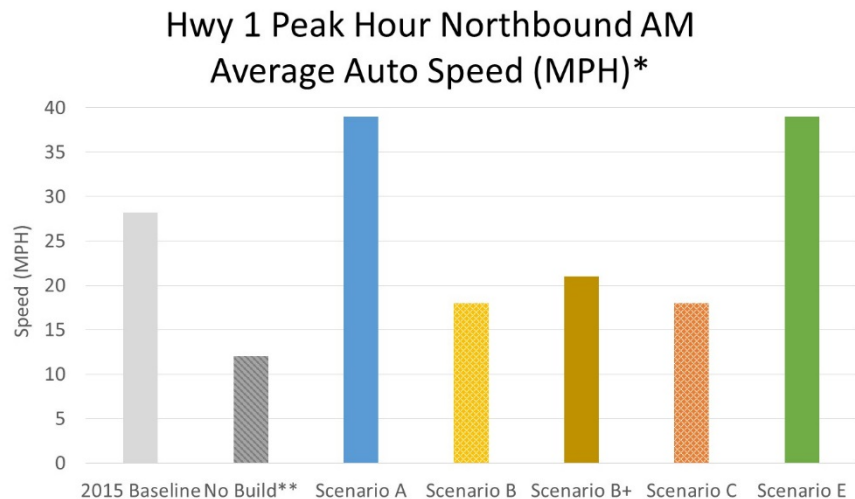
1. How was the rail service operator selected?

In December 2017, the RTC released a request for proposals (RFP) for a rail service operator and received five proposals from Trail Now, California Coast Railroad, Railmark, Santa Cruz Big Trees and Pacific Railway and Progressive Rail. After review of the proposals, in January 2018, the RTC selected Progressive Rail to begin negotiations. At the June 2018 RTC meeting, staff reported to the RTC that the Progressive Rail proposal demonstrated the greatest strength to take over the existing operation from Iowa Pacific Holdings, develop the freight business and implement passenger excursion operations. At the June 2018 RTC meeting, the RTC approved the Administration, Coordination and License Agreement with Progressive Rail for rail operations on the Santa Cruz Branch Rail Line and authorized the Executive Director to execute the agreement. Contracting with a new rail operator ensured that the RTC, as the owner of the rail line, met its obligations to the California Transportation Commission, Caltrans, the Surface Transportation Board, the Federal Railroad Administration, the California Public Utilities Commission and the local businesses and members of the community who depend on rail service.

Posted November 14, 2018

1. Please provide information about Highway 1 Draft Environmental Impact Report projected speeds as it relates to the UCS scenario evaluation.

The Unified Corridor Study forecasted 2035 travel speeds on a countywide basis for each of the scenarios. The results can be found in the draft report and dashboard. More detailed analysis of travel speeds for Highway 1 with implementation of High Occupancy Vehicle lanes or a Transportation System Management Alternative are available in the Highway 1 Corridor Investment Program Draft Environmental Impact Report (DEIR) in Section



*Data from Draft Highway 1 Environmental Impact Report (DEIR). Hatched data are estimated from Hwy 1 DEIR.

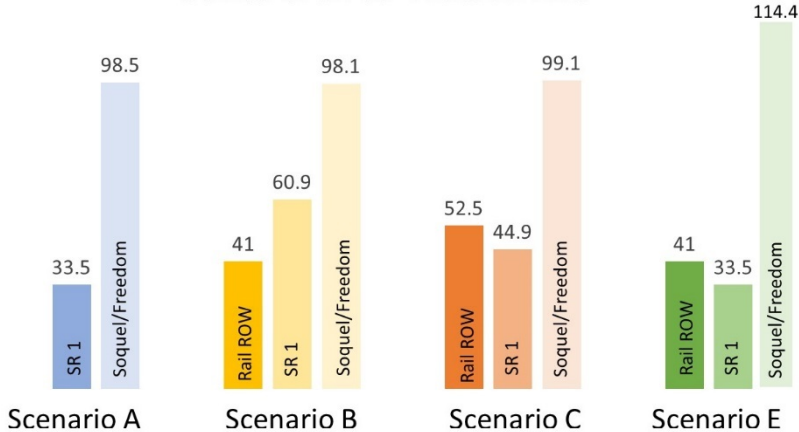
** No Build speed is from Hwy 1 DEIR and does not include the three sets of auxiliary lanes funded by Measure D.

2.1.5 (<https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents/>). Scenarios A and E of the UCS include HOV lanes on Highway 1 and thus the speeds forecasted by the Hwy 1 DEIR provide the best available information for speeds on Highway 1 for Scenarios A and E. The Transportation System Management alternative evaluated in the Highway 1 DEIR includes the 6 sets of auxiliary lanes from Soquel to San Andreas and ramp metering. Scenarios B and C evaluated in the UCS evaluate operational improvements on Highway 1 but are both more limited in the improvements in comparison to the Transportation System Management Alternative in the Hwy 1 DEIR. Scenario B includes the 3 sets of auxiliary lanes funded by Measure D and ramp metering. Scenario C includes the 6 sets of auxiliary lanes from Soquel to San Andreas but no ramp metering. A hypothetical hybrid scenario, referred to as Scenario B+ , is included in the Hwy 1 Peak Hour Northbound AM Average Auto Speed chart below to show projected speeds on Highway 1 for the Highway 1 Transportation System Management project Alternative. The speeds on Highway 1 forecasted for the Transportation System Management alternative can be considered an estimate of the upper limit for Highway 1 speeds in Scenarios B and C. Speeds on Highway 1 for Scenario B and Scenario C are estimated based on the information from the Highway 1 DEIR and the highway improvements included in Scenario B and Scenario C. Information about the UCS travel time performance measures and results is available on page 87-90 of the UCS Step 2 Analysis Results- November 2018.

