HOW WERE THE FUNDING SOURCES DETERMINED?
In Appendix I – Funding Source Table, there is a column with the assumptions that were used to estimate the amount of funds that are likely to be available for the various transit alternatives evaluated in this study. For example, funding amounts were based on a population percentage as a share of the available grant funds, a percentage of the amount of formula funds to RTC, and the average amount of the funds that are awarded from grant programs. The funds secured from these funding sources will likely vary from the estimates provided and will be dependent on the work done by the RTC, local and regional partner agencies, and the community as a whole to develop a strong project that will be competitive for those funding sources.

WHEN WILL THERE BE A MORE DETAILED DISCUSSION ON THE TIMING OF FUNDING FOR A PROJECT THIS SIGNIFICANT?
Once the RTC decides on a locally preferred alternative, a Business Plan will be developed by the TCAA project team. The Business Plan will provide information on implementation steps including the funding strategy for capital as well as operations and maintenance, governance options, potential project phasing and the operating plan. In addition, future work on the locally preferred alternative will better define the project, will help determine the timing for the project and will likely develop the project to be very competitive for the available funding sources to help secure them when needed.

HOW RELIABLE IS THE BRT ALTERNATIVE AND HOW OFTEN WILL THE BRT TRIP TAKE 90 MINUTES?
The travel time reliability for BRT says that the 95th percentile travel time is 132 minutes or that 95% of the time, the travel time for BRT will be 132 minutes or less. The 90-minute travel time is the estimated average travel time for the BRT alternative. The average travel time is the same as the mean travel time but not exactly the same as the median travel time. Since the median travel time represents the travel time where 50%
of the trips will be equal to or less than this time, it is unknown how often the BRT trip will take 90 minutes or less without knowing the median.

**THE GHG EMISSION REDUCTIONS THAT ARE PROVIDED IN THE DRAFT REPORT APPEAR TO BE DAILY RATHER THAN ANNUAL METRIC TONS. CAN YOU CONFIRM THAT THESE NUMBERS ARE CORRECT?**

Thank you for pointing out this error. You are correct that the greenhouse gas and criteria pollutant volumes reduced are daily rather than annual. This will be corrected in the final draft report.

**WHY IS THE IMPACT OF THE TRANSIT ALTERNATIVES ON SANTA CRUZ BIG TREES AND PACIFIC RAILWAY CONSIDERED IN THE TCAA?**

The TCAA performance measures include assessing the impact of the transit alternatives on all freight rail operations and specifically Santa Cruz Big Trees and Pacific Railway (SCBG). The RTC made the decision at the March 2020 meeting to include the impact on SCBG in the evaluation of the transit alternatives for the SCBRL given the potential economic impact of this decision to a member of the local business community and its employees who depend on the use of the SCBRL.

**WHAT IS THE PROJECTED RIDERSHIP FROM EACH OF THE STATIONS?**

The TCAA does not provide the detailed weekday boardings from each station for each of the alternatives, only the total ridership for each alternative.

**WHY DOESN’T THE RTC TAKE A POLL ASKING THE RESIDENTS OF THE COUNTY IF THEY SUPPORT PASSENGER RAIL ON THE SANTA CRUZ BRANCH RAIL LINE ALONG WITH THE RAIL TRAIL?**

Based on the existing sources of potential funds from the state and/or federal government, it is likely that a local source of funds will be required to match those state and federal funds available for passenger rail on the Santa Cruz Branch Rail Line. These local sources of funds would likely include a type of tax measure such as a sales tax. To pass a tax measure, a vote from the residents will be required at that time to determine not only support but willingness to contribute towards a transit service on the SCBRL.

