Santa Cruz County Regional Transportation Commission's

Elderly & Disabled Transportation Advisory Committee

(Also serves as the Social Service Transportation Advisory Council)

Note meeting date

AGENDA ~ 1:30pm- 3:30pm, Tuesday, September 12, 2017

Regional Transportation Commission Santa Cruz Office
1523 Pacific Avenue, Santa Cruz, CA, 95060

1. **1:30pm – Call to Order**
2. **1:30pm - Introductions**
3. **1:35pm - Oral communications**
4. **1:40pm- Additions or deletions to the consent or regular agenda**

1:42pm- CONSENT AGENDA

All items appearing on the consent agenda are considered to be minor or non-controversial and will be acted upon in one motion if no member of the E&D TAC or public wishes an item be removed and discussed on the regular agenda. Members of the E&D TAC may raise questions, seek clarification or add directions to Consent Agenda items without removing the item from the Consent Agenda as long as no other E&D TAC member objects to the change.

5. **Approve Minutes from June 13, 2017 Meeting – pg. 4**
6. **Receive Transportation Development Act Revenues Report – pg. 8**
7. **Receive Information Items – pg. 9**
   a. Letter to County of Santa Cruz from E&D TAC dated June 27, 2017 regarding Aptos Village Project
   b. City of Santa Cruz Street Safety Campaign Information
   c. Please Point Community Workshop
8. **Receive Agency Updates** *(other than items on the regular agenda)* **– pg. 16**
   a. Volunteer Center-None
   b. Community Bridges – FY 16/17 Fourth Quarter Report
   c. Santa Cruz Metro- ParaCruz Report Operations Report April, May, June 2017

REGULAR AGENDA

9. **1:45pm- Unified Corridor Investment Study – Step 1 Scenario Analysis- pg. 30**

10. **2:05pm- Transportation Development Act Claim for the City of Scotts Valley Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project- pg. 91**

11. **2:25pm- County of Santa Cruz Health Services Department Traffic Safety Programs – pg. 99**

12. **2:45pm- Visualizing Sustainable Transportation Project Update- pg. 104**

13. **2:55pm- Santa Cruz Metro Grand Jury Report- pg. 110**

14. **3:10pm - Pedestrian Safety Workgroup Verbal Update - Draft Brochure: "What Pedestrians and Bicyclists Want Each Other to Know"**

3:30pm- Adjourn

Next meeting: 1:30 pm, October 10, 2017 at the RTC Office, Santa Cruz. *Meeting may be canceled if there are no actions to be brought before the Committee.*

HOW TO REACH US *Santa Cruz County Regional Transportation Commission*
1523 Pacific Avenue, Santa Cruz, CA 95060
Phone: (831) 460-3200 / fax (831) 460-3215
Email: info@sccrtc.org / website: www.sccrtc.org

AGENDAS ONLINE: *To receive email notification when the Committee meeting agenda packets are posted on our website, please call (831) 460-3200 or email info@sccrtc.org to subscribe.*

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SERVICIOS DE TRADUCCIÓN/TRANSLATION SERVICES

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TITLE VI NOTICE

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Santa Cruz County Regional Transportation Commission

Elderly & Disabled Transportation Advisory Committee

Minutes
Tuesday, June 13, 2017

Watsonville Community Room
275 Main Street, Suite 400, Watsonville 95076

1 Call to Order: 1:35 pm

2. Introductions

Members Present:
Lisa Berkowitz, CTSA
John Daugherty, Metro Transit
Veronica Elsea, 3rd District
Cara Lamb, Potential Transit User
Dulce Lizarraga-Chagilla, Social Service Provider-Seniors

Unexcused Absences:
Pam Arnsberger, 2nd District
Greta Kleiner, Potential Transit User Disabled

RTC Staff Present:
Grace Blakeslee
Amy Naranjo
Nestor Guevara

Alternates Present:
Laura Diaz, CTSA-Lift Line
Tom Duncanson, 2nd District
April Warnock, Metro Transit/ParaCruz
Patty Talbott, Seniors Council

Others Present:
Becky Steinbruner

Excused Absences:
None

3. Oral Communications

- John Daugherty, Metro Transit, announced that the Watsonville Transit Center will now be open from 8:00AM to 5:00PM Monday through Friday. Additionally, the new Santa Cruz Metro Headways publication with summer service changes is now available.
- Becky Steinbruner, a member of the public, provided information about the proposed bus stop for inbound Metro Transit Route 71 included in the Phase 1 Aptos Village Project and expressed concern regarding the bus stop design.
- Grace Blakeslee, RTC staff, announced a meeting on traffic violence in Santa Cruz County June 29th from 4pm-6pm at Simpkins Swim Center sponsored by the Community Traffic Safety Coalition.