2. Please provide information about the UCS transit travel times results.

Transit travel times on each of the three routes (rail right-of-way, Highway 1, Soquel/Freedom) are shown on the below chart. Scenario A includes transit improvements on Highway 1 as part of the High Occupancy Vehicle lanes project, and Bus Rapid Transit lite on Soquel/Freedom. Scenario B includes local rail service on the rail right-of-way, transit improvements on Highway 1 as part of the Bus on Shoulder project, and Bus Rapid Transit lite on Soquel/Freedom. Scenario C includes bus rapid transit on the rail right-of-way, transit improvements on Highway 1 as part of the Bus on Shoulder project, and Bus Rapid Transit lite on Soquel/Freedom. Scenario E includes local rail service on the rail right-of-way, transit improvements as part of the High Occupancy Vehicle lanes project and local bus service on Soquel/Freedom. Information about the UCS transit travel time performance measure results is available on page 90-92 of the UCS Step 2 Analysis Results- November 2018.

**Peak Period Transit Travel Time (4:00 PM to 7:00 PM)
Santa Cruz to Watsonville**



3. What funding sources are assumed available for projects evaluated in the Unified Corridor Investment Study?

The potential revenues for Santa Cruz County transportation projects through 2035 are estimated to evaluate the UCS performance measure - level of public investment. Appendix C lists the revenue sources and amounts assumed in the UCS and identifies which types of projects considered eligible for these funding programs. The assumptions for the distribution of funding to projects for the purpose of the UCS level of public investment performance measure does not program or allocate funds and is evaluated for the sole purpose of identifying the amount of additional funds that would need to be raised to implement scenarios.

A few examples of funding assumptions by project are provided below:

- For the trail projects on the rail right-of-way, the UCS level of public investment performance measure assumes that funding is distributed to the trail projects by first allocating the entire amount of funds available for the trail project from Measure D. Additional funding sources include funding available only for active transportation projects that is distributed primarily to the trail projects. The most flexible source of funds from the Surface Transportation Block Grant (STBG) can be used for a number of different projects. Given the variations in the types and costs for the projects in each scenario, flexible funds such as STBG is distributed to the trail projects in different amounts because of the need to fund other projects such as highway improvements with more limited funding sources.
- For the construction of the local rail transit project on the rail right-of-way in Scenario B and E, the UCS level of public investment performance measure assumes that state and federal funding restricted to rail transit or transit on a fixed guideway is available. Additional funding sources include State Transportation Improvement Program Interregional Transportation Improvement Program-Public Transportation Account, State Transportation Assistance, and funding from SB1 Competitive Grant Programs.
- For operations and maintenance of the trail projects, the UCS level of public investment performance measure assumes that the Measure D trail funds are available for trail operations and maintenance. Operations and maintenance funding for new bus connections to rail is assumed to come from a combination of new bus transit fares associated with new bus transit projects in the UCS, State Transit Assistance, and Local Carbon Transit Operations Program funding.

Posted November 2, 2018

1. What is the forecasted transit ridership for the 2035 scenarios?

The forecasted transit ridership for the 2035 scenarios is shown in the below table. Local bus transit was calibrated in the travel demand model based on the existing ridership and forecasted for 2035 based on the projected population increase and the additional transit service offered for each scenario. The rail transit boardings were calibrated in the travel demand model based on the analysis performed for the 2015 Rail Transit Feasibility Study, which considered origin and destination travel flow data, demographic and other built environment data from the EPA Smart Location Database (e.g. population density, employment density, land uses, walkability). The BRT boardings were projected based on research that shows that a BRT service, that if

offering the same level of service and amenities as rail, could provide a similar level of ridership as rail transit. The difference in the level of service provided by BRT and rail transit in the UCS resulted in adjustments downward from rail transit ridership projections to BRT ridership projections. The main factors that reduced ridership is that BRT between Watsonville and Santa Cruz is not a dedicated facility for the entire length in both directions and that the travel time for BRT is longer than for rail.

	Transit on Roadways (Daily Ridership)	Rail Transit on Rail Right-of-Way (Daily Ridership)	Bus Rapid Transit on Rail Right-of-Way (Daily Ridership)	Total Transit (Daily Ridership)
Baseline	20,160	-	-	20,160
2035 No Build	22,924	-	-	22,924
2035 Scenario A	32,319	-	-	32,319
2035 Scenario B	40,443	7396	-	47,839
2035 Scenario C	34,038	-	3949	37,987
2035 Scenario E	35,472	6571	-	42,043

The UCS scope of work is focused on providing the results of the 16 performance measures that are approved for evaluation. Countywide bus transit ridership data was used to develop the bus transit portion of the countywide mode share performance measure, separate from the bus rapid transit service or rail transit service on the rail right-of-way. There was not an analysis in the UCS of the ridership by route besides the forecasts for the rail and BRT on the rail right-of-way.

The California Household Travel Survey (CHTS) data collected in 2011-2012 for Santa Cruz County shows a higher level of transit trips above Santa Cruz County Metropolitan Transit District ridership numbers and thus the travel demand model results. The mode share data presented in the 2035 forecasts are based on the CHTS as the baseline using the travel demand model results to obtain the relative increase in transit ridership for the 2035 scenarios in comparison to the 2015 model results. The above information will be provided in the revised UCS report.