**WHAT TRANSIT SYSTEMS THAT OPERATE ELSEWHERE ARE COMPARABLE TO A PASSENGER RAIL SYSTEM FOR THE SANTA CRUZ BRANCH RAIL LINE?**

Appendix B provides a mix of rail and bus rapid transit systems that are in operation throughout the country. The systems show a range in length, headways, ridership, fares, farebox recovery rates, and population per square mile. While each system is unique and may not fully compare to another, the list of rail and bus rapid systems does offer some comparison and useful information.
CAN YOU QUANTIFY THE LIKELIHOOD OF TRANSIT ORIENTED DEVELOPMENT (TOD) FOR BRT VERSUS RAIL TRANSIT?
A dedicated transit guideway that provides a sense of permanence is more likely to attract developers to invest in these areas. Property owners and renters are willing to pay a premium to locate where they can take advantage of improved accessibility provided by transit improvements. The BRT alternative will likely provide less transit-oriented development relative to the other alternatives since BRT runs not only along the SCBRL ROW but also along the roadway network mixed with other traffic. The degree to which BRT can increase TOD relative to the rail options has not been quantified.

WHEN COMPARING BRT TO THE CRT/LRT OPTIONS, WOULD IT BE FAIR TO AVERAGE THE VALUES GIVEN FOR THE CRT/LRT OPTIONS WHEN COMPARING THEM TO THE BRT OPTION?
Each alternative was analyzed on its own and averaging across alternatives may not be appropriate.

WHY IS CAPITOLA’S MEASURE L NOT DISCUSSED IN THE DRAFT REPORT?
Capitola Measure L was passed in 2018 requiring the departments in the City of Capitola to “take all steps necessary to preserve and utilize the Santa Cruz Branch Rail Line (SCBRL) Corridor and Capitola Trestle for active transportation and recreation.” The RTC is working towards implementation of both transit and a multiuse trail along the Santa Cruz Branch Rail Line including the corridor within Capitola. The crossing of Soquel Creek may require replacement/reinforcement of the Capitola Trestle to include a multiuse trail as part of the bridge design. Text regarding Measure L will be added to page A-7 of the final draft report.

WHY ARE WE NOT CONSIDERING A TRAIL ONLY OPTION?
A trail only option was considered in the Unified Corridor Investment Study that was completed in January 2019. The RTC made the unanimous decision to preserve the corridor for transit and trail and to perform an alternatives analysis for assessing the best transit options for Santa Cruz County.

WHY DON’T WE IMPLEMENT MASS TRANSIT ON HIGHWAY 1 INSTEAD OF THE SCBRL?
A bus-on-shoulders/auxiliary lane project is currently under development for Santa Cruz County along Highway 1. The bus-on-shoulder/auxiliary lane project would allow buses to run on the highway on the shoulders under the interchanges and in the auxiliary lanes in order to increase the travel times and reduce time in congestion.
WHAT WAS CONSIDERED IN ESTIMATING THE SCREENING LEVEL RIDERSHIP?
The factors that were evaluated in the screening level ridership for each of the transit alternatives identified in the universe were the hourly capacity, service frequency, speed, and the number of station stops along the transit corridor between Watsonville/Pajaro and Santa Cruz. Using these service characteristics, ridership was forecasted using “elasticities” from national research, published by the Transportation Research Board.

A more detailed analysis of ridership will be performed for the four alternatives recommended to move forward from screening. Detailed transit ridership analysis of the four recommended alternatives will be conducted in the Phase 2 quantitative evaluations in upcoming TCAA Tasks. This detailed ridership analysis will consider origins and destinations for employees and residents of Santa Cruz County. In Phase 2, StreetLight origin-destination (cell-phone travel demand data), socio-demographic (population and employment), and METRO transit ridership data will be used to summarize existing travel patterns in Santa Cruz County. The Santa Cruz County Travel Demand Model will be used to identify future travel patterns and develop ridership forecasts for the final transit alternatives.

WHAT WAS CONSIDERED IN ESTIMATING THE JOBS AND TRANSIT ORIENTED DEVELOPMENT (TOD) PHASE I SCREENING LEVEL SCORES?
Economic impact analyses estimate jobs generation associated with expenditures. Projects with significantly greater Capital and Operations & Maintenance expenditures typically result in more jobs than those projects with relatively little expenditure. Transit-Oriented Development (TOD) also generates jobs. The “Jobs” screening level score is based on a combination of the two.