4. Additions or deletions to the consent or regular agenda

Becky Streinbruner, a member of the public, requested that the Committee discuss the Phase 1 Aptos Village project. Staff informed committee members that construction of the

improvement referred to by Ms. Streinbruner was scheduled to begin prior to the next regular meeting of the Elderly and Disabled Transportation Advisory Committee (E&D TAC). The County of Santa Cruz, the Phase I Aptos Village project sponsor, was not soliciting input on the project at this time; however, if the Committee wanted to discuss the project and provide comments on the project, the decision should occur and a letter sent before the construction deadline.

Action: A motion (Lamb/Elsea) to add Review of Phase 1 Aptos Village Project to Regular Agenda as item 20a. Motion carries.

Grace Blakeslee, RTC staff, requested that item 19 be deleted, as CTSC staff was not present. Ms. Blakeslee also provided an E&D TAC application form submitted by Kirk Ance as add-on pages for item 8.

CONSENT AGENDA

Action: A motion (Daugherty/Lamb) was made to approve the minutes of the April 11, 2017 E&D TAC meeting. The motion passed unanimously with members Berkowitz, Daugherty, Elsea, Kempf, Lamb, and Welch Bettencourt voting in favor. No votes were cast in opposition.

Action: A motion (Daugherty/Elsea) was made to approve Items 6 through 16 of the Consent Agenda. The motion passed unanimously with members Berkowitz, Daugherty, Elsea, Kempf, Lamb, and Welch Bettencourt voting in favor. No votes were cast in opposition.

5. Approved Minutes from April 11, 2017

6. Receive Transportation Development Act Revenue Report

7. Received RTC Meeting Highlights

8. Recommend that the Regional Transportation Commission approve reappointments to E&D TAC Committee

9. Recommend the Regional Transportation Commission approve Tara Ireland as Social Services Provider – Persons of Limited Means Committee Member

10. Receive E&D TAC Roster May 2017

11. Receive Final 2017 Unmet Paratransit and Transit Needs List

12. Receive Caltrans' adoption of "Toward an Active California", the final State and Pedestrian Plan and Executive Summary

13. Receive a summary of Community Bridges Lift Line and Regional Projects Measure D Five-Year Plans approve by the RTC at the June 1, 2017 meeting

14. Receive updates to the RTC Rules and Regulations as approved by the RTC at the June 1, 2017 meeting

15. Received Information Items

    a. Access Board to Issue Guidance on International Symbol of Accessibility

16. Received Agency TDA Reports
    a. Volunteer Center – FY16/17 Third Quarter Report
    b. Community Bridges – None
    c. Santa Cruz Metro – FY18 and FY19 Operating Budgets and FY18 Capital Budget – public hearing June 23, 2017 at the Santa Cruz City Council Chambers at 8:30 am (May 17,2017 Santa Cruz Metro Board packet, page 199)

REGULAR AGENDA

17. Transportation Network Companies and Taxi Company Updates

Amy Naranjo, RTC Transportation Planner provided information on Transportation Network Companies (TNC's). TNC's provide ride sharing services through their phone applications. The most popular of these companies are Uber and Lyft. These companies have partnered with transit agencies to provide rides in areas with limited transit services. Committee members discussed paratransit services provided by Uber and Lyft.

18. ParaCruz Quarterly Services Report Review

April Warnock, Metro staff reviewed the quarterly Paracruz report. Ms. Warnock reported that the number of rides provided has been decreasing. Metro recently hired 4 new vehicle operators, making for 29 total operators now.

19. County of Santa Cruz Health Services Department Traffic Safety Programs

Item deleted from agenda.

20. Unified Corridor Investment Study – Scenario

Grace Blakeslee, RTC staff informed committee members that the Unified Corridors Investment Study (UCS) includes a two-step scenario analysis which will evaluate different project groupings. Ms. Blakeslee requested input from E&D TAC committee members on the proposed project groupings for inclusion in the step 1 analysis. E&D TAC members inquired about access to the three routes included in the study from outside the project area, and connections between corridors.

21. Phase 1 Aptos Village Project

Becky Steinbruner, a member of the public, described her understanding of the proposed design for the new bus stop for inbound Metro Transit Route 71 included in the Phase 1 Aptos Village Project and raised questions about the proposed bus stop design's consistency with the American with Disabilities Act (ADA) regulations and about accessibility during project construction. Grace Blakeslee, RTC staff, informed committee members that the Aptos Village project was reviewed by the E&D TAC in 2013. Committee members discussed options for obtaining more information about the Metro Transit Route 71 bus stop design.

Action: A motion (Lamb/Elsea) was made to write letter to County of Santa Cruz to inquire about the Metro Transit Route 71 bus stop design and consistency with ADA regulations. The motion passed unanimously with members Berkowitz, Daugherty, Elsea, Kempf, Lamb, and Welch Bettencourt voting in favor. No votes were cast in opposition.