Posted November 1, 2018

1. How can the community provide input on the Unified Corridor Investment Study?

Input on the Unified Corridor Investment Study can be provided a number of ways. Comments can be sent via email to ucs@sccrtc.org or postal mail to the SCCRTC, 1523 Pacific Ave, Santa Cruz, CA 95060. Comments can also be presented orally directly to the commission at the RTC meetings – dates and times can be found on the meetings/agendas page of the SCCRTC website (<https://sccrtc.org/meetings/commission/agendas/>). The Unified Corridor Investment Study workshops that were held in mid-October in Watsonville and Live Oak were also a time for members of the public to provide input.

Deadlines for public comment to be submitted are:

Nov. 2, 2018: For consideration by staff in development of the preferred scenario and revisions to the draft report that will be provided to the RTC on Nov. 15, 2018.

Nov. 20, 2018, 5 p.m.: For consideration by staff in development of the final staff recommendation of preferred scenario and draft final report to the RTC on Dec. 6, 2018.

Dec. 28, 2018, 5 p.m.: For consideration by staff in development of the final staff recommendation of preferred scenario and draft final report to the RTC on Jan. 17, 2019.

Jan. 16, 2019 12 p.m.: For consideration by the commission in the action on the preferred scenario on Jan. 17, 2019.

2. Why can't a trail only option in the rail right-of-way pave right over the rail ballast?

A roadway or trail pavement structural section is made up of an asphalt or concrete surface with an aggregate base layer underneath. Aggregate base layers need to meet gradation and compaction requirements in the specifications (typically the Caltrans Standard Specifications are used). Rail ballast is the support base for the railroad ties and rails and is meant to allow water to properly drain away from the rails and ties. Rail ballast, as it lies in its current application, would not be a suitable aggregate base layer for pavement because it does not meet the gradation and compaction requirements.

Posted October 29, 2018

1. What are the travel speeds estimated for Highway 1 if HOV lanes are implemented?

The Unified Corridor Study forecasted 2035 travel speeds on a countywide basis for each of the scenarios. The results can be found in the draft report and dashboard. More detailed analysis of travel speeds for Highway 1 with implementation of High Occupancy Vehicle lanes or a Transportation System Management Alternative are available in the Highway 1 Corridor Investment Program Draft Environmental Impact Report (DEIR) in Section 2.1.5 (<https://sccrtc.org/projects/streets-highways/hwy1corridor/environmental-documents/>). Scenarios A and E of the UCS include HOV lanes on Highway 1 and thus the speeds forecasted by the Hwy 1 DEIR provide the best available information for speeds on Highway 1 for Scenarios A and E. The Transportation System Management alternative evaluated in the Highway 1 DEIR includes the 6 sets of auxiliary lanes from Soquel to San Andreas and ramp metering. Scenarios B and C evaluated in the UCS evaluate operational improvements on Highway 1 but are both more limited in the improvements in comparison to the Transportation System Management Alternative in the Hwy 1 DEIR. Scenario B includes the 3 sets of auxiliary lanes funded by Measure D and ramp metering. Scenario C includes the 6 sets of auxiliary lanes from Soquel to San Andreas but no ramp metering. The speeds on Highway 1 forecasted for the Transportation System Management alternative can be considered an estimate of the upper limit for Highway 1 speeds in Scenarios B and C.

Highway 1 Corridor Investment Program Draft Environmental Impact Report 2035 Forecast – San Andreas Rd to Branciforte Overcrossing	2035 High Occupancy Vehicle Lanes	2035 Transportation System Management Alternative
NB AM Peak Hour Average Speed (mph)	39	21
NB PM Peak Hour Average Speed (mph)	42	21
SB AM Peak Hour Average Speed (mph)	52	54
SB PM Peak Hour Average Speed (mph)	33	10

2. How were the projects chosen that were evaluated in the UCS?

The projects evaluated in the UCS were developed based on public input from surveys, workshops, email and website solicitations, input from stakeholders and RTC Advisory Committees and comments received on related RTC planning efforts. The public identified transportation improvements on Highway 1, Soquel Ave/Soquel Dr/Freedom Blvd and the Santa Cruz Branch Rail Line that would advance their transportation goals. Most of the projects that are being evaluated in the UCS are included in the 2040 Santa Cruz County Regional Transportation Plan (2040 RTP). The 2040 RTP is a long-term transportation planning effort that identifies the goals of the transportation system, transportation needs, and funding estimates with public, stakeholder and partner agency input.

3. How were the projects grouped into the different scenarios?

- a. Based on public input, RTC staff together with Kimley-Horn drafted six scenarios along with a No Build scenario to be evaluated in the Unified Corridor Investment Study.
- b. Each scenario or group of projects was designed to include all modes (auto, transit, bike, and walk) consistent with RTC sustainability policies to advance triple bottom line goals of environment, equity and economy.
- c. The scenarios present a range of potential future transportation networks that are well integrated and connect the three parallel routes.
- d. Projects were grouped together to identify where the interaction between projects could produce a combined effect greater than what could be accomplished individually, adding value to each investment.
- e. The development of the scenarios (grouping of projects) was formed with input from the public, community organizations, stakeholders, RTC Advisory Committees, and the RTC over the course of both Phase 1 and Phase 2 of the UCS as well as numerous years of input on a variety of related projects. Scenarios to be evaluated in the Step 1 and Step 2 were approved by the RTC at a public meeting prior to analysis.

4. Why isn't freight included in all scenarios with passenger rail?

Members of the public and advisory committee members expressed interest in evaluating a scenario with passenger rail service and without freight.

5. Will the Commission pick one of the scenarios evaluated in the UCS or can they combine the projects in a different way?