When screening the alternatives for TOD generation, over 40 studies, papers, and other sources were referenced in generating the scoring rationale. Broadly, transit service alternatives with fixed infrastructure that suggests permanence have been shown to generate higher levels for TOD opportunities, as well as higher potential for transit ridership and usage. Alternatives with less fixed infrastructure or those that have not yet been shown to generate and/or support TOD opportunities received lower screening scores.
HOW WERE THE FOUR ALTERNATIVES CHOSEN BASED ON THE SCREENING RESULTS?

The initial screening identified seven alternatives that ranked at the top based on an equal weighting for each of the metrics. Weighting of the various metrics was considered with higher weighting for costs, ridership, travel time, safety, access, active transportation and visual/noise/vibration impacts although this did not provide different results. Of these seven alternatives, the four in bold are being recommended to move forward for a detailed performance analysis.

- Commuter Rail/Electric Multiple Unit
- Light Rail/ Electric Multiple Unit
- Light Rail/Diesel Multiple Unit
- Arterial & Right of Way Bus Rapid Transit (BRT)
- Intercity Rail
- Autonomous Road “Train” (on pavement with rubber tires)
- Tram/Trolley/Streetcar

The following logic was used to identify four out of the seven alternatives moving into a Quantitative Performance Measure Analysis:

❖ Clean and green/sustainable alternatives will be considered for the TCAA planning process and thus, fossil fuel options have been eliminated.
❖ Commuter Rail/EMU has similar benefits to Intercity Rail but is better suited to frequent, all-day service with multiple stations.
❖ Tram/Trolley/Streetcar alternatives implemented in many urban areas typically run on city roadways shared with private vehicles rather than dedicated corridors similar to the Santa Cruz Branch Line. In addition, this alternative typically runs at a slower speed and provides less transit capacity than other alternatives. The Light Rail/EMU alternative could accommodate “streetcar” style vehicles as long as the speeds and capacity meet the definition of this alternative.

WHAT IS MEANED BY “COMMUTER RAIL/ELECTRIC MULTIPLE UNIT” AND “LIGHT RAIL/ELECTRIC MULTIPLE UNIT”?

There are many types of rail transit that are operational today and many more variations that are being designed for the future to incorporate new technologies. The definitions for the transit alternatives that are proposed for moving forward were made more specific to provide clarity on what was being evaluated in the Phase 2 quantitative analysis for the Santa Cruz Branch Rail Line. The definitions are provided here for your reference.
**Light Rail/Electric Multiple Unit**
Passenger rail service operating on fixed rails with single or multiple individually-propelled cars typically providing an urban or interurban service with a lighter volume ridership capacity compared to commuter rail. Operations on a single track with sidings allows for two-way travel.

**Typical Characteristics:**
- Vehicle speeds capable of 30 to 60 mph maximum
- Vehicle can operate with freight in shared-use corridors only if temporally separated
- Centralized Traffic Control or similar signal system only as light rail is temporally separated from freight operations
- Frequency of peak period service
  - 10 – 30-minute headways
- Level or non-level platform boarding
- Propulsion type
  - Electric – Overhead, hydrogen fuel cell, battery

**Commuter Rail/Electric Multiple Unit**
Passenger rail service operating on fixed rails with multiple individually-propelled cars typically providing an interurban or regional service. Commuter rail typically has a higher volume ridership capacity and relatively longer distance between stops compared to light rail. Operations on a single track with sidings allows for two-way travel.

**Typical Characteristics:**
- Vehicle speeds capable of 30-60 mph maximum
- Vehicles can comingle with freight in shared-use corridors
- Centralized Traffic Control (CTC) and Positive Train Control (PTC) is required
- Frequency of peak period service
  - 20-30-minute headways
- Level or non-level platform boarding
- Propulsion type
  - Electric – Overhead, hydrogen fuel cell, battery
WHAT ROUTE WILL THE BUS RAPID TRANSIT OPERATIONS (BRT) TAKE BETWEEN WATSONVILLE/PAJARO AND SANTA CRUZ SINCE BRT CAN TRAVEL BOTH ON THE SANTA CRUZ BRANCH LINE AS WELL AS OTHER ROADWAYS?