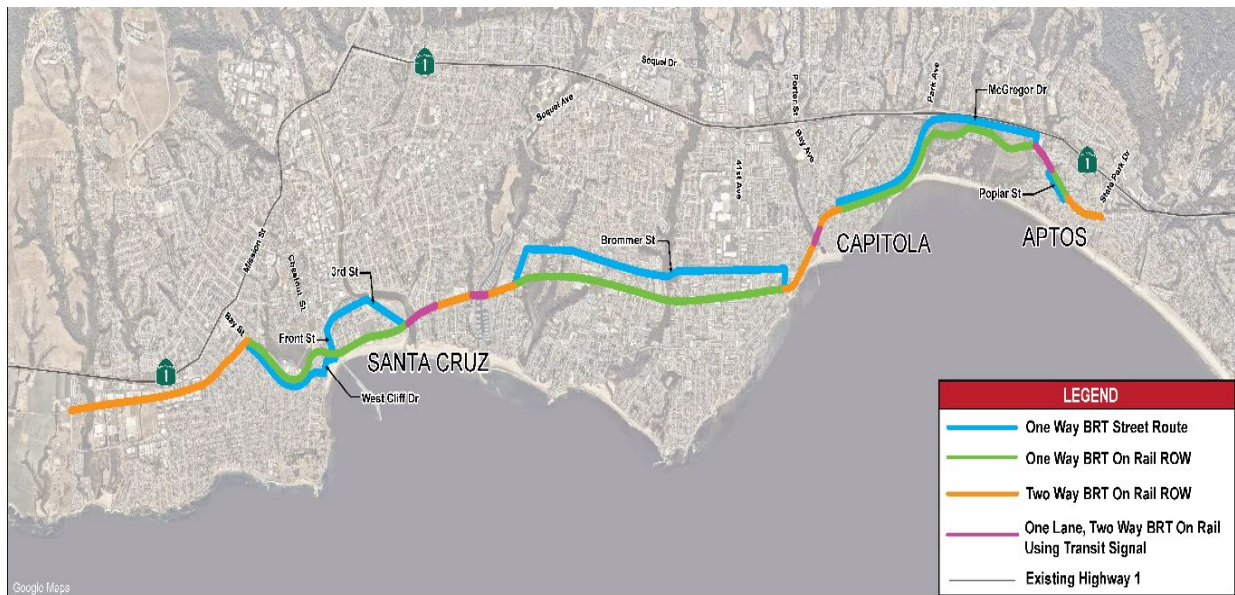
The UCS project team will make a recommendation on a preferred scenario to the commission on November 15, 2018. The RTC may decide on a preferred scenario that combines projects in a way that is different from the four scenarios that have been evaluated in the Step 2 scenario analysis.

6. Describe the bus rapid transit option on the rail right-of-way and how does this work together with bus on shoulders on the highway?

Project descriptions for all the projects are provided in Appendix A of the report. The project description for the bus rapid transit option on the rail right-of-way is provided below as well as a map of the bus rapid transit

system as assumed for the Unified Corridor Investment Study. The bus rapid transit (BRT) project on the rail right-of-way is combined in Scenario C with the three sets of auxiliary lane projects from San Andreas Rd to State Park Dr beyond the Measure D funded auxiliary lanes from Soquel Dr to State Park. The bus rapid transit out of Watsonville will travel on Highway 1 to intersection with San Andreas Rd and then utilize the shoulders/auxiliary lanes to State Park Dr. The BRT would then travel on the rail right-of-way and the parallel street network as shown on the map. Travel in the rail right of way would be in the congested direction to provide the greatest travel time savings and return trip would utilize the parallel streets.

Project	Bus Rapid Transit Watsonville to Santa Cruz on Rail Right of Way with portions of route on parallel roadways
Limits	Watsonville Transit Center to Shaffer Rd on West side of Santa Cruz
Description	Two-directional bus rapid transit between Watsonville Transit Center and Shaffer Rd on Westside of Santa Cruz utilizing a combination of the rail right-of-way, Highway 1, and local streets. BRT on rail right of way from State Park Dr in Aptos to Shaffer Rd on west side of Santa Cruz with portions of route on parallel street network.
Scope	BRT buses would travel on Highway 1 between Watsonville Transit Center and State Park Drive. Buses utilize the rail ROW between State Park Dr and Shaffer Rd for two directional travel where feasible or one-directional travel on rail ROW with reverse direction on parallel local streets. Bus Rapid Transit is on 8.5 miles of the rail ROW with a combination of two-way (2.4 miles) and one-way (6.1 miles) with reverse direction on parallel local streets. Service on bridges is one way and transit signals are utilized on the rail bridges to hold one direction of travel while transit in the other direction travels through. Buses are prioritized at at-grade roadway crossings. Bus Rapid Transit service will be branded and transit service and vehicle amenities are designed to be equivalent to those provided by rail transit to the extent possible. Provide one hundred and eighty-two hours of new bus transit service between Santa Cruz and Watsonville at fifteen minute frequencies during peak periods to stations on the rail ROW and on parallel streets. Includes signal, on-street improvements and communication/lighting/electrical.



7. How does the Unified Corridor Study relate to the Highway 1 Corridor Investment DRAFT Environmental Impact Report?

The purpose of the Santa Cruz Route 1 Tier 1 and Tier 2 Environmental Impact Report (EIR) is to disclose the environmental effects of implementing near term corridor improvements on Highway 1 that are a high priority for Caltrans and the SCCRTC. The EIR is being prepared in support of a Project Approval document for the Soquel to 41st Ave Auxiliary Lanes Project (aka Tier 2 project). This Tier 2 project will proceed into the design phase and could start construction in 2020. This EIR provides analysis at a level of detail necessary for project approval of the Tier 2 project, and discloses the potential environmental effects of future projects along the SR 1 corridor to reduce congestion and promote alternative modes of transportation (Tier I HOV/TSM Alternatives). The Draft EIR (DEIR) was released in November 2015. Any action to pursue the Tier 1 improvements in the future will require more detailed analysis as part of a subsequent decision-making process.

The purpose of the UCS is to analyze the parallel transportation corridors together and to provide information that would establish future priorities for corridor investments beyond the Tier 2 Auxiliary lanes project. The UCS evaluation considers a broad range of scenarios along the parallel network comprised of Highway 1, local arterials and the railroad. Any recommendations on a future investment strategy would then be subject to further development, evaluation and a subsequent approval process that may also require environmental review.

While a variety of improvements to Highway 1 are considered in both documents (DEIR and UCS), these documents each support different decisions for implementation across variable timeframes in an overall transportation investment strategy. To satisfy their unique objectives, the Traffic Studies performed for each document also differ. The performance measures in the HOV/TSM (EIR) analysis are based on a refined and detailed analysis using a number of traffic modeling tools for Highway 1, whereas the UCS used a countywide travel demand model to look at much of the roadway network throughout the county including Highway 1.

The Tier 2 improvements are presented in the DEIR for near-term implementation. The information presented for Tier 1 improvements and the UCS both provide information to support future decisions about the type of investments to follow.

8. If proposition 6 passes to eliminate Senate Bill 1, how does this affect the funding assumptions in the level of public investment performance measure?

Proposition 6 is a measure on the November 2018 ballot to repeal the gas and diesel tax increases and vehicle fees that were enacted in 2017 through the Road Repair and Accountability Act of 2017, also known as Senate Bill 1 (SB1). SB1 invests state funds to fix roads and bridges, build bike lanes and sidewalks and improve transit and safety. SB1 is the first increase in state funds dedicated to transportation since the mid-1990's. Funding levels for maintenance and rehabilitation of the state's highways and local roads have been woefully insufficient for many years. SB1 has allowed the state and local governments to start making a dent into the huge backlog of highway and roadway maintenance and rehabilitation needs. Unfortunately, the federal government has not increased the federal gas tax since 1993 so funding remains insufficient to cover all needs. If SB1 is repealed through proposition 6 in November 2018, the funding potential for projects evaluated in the Unified Corridor Study will decrease by approximately 40% over the 17 years evaluated to 2035.

9. What does railbanking mean and could it be a solution to railbank the rail line, remove the tracks and ties, build a trail and sometime in the future, convert back to a rail line?

Railbanking is a method by which rail lines proposed for abandonment can be preserved for future rail use through interim conversion to trail use. Railroad rights-of-way often contain easements that revert back to adjacent landowners if rail service is abandoned. However, if a line is railbanked, the corridor is treated as if it had not been abandoned since rail service could be restored in the future. As a result, the integrity of the corridor is maintained, and any reversions that could break it up into small pieces are prevented. There are a number of challenges with railbanking:

- Funds from the California Transportation Commission from Proposition 116 and the State Transportation Improvement Program (STIP) Public Transportation Account (PTA) are tied to rail service. According to the funding agreement with the state, the funding is subject to repayment requirements if there is no rail service on the rail line and railbanking will likely not prevent the state from requesting repayment of the funds.
- The legislation was first enacted in 1983 to allow for railbanking. The RTC is unaware of any paved trails that have been converted back to rail once it has been railbanked.
- Railbanking does not stop adjacent landowners who have provided easements for the rail from suing the United States claiming that the trails represent a new use of their land which entitles them to compensation. The Federal Government has been sued numerous times and courts have ruled in favor of property claims of adjacent landowners.
- The Surface Transportation Board has the authority to require the rail line be converted to rail use at any time even if the line is railbanked.
- Costs associated with converting the trail back to rail could fall on the agency responsible for the trail.
- It may be more difficult to be awarded funding for trail construction from funding agencies if there is a potential to convert back to rail at any time. Many funding agencies require a commitment to maintain the trail for decades if not in perpetuity.

Santa Cruz County residents would be better served if the decision for how best to use the rail corridor was made in order to best move forward with project implementation.

10. Does the UCS evaluate passenger rail transit using electric, diesel or light rail vehicles?

Project descriptions and cost estimates for all projects evaluated in the UCS are detailed in Appendix A. The project description for passenger rail service is provided below. The costs for diesel multiple units and cost to electrify rail service are both evaluated in the cost estimates. The capital costs for passenger rail service with diesel multiple units and excursion rail service is \$339.8 million. Electrifying rail for passenger rail service between Santa Cruz and Pajaro is estimated to cost a **total** of \$549.5 million for passenger rail service and excursion rail service with electric multiple units. The Public Investment performance measure tables and charts uses the cost for diesel multiple units but can readily be determined assuming the cost for electric vehicles. For the purpose of the UCS, the cost estimate for the Diesel Multiple Unit is a light, self-propelled tram-like rail unit. If passenger rail service were to be implemented in the future, additional analysis would be performed to assess the type of vehicle that would be most beneficial based on the latest technological improvements.

Passenger rail transit service provided between the Westside of Santa Cruz and Pajaro Station just south of the Santa Cruz County border in Monterey County. The costs for a diesel multiple unit (DMU) vehicle train service and the cost to electrify rail service are both evaluated.

Posted October 26, 2018

1. Why does the Unified Corridor Investment Study provide the performance measure results for groups of projects in scenarios and not each project individually?

A scenario analysis is a decision-making tool used in many different fields, such as finance and economics as well as in transportation, to evaluate the effects of different proposals or ideas. The Unified Corridor Study utilizes a scenario analysis to assess how different groups of transportation projects will advance goals for a safe, efficient, reliable, and equitable transportation system that supports economic vitality and minimizes environmental concerns. The UCS adopted performance measures provide the basis for evaluating the results of the transportation scenario analysis, as shown in the UCS dashboard.