One of the advantages of a bus rapid transit system is that BRT can travel in dedicated lanes in the rail right-of-way as well as use the roadway network. In the Unified Corridor Study, the route that was assumed for BRT traveled from the Watsonville Transit Center along Highway 1 to State Park Drive and then onto the rail right-of-way between State Park Drive and Shaffer Road. If BRT moves forward as one of the alternatives to evaluate in Phase 2 of the TCAA, the route(s) that the BRT will travel will be determined in the Phase 2 quantitative evaluation in order to determine the BRT system that would best serve the residents of Santa Cruz County.

WHAT ROUTE WILL THE AUTONOMOUS ROAD “TRAIN” TAKE BETWEEN WATSONVILLE/PAJARO AND SANTA CRUZ?

Autonomous Road “Train” will be limited to the rail right-of-way for the length of the rail right-of-way except for the Watsonville area. Within Watsonville, since the autonomous road “train” is not compatible with freight on the rail right-of-way, an alternative for the Watsonville area will be considered in the Phase 2 quantitative analysis.

WHAT REFERENCE WAS USED TO DETERMINE “ENERGY USAGE” FOR THE VARIOUS TRANSIT ALTERNATIVES?


WHAT NATIONAL REFERENCE WAS USED TO DETERMINE THE SCREENING METRICS FOR OPERATIONAL COSTS AND SAFETY?

WHY WAS THE MONTEREY BAY SANCTUARY SCENIC TRAIL (MBSST) MASTER PLAN NOT INCLUDED AS A PLAN FOR EVALUATING THE TRANSIT ALTERNATIVES “CONSISTENCY WITH OTHER PLANNING EFFORTS”?  
The MBSST Master Plan will be added as a plan for evaluating the “consistency with other planning efforts” metrics. Adding this plan does not change the outcome of the analysis.

WHAT DO THE CAPITAL COSTS FOR THE ALTERNATIVES CONSIDER?  
The screening level capital costs considered costs per mile developed in the Unified Corridor Investment Study; a National Study from Reconnecting America – “Transit Technologies Worksheet”; as well as other sources for costs. Costs include the infrastructure needed to support the alternative in the rail right-of-way for the various alternatives. The screening level capital costs did not include any additional costs for purchase of rail right-of-way. More detailed analysis of costs will be performed in the Phase 2 quantitative evaluation.

WILL BUS RAPID TRANSIT HAVE MORE SPACE FOR BICYCLES THAN A LOCAL BUS AND WILL IT ALLOW FOR LEVEL BOARDING?  
Bus Rapid Transit (BRT) is assumed to use larger 60-foot buses which have more interior space that could be allocated onboard for bicycles. It was also assumed that with BRT, stations on the dedicated transit right-of-way would have level boarding. A local bus was assumed to use standard 40-foot buses and on-street (non-level) boarding and the current limit of 3 bikes on the outside rack.

WHY ARE THE ALTERNATIVES THAT TRAVEL OFF THE CORRIDOR CONSIDERED LESS RELIABLE?  
Transit alternatives that travel off the transit corridor would be subject to traveling in traffic mixed with autos. During peak periods, traffic congestion will make these alternatives ability to keep on schedule less reliable.

WHAT WAS CONSIDERED IN ESTIMATING THE SCREENING LEVEL RIDERSHIP?  
The factors that were evaluated in the screening level ridership for the various transit alternatives were the hourly capacity, the speed, and the number of station stops along the transit corridor between Watsonville/Pajaro and Santa Cruz. A more detailed analysis of ridership will be performed in the Phase 2 quantitative evaluation that will consider origins and destinations for residents of Santa Cruz County.
WHAT ARE THE ASSUMPTIONS FOR FUTURE LAND USE CHANGES IN THE TCAA ALONG THE SANTA CRUZ BRANCH LINE?
This Phase 1 initial analysis evaluated only the relative likelihood to attract increased development near stations. Consultations with the Cities of Santa Cruz, Capitola, and Watsonville, and the County of Santa Cruz will be conducted during Phase 2 to evaluate the potential for increased density based on their general plans and potential future rezoning that would affect transit ridership along the Santa Cruz Branch Line.

WILL THE TIMEFRAME FOR IMPLEMENTATION OF THE VARIOUS ALTERNATIVES BE EVALUATED?
Timeframe for implementation was not evaluated in the Phase 1 screening but will be evaluated in the Phase 2 quantitative analysis for the alternatives that move forward onto the short list.