Santa Cruz County’s transportation system is made up of a network of routes and services. Changes to one aspect of the transportation system often affect other routes in the network. A transportation demand model is typically used to capture these system-wide impacts of changes to the transportation system. Many of the performance measures that are forecasted for 2035 in the Unified Corridor Study were assessed using a travel demand model in which the projects in that scenario were considered in the model. Information on these performance measures for individual projects would require a significant level of effort and the results would not be additive. Performance measures that do not rely directly on the travel demand model, such as the number of collisions, the cost of collisions, the level of public investment, and environmentally-sensitive areas are provided in the draft report at the project level.

2. What is the impact of the Unified Corridor Study on Measure D and what projects are funded by Measure D?

Measure D was passed by over 2/3 of Santa Cruz County voters in November 2016. The revenues from this ½-cent sales tax are dedicated to the projects identified in the voter approved expenditure plan including funding for Highway 1 improvements, neighborhood projects implemented by the local jurisdictions, the trail along the rail right-of-way, transit services provided by Santa Cruz Metro and Lift Line for seniors and people living with disabilities, and rail corridor infrastructure preservation and analysis of options.

The Highway 1 improvements funded by Measure D include auxiliary lanes between three interchanges: Soquel Dr to 41st Ave; Bay Ave/Porter St-Park Ave; and Park Ave to State Park Dr. The RTC is currently moving forward with Final Design for the Soquel Dr to 41st Avenue and construction is estimated to begin in 2020. These projects are not dependent on the decision made by the RTC regarding the UCS and are assumed to be implemented in every UCS scenario evaluated.

The trail project along the rail right-of-way is also funded by Measure D and is assumed to be implemented in every UCS scenario evaluated although with different assumptions. Three options for the trail along the rail right-of-way are being evaluated; a trail only, trail next to rail, or trail next to bus rapid transit. The RTC decision on the UCS will direct staff to use Measure D funds to implement one of the three trail options.

3. Will the train service evaluated in the Unified Corridor Study take people to where they want to go?

The USC describes passenger rail transit service between the Westside of Santa Cruz and Pajaro Station just south of the Santa Cruz County border in Monterey County with stops on the Westside Santa Cruz, Bay Street/California, Downtown Santa Cruz, Seabright, 17th, 41st, Monterey Avenue, Aptos Village and Downtown Watsonville and at Pajaro in Monterey County. The station locations were identified as part of the Santa Cruz Branch Rail Feasibility Study (2015) and based on travel patterns, ridership potential, community input, and connections to local, regional and interregional destinations. The UCS assumes that passenger rail would provide thirty-minute headways during the weekday from 6am to 9pm to the ten Santa Cruz stations and Pajaro Station. Bus connections to and from passenger rail stations are included in the UCS to expand transit access to passenger rail stations, connect to transit centers, and provide a network of transit services. The UCS assumes that fares would be determined based on a zone system, similar to what is utilized by the Sonoma Marin Area Regional Transit System, with a base fare of \$3.50 for zone one, \$5.50 for two zones and \$7.50 for three zones and an average fare of \$5.50. The station locations and fare assumptions are for evaluation in the UCS analysis and would require much more detailed evaluation if passenger rail service is pursued.

Mode Share

4. How were the trail usage numbers forecasted for 2035 for trail only, trail next to rail and trail next to bus rapid transit?

A description of the method for forecasting the bicycling and pedestrian use of the trail options for 2035 is provided in Appendix C of the Draft Step 2 Scenario Analysis Report (<https://sccrtc.org/projects/multi-modal/unified-corridor-study/>). Trail usage numbers from Arana Gulch Trail, Wilder Ranch Trail and Monterey Recreational Trail were considered in development of the trail usage projections for 2035.

5. Why doesn't the trail next to the rail option go over Soquel Creek parallel to the Capitola trestle?

The vision for a trail next to the rail is for the trail to be a continuous bicycling and pedestrian trail along the rail right-of-way that will span the 30+ mile distance from Davenport on the north coast to Watsonville in south county and across the county line to Pajaro Station. This includes the trail within the rail right-of-way in Capitola where the Capitola Trestle is located. For the short term and for the UCS analysis, improvements to bike and walk facilities on the local street network are assumed to provide the link through Capitola Village and across Soquel Creek over Stockton Ave bridge. This design solution for the short term provides access to Capitola Village and is consistent with the previously approved Monterey Bay Sanctuary Scenic Trail Network Master Plan. The RTC has approved funds to perform a feasibility analysis of replacing the Capitola trestle with one that can accommodate both rail and trail. The Commission has the option to prioritize investments in the Capitola Trestle that would provide pedestrian and bicycling access over Soquel Creek on the Capitola trestle. There is also work being done to update the engineering analysis on the Capitola trestle to determine any bridge rehabilitation work that is needed to support any near-term and future rail services.

6. Why is the cost for the trail next to rail higher than the estimate from the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan?

The Master Plan for the MBSST was completed in 2013 and thus the cost estimate was in 2013 dollars. The costs for the trail options in the Unified Corridor Study are in 2018 dollars. Escalation for construction costs from 2013 to 2018 is approximately 57% based on Caltrans Construction Price Index. Trail cost estimates developed for the Unified Corridor Investment Study also considered information from two of the funded trail segments that have more detailed design and cost information.

7. Why isn't the bike mode share much higher with implementation of a trail along the rail right of way?

The mode share data forecasted for 2035 in the Unified Corridor Study considers the impact of projects on bicycling trips made countywide. The bicycling projects that are considered in the UCS are the trail along the rail right-of-way, buffered/protected bike lanes and bike/walk intersection improvements on Soquel/Freedom. The bike mode share for areas within 1.5 miles of these facilities increases significantly but for a typical weekday, the bike mode share percentage is not forecasted to increase beyond a distance of 1.5 miles from the bike improvements. A network of safe bicycling and pedestrian facilities throughout the county will be needed to more significantly increase the bicycling mode share on a countywide basis above the existing amount.

Posted October 16, 2018

General Questions

1. Do the 2035 forecasts consider the timing for when the projects are implemented?

The performance measure and scenario analysis provide a method to forecast how various scenarios compare in advancing the goals/performance measures. The 2035 forecasts assume that all the projects in each scenario are constructed by 2035. The timing for completion of each individual project between 2018 and 2035 is not evaluated. Once a preferred scenario is selected, the timing for when projects are implemented will depend on a

variety of factors including environmental review, whether right-of-way will be needed, availability of funding and competitiveness of projects for grants, as well as project priorities. Generally, transportation projects can take three to fifteen years to implement based on the complexity and these other factors. The decision for which scenario is the preferred scenario is the first step in the decision-making process.

Mode Share

2. What are the baseline and no build mode share percentages?

Page 90 of the draft report provides the baseline, no build and 2035 forecasts for person trip mode share for a weekday all trips. The total number of trips per day in Santa Cruz County that are estimated for 2035 are 947,700. These are based on the number of trips per person from the 2011-2012 California household travel survey escalated based on population growth projections for 2035. The method used to forecast mode share for 2035 based on implementation of the projects in each of the scenarios is described on page 89 of the report.

Table 1: Countywide Mode Share by Person Trips

Mode	2015	2035				
		No Build	Scenario A	Scenario B	Scenario C	Scenario E
Drive Alone	44.8%	44.8%	42.8%	42.4%	43.1%	42.3%
Carpool	38.4%	38.4%	37.8%	36.5%	37.1%	37.3%
Transit	2.9%	2.9%	4.1%	6.0%	4.8%	5.3%
Bike	3.4%	3.4%	4.3%	4.4%	4.2%	4.4%
Walk	10.6%	10.6%	10.9%	10.7%	10.8%	10.7%

3. Explain the differences between the available mode share data for Santa Cruz County.

There are a couple of different sources of data for mode share for Santa Cruz County. The California Household Travel Survey taken in 2011-2012 provides the percentages of the person trips by mode for all trips taken in Santa Cruz County and was the basis for the mode share used in the UCS. The American Community Survey also provides mode share data for means of transportation to work by workers 16 years and older. A five-year summary of the American Community Survey data is available at the county and city level. See page 32 and 89 for additional information.

4. How was ridership for bus transit, rail transit and BRT on the rail right-of-way determined?

Local bus transit was calibrated in the travel demand model based on the existing ridership and forecasted for 2035 based on the projected population increase and the additional transit service offered for each scenario. Rail transit boardings were calibrated in the travel demand model based on the analysis performed for the 2015 Rail Transit Feasibility Study, which considered origin and destination travel flow data, demographic and other built environment data from the EPA Smart Location Database (e.g. population density, employment density, land uses, walkability) . The 2035 forecast for rail transit boardings for Scenario B is 7396/day and for Scenario E were 6571/day. The 2035 forecast includes rail transit ridership based on the projected population for 2035 and interregional connections via Pajaro Station.

The boardings for BRT for Scenario C were projected based on research that shows that a BRT service, that offers the same level of service and amenities to rail, could provide a similar level of ridership. Adjustments were made to downward from rail transit ridership projections to BRT ridership projections to reflect the differences in routing including the BRT one-way dedicated lane for the majority of the length on the rail ROW and the BRT service on Highway 1 between Watsonville and Santa Cruz. The ridership for BRT on the rail ROW is forecasted to be 3949/day, an approximately 45% reduction relative to rail transit.

Level of Public Investment Performance Measure

5. Are the collision cost estimates current year or 2035 costs?

The collision cost estimates are in 2016 dollars as this is the latest data available from Caltrans for their economic parameters. The relative comparison of the cost of collisions between the scenarios can be seen without adding an additional assumption for inflation.

6. Are the Level of Public Investment project cost estimates and funding potential costs in existing dollars or inflated to 2035 costs?

All project cost and funding estimates are in 2018 dollars. This allows for a direct comparison to today's costs. Actual project costs are impacted by a variety of factors including economic and market forces, material and labor availability, inflation, and project implementation timing.

7. Please explain the cost differences for paving and earthwork costs for the three trail projects evaluated for the rail right-of-way.

Appendix A provides cost estimates for the bike and pedestrian trail projects evaluated on the rail right-of-way. The cost estimates for the trail next to rail list the costs for the north coast segment (segment 5) and the Westside Santa Cruz segment (segment 7) as a separate line item since these costs have been determined to a greater level of detail. Therefore, the paving and earthwork costs line item for the trail next to rail includes the paving and earthwork costs for trail next to rail minus the costs for segment 5 and 7 that are listed separately. The same unit price costs for paving and earthwork were used for the three trail projects being evaluated.

8. What do the rail removal costs include?

The rail removal costs include removal of the rails and ties and accounts for a \$7 per linear foot salvage value of the rails.

9. What are the potential costs to reverse current commitment by the RTC to establish rail service?

The potential cost of \$41 million to reverse current RTC policy from rail service and trail to utilize the rail right of way for a trail only or BRT and trail are based on the following:

- \$11 million repayment to California Transportation Commission (CTC)
- \$10 million from State Transportation Improvement Program, Public Transportation Account for additional rail right-of-way purchase costs and bridge improvement costs that are required to be used for transit
- \$7.8 million escalation of property value of rail right-of-way to repay CTC

- \$10.6 million loss of funds from Central Federal Lands for Segment 5 of Monterey Bay Sanctuary Scenic Trail due to inability to meet deadline of construction start in 2020
- \$1.6 million staff costs for working with federal and state agencies to reverse use of rail right-of-way

10. What is the reason for the differences between the contingency costs for construction of the trail projects, the bus rapid transit on the rail right-of-way and the passenger rail?