WHAT PROPULSION TECHNOLOGIES ARE BEING CONSIDERED?
The alternatives that are being recommended to move forward to Phase 2 analysis are zero-emissions alternatives. There is no recommendation in Phase 1 between overhead catenary, battery-electric, or hydrogen fuel cell options but costs for these technologies will be considered in Phase 2.

WHAT IS THE RISK OF NOT IMPLEMENTING A RAIL TRANSIT ALTERNATIVE ON THE RAIL LINE?
Implementing a non-rail transit alternative on the rail line will require petitioning the Surface Transportation Board for abandonment of freight rail. As part of the abandonment, the petitioner can seek to railbank. Railbanking is a method by which freight rail lines proposed for abandonment can be preserved for future freight rail use, which would allow a different interim use of the land. Railroad rights-of-way often contain easements that could revert the land back to adjacent landowners if rail service is abandoned. However, if a line is railbanked, the corridor is protected for future freight rail use. As a result, the integrity of the corridor is maintained, and any reversions that could break it up into small pieces are prevented.

Points to consider if deciding whether to railbank include the following:

- Railbanking does not stop adjacent landowners who have provided easements for the rail from suing the United States for compensation.
- The Surface Transportation Board has the authority to require the rail line be converted to freight rail use at any time even if the line is railbanked.
• Converting back to rail after implementing another transit alternative would be costly.
• 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.

UPDATED FEBRAURY 2020

WHAT IS THE TRANSIT CORRIDOR ALTERNATIVES ANALYSIS?
The Transit Corridor Alternatives Analysis (TCAA) will evaluate public transit investment options that provide an integrated transit network for Santa Cruz County utilizing all or part of the length of the rail right-of-way as a dedicated transit facility. A performance-based planning approach based on a triple bottom line sustainability framework will be utilized to assess various public transit options for the rail right-of-way. Transit alternatives will be compared to define a Locally-Preferred Alternative that offers the greatest benefit to Santa Cruz County in terms of equity, environment, and economy. Proposed future intercounty and interregional connections to Monterey, Gilroy, and the San Francisco Bay Area and beyond will be considered.

HOW IS THE TCAA DIFFERENT FROM PREVIOUS STUDIES?
The Santa Cruz County Regional Transportation Commission (RTC) completed the Rail Transit Feasibility Study in late 2015 to analyze a range of passenger rail transit service along the Santa Cruz Branch Rail Line (SCBRL), which roughly parallels Highway 1 and the coast along Santa Cruz County. The study was initiated to answer questions regarding how rail transit, in particular, could further transportation goals for Santa Cruz County, provide travel options that enhance communities, the environment, and support economic vitality. Key findings of the Rail Transit Feasibility Study include:

• Technical analysis and evaluation of seven sample service scenarios
• Ridership estimates ranging from 5,000 to 7,000 daily for Watsonville/Pajaro to Santa Cruz service scenario
• Watsonville/Pajaro to Santa Cruz travel times approximately 43 minutes
• Increased transportation choices, alternative to congestion, and potentially reduced sprawl and preserved farmland

In addition, the Unified Corridor Investment Study (UCS) was initiated in 2017 by RTC and completed in January 2019. RTC developed the UCS to evaluate multimodal transportation improvements in three parallel routes in Santa Cruz County, Highway 1,
Soquel Avenue/Soquel Drive/Freedom Boulevard, and the Santa Cruz Branch Rail Line. One of the outcomes of that study was to protect the SCBRL for high-capacity public transit adjacent to a bicycle and pedestrian trail.

**WHO IS RESPONSIBLE FOR THE PROJECT?**
The Santa Cruz County Regional Transportation Commission (RTC), in partnership with the Santa Cruz Metropolitan Transit District (METRO), is responsible for the TCAA that was initiated in late 2019 as the next phase of planning for a transit corridor along the existing rail right-of-way.

**WHAT IS THE PURPOSE OF THE PROJECT?**
The TCAA will identify use of all or part of the rail right-of-way, between Pajaro Station in Monterey County and Shaffer Road in westside Santa Cruz, as a dedicated transit facility, adjacent to the Monterey Bay Sanctuary Scenic Trail (MBSST) that is under development. During the analysis, transit alternatives will be compared to define a viable project that will provide the greatest benefit to Santa Cruz County residents, businesses and traveling visitors.

**HOW IS THE TCAA PLANNING EFFORT BEING FUNDED?**
The TCAA is being funded by multiple sources including the Moving Santa Cruz County Forward Measure D Program and a grant from the Caltrans, Division of Rail & Mass Transit.

**HOW WOULD A FUTURE HIGH-CAPACITY TRANSIT SYSTEM BE FUNDED?**
As part of the TCAA, RTC and METRO are evaluating a variety of federal, state and local funding sources and strategies to support implementation of the Locally-Preferred Alternative. A full listing of potential funding sources is currently being documented and evaluated for the TCAA. A Business Plan for implementation of the Locally-Preferred Alternative will be developed as part of the TCAA that includes governance options, operating plan, marketing strategy as well as the financial plan.

**WHAT LEVEL OF ENVIRONMENTAL DOCUMENTATION IS ANTICIPATED ON THE TCAA?**
The TCAA phase will utilize a triple-bottom line performance-based planning process to assess and understand corridor needs and identify a locally-preferred scenario. Environmental review will not take place during this project phase. The TCAA will provide a reasonably narrow project definition of the preferred transit project for future environmental review, based on the work performed in this planning study. RTC will consider environmental review of the preferred alternative after completion of the TCAA.
HOW WILL ALTERNATIVES BE NARROWED DOWN TO A LOCALLY-PREFERRED ALTERNATIVE?
During the TCAA planning process, project goals, screening criteria and performance measures will be established to screen and then evaluate the performance of each potential alternative quantitatively. Potential transit alternatives will consider mode types such as rail, bus and other innovative services. Potential connector services will also be evaluated. The analysis will identify potential infrastructure, vehicle type and right-of-way needs as well as other potential transit features.

Agency partners, local and regional stakeholders and the general public will have the opportunity to provide valuable input on the alternatives and evaluation criteria to aid in narrowing down to a feasible transit solution. The ultimate goal of the TCAA is to identify one locally-preferred transit alternative that meets the needs of the diverse community for which it will serve.

WHAT ARE THE TRANSIT CORRIDOR BENEFITS?
The TCAA will be evaluating the benefits of the various alternatives, but the key highlights of the alternatives analysis include:

- Rail right-of-way is within one mile of half of the county’s population and can provide access to 44 schools and 92 parks
- Involves the community, partner agencies, RTC and METRO in the decision-making process to identify a locally-preferred transit alternative and next steps
- Utilizes a performance-based planning approach with a triple bottom line framework of equity, environment and economy
- Develops a strategic business plan for the selected alternative, including a cash flow analysis of environmental clearance, right-of-way, design, construction, operations and maintenance
- Rail Network Integration Study funded by Caltrans will be performed as part of the Alternatives Analysis to assess how the locally-preferred transit alternative on the rail right-of-way would connect at Pajaro to the larger statewide rail and transit system.

WHAT IS THE PROJECT SCHEDULE?
The TCAA kicked off in late 2019 with development of a Communications and Stakeholder Involvement Plan that was approved by RTC in mid-January 2020. Over the next year, there will be three key technical milestones where RTC and METRO will proactively seek stakeholder input during the TCAA process.
HOW CAN I STAY INFORMED?

RTC and METRO are committed to engaging with the public and regional stakeholders throughout the TCAA process. The outreach program will include multiple opportunities to share information, listen and address concerns, as well as seek valuable input to help identify a locally-preferred transit alternative to serve and connect our communities.

Stay informed at sccrtc.org/transitcorridoraa and subscribe for email updates at sccrtc.org/about/esubscriptions. New information will be distributed electronically through the website, social media and email blasts along with in-person distribution at meetings.

For additional project information, contact Ginger Dykaar, RTC Senior Transportation Planner, at transitcorridoraa@sccrt.org or (831) 460-3200. Stay connected with RTC on Facebook and Instagram @sccrtc and Twitter @santacruzrtc.