The costs for the trail projects and the bus rapid transit on the rail right-of-way have contingency costs of 50% due to unknown costs associated with the handling and disposal of excavated soil from the rail right-of-way that may contain contaminants and would be required to be addressed.

11. What additional funds were identified as a result of updates to the RTP revenue projections for the purpose of the UCS public level of investment performance measure? Specifically, how was the funding available for the trial project evaluated?

The UCS Team reviewed the revenue assumptions for all revenue sources in the RTP. As a result of this review, the estimated available funding from Senate Bill 1 (SB 1) Competitive Programs were updated from the 2040 RTP revenue projects for the purpose of the UCS funding assessment. This includes the SB 1 Congested Corridors, Trade Corridors, Transit and Intercity Rail Capital, Active Transportation Program and Local Partnership Program grant funds. In addition, the funding amount estimated for the Affordable Housing and Sustainable Communities grant program was updated. New funding sources considered in the UCS and not included in the 2040 RTP revenue projections also include the state CAP-n-Trade Programs, the new federal BUILD program and programs dedicated to fixed guideway transit investments, including the Federal Transit Administration Fixed Guideway Capital Investment Grants, Community Rail Positive Train Control, and the Rail/Highway Grade Crossing Protection Program. In addition, transit fares generated from new transit projects in the UCS are assumed as new revenues for transit operations. Funding available for the trail project included a combination of dedicated funds from Measure D, as well as assumptions that some city/county local funds, and federal and state grants would be available.

12. What local funding sources are assumed to be available for the UCS projects?

The local funding sources assumed to be available for the UCS projects are as follows:

- Measure D funding identified for the Monterey Bay Sanctuary Scenic Trail Network (MBSST) and 5% of the Measure D funding distributed to local jurisdictions by formula under the Neighborhood Transportation; and,
- a portion of funding from revenues (5%-25% depending on the source) identified by local jurisdictions (cities and county) for transportation are assumed to be available for UCS projects. This includes revenues from local gas tax, city sales tax, general funds, and developer fees. The majority of the transportation funding from local jurisdictions is allocated to maintenance and rehabilitation of roadways and is not considered available to UCS projects; and,
- transit fares generated by new transit service in the UCS.

13. Why are some projects funded more in one scenario and less in another scenario as shown in Table 38? In particular, why does table 38 show different funding amounts for the bicycle and pedestrian trail in each scenario?

A variety of funding sources are estimated as potential revenues for UCS projects and for evaluating the UCS public investment performance measure. Some funds are flexible and could be applied to most UCS projects. However, certain projects may be more competitive for flexible funds based on the awarding agency or evaluation criteria for those grants. Many funding sources are restricted and are only available to specific project types, for example some funding sources are only available for rail transit or highway projects. Yet, in many cases there is more than one UCS project eligible for these funds. As noted on page 97 of the report- "In some cases, the potential funding identified by projects in each scenario as shown in Table 38 and 39 may be shifted to other projects within the scenario if another project meets the eligibility requirements for the same funding source. However, the total funding per scenario wouldn't change. New public investment identifies the amount of new revenues that would be needed to fully fund the project."

Funding for the bicycle and pedestrian trail ranges from \$179 million to \$209 million across the UCS scenarios. This is due to the differences in distribution of city/county, Surface Transportation Block Grant and SB 1 Local Partnership Program funds applied to the trail between scenarios due to competing eligible projects in that scenario. Surface Transportation Block Grant are distributed between the Highway 1 improvements and the trail in Scenarios A and E and some SB 1 Local Partnership Program funds are considered available for the trail in Scenario C. City/County funds are distributed amongst several projects on local roads and the trail project across scenarios. Other funding sources for which the trail project is eligible are assigned to the trail at equal levels in every scenario, with a significant portion of the funding coming from the Active Transportation Program. Projects in scenarios are fully funded where possible, which shifted funds to less costly projects in some cases. Funding allocations will depend on actual revenue amounts, project readiness, and competitiveness.

Costs Associated with Collisions

14. Why are the forecasted collision costs not differentiated by level of severity?

The Federal Highway Administration (FHWA) has developed a methodology for forecasting reductions in collisions associated with implementation of transportation projects using collision modification factors. The FHWA methodology defines whether to apply the factors to the collisions for all severity levels or to one or more severity level. The collision modification factors for the projects evaluated in the UCS were applied to the total number of fatal, injury and property damage only collisions for all modes to show the relative comparison between the scenarios. An average cost per collision was then used to determine the reduction in collision costs by scenario. The average cost per collision is based on the tangible economic costs and the intangible value of statistical life. The tangible economic costs are estimated by the National Highway Traffic Safety Administration (NHTSA) and include lost productivity, medical costs, legal and court costs, emergency service costs, insurance administration costs, congestion costs, property damage and workplace losses. NHTSA estimates that traffic collisions cost an average of \$38,100 in material losses. Intangible costs due to lost quality of life from injuries and death are estimated by Caltrans at an average of \$185,600 per collision. These two estimates provide an average cost of \$223,700 per incident.

Household Transportation Costs

15. What are the costs used for transit in the household transportation cost performance measure?

Household transportation costs forecasted for 2035 are in existing dollars. Local transit costs are equivalent to Metro costs at \$2.00/boarding or \$65 for a monthly pass. Rail transit and BRT on the rail right-of-way were both assumed to cost \$5.50/boarding or \$200 for a monthly pass.