22. Pedestrian Safety Work Group

Veronica Elsea informed committee members that the What Pedestrians and Bicyclists wanted each other to know brochure was translated into Spanish, though layout was not completed.

23. E&D TAC 2017 Calendar Update

Grace Blakeslee, RTC staff, presented an updated calendar for 2017 E&D TAC meetings, which includes a Special Meeting on November 14, 2017 to allow for discussion of projects that submitted a request for funding.

24. Adjourn: 3:40 pm

Respectfully submitted, Grace Blakeslee , RTC Staff

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SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
TDA REVENUE REPORT
FY 2017-2018

MONTH	FY16 - 17 ACTUAL REVENUE	FY17 - 18 ESTIMATE REVENUE	FY17 - 18 ACTUAL REVENUE	DIFFERENCE	DIFFERENCE AS % OF PROJECTION	CUMULATIVE % OF ACTUAL TO PROJECTION
JULY	629,500	637,054	583,500	-53,554	-8.41%	91.59%
AUGUST	839,400	849,473	778,000	-71,473	-8.41%	91.59%
SEPTEMBER	872,266	882,733				
OCTOBER	657,500	665,390				
NOVEMBER	876,700	887,220				
DECEMBER	813,479	823,241				
JANUARY	632,900	646,849				
FEBRUARY	843,800	862,431				
MARCH	911,051	781,837				
APRIL	626,200	572,496				
MAY	834,900	763,397				
JUNE	563,619	814,337				
TOTAL	9,101,315	9,186,458	1,361,500	**-125,027**	-1.36%	15%

Note:

I:\FISCAL\TDA\MonthlyReceipts\FY2018\[Copy of FY2018 TDA Receipts.xlsx]FY2017

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1523 Pacific Ave., Santa Cruz, CA 95060-3911 • (831) 460-3200 FAX (831) 460-3215 EMAIL info@sccrtc.org

June 16, 2017

Jack Soriahkoff
County of Santa Cruz Public Works Department
809 Center Street, Room 201
Santa Cruz, California 95062

RE: Aptos Village Project Bus Stop Replacement

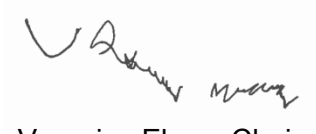
Dear Mr. Soriahkoff,

The Elderly & Disabled Transportation Advisory Committee (E&D TAC) advises the Santa Cruz County Regional Transportation Commission (RTC), the Santa Cruz Metropolitan Transit District (Metro), and other service providers on transportation needs for people with disabilities, seniors and persons of limited means.

At its meeting on June 13, 2017, the E&D TAC discussed the design and location for the inbound bus stop replacement included in the Aptos Village Project located near the intersection of Soquel Drive and Trout Gulch Road. Information about the Aptos Village Project was previously provided to the E&D TAC by County of Santa Cruz staff in 2013. In order to keep informed about the current project improvements, the committee approved a motion to write a letter to the County of Santa Cruz Public Works staff to inquire about the location and design of the bus stop replacement included in the Aptos Village Project, particularly as it relates to the requirements of the American with Disabilities Act (ADA), and any changes to the design since this committee's review in 2013. The committee also approved a motion to request that the County of Santa Cruz Public works staff attend the August 8, 2017 meeting of the E&D TAC to provide a oral update and answer questions.

We very much look forward to having an informative discussion with you at our August 8, 2017 meeting. Thank you for continuing to work with us to meet the transportation needs of all county residents.

Sincerely,



Veronica Elsea, Chair
Elderly & Disabled Transportation Advisory Committee

Street Smarts Kickoff

Street Smarts officially kicks off with a family-friendly celebration on Wednesday, Sept. 13, at Kaiser Permanente Arena, 3-6 p.m. Santa Cruz Warriors mascot Mav'Riks, UCSC's Sammy the Slug and California Highway Patrol's Chipmunk Chipper will lead young and old in activities that underscore safe rules of the road. There will be 15 booths with interactive games, free valet bike parking, bike safety rodeo and one free raffle ticket per person for prizes including Southwest round-trip air tickets, free car service, new bikes, walking shoes, reflective gear, and more.

The AT&T It Can Wait booth will showcase the effects of distracted driving though interactive simulators. Bike Santa Cruz County and Mav'Riks will teach bicycle hand signals. Sammy the Slug will pose for official Street Smarts photos with attendees while Chipmunk Chipper will help both drivers and non-drivers take a distracted driving pledge. Kids will experience the effects of impaired driving through remote control car games from Friday Night Live.

Our Santa Cruz Police Chief Andy Mills and officers offer kids a stationary "ride" on patrol motorcycle plus bike license and crossing guard info. The Community Traffic Safety Coalition/Vision Zero will demonstrate proper child passenger safety equipment and procedures. Ecology Action will host a bike safety obstacle course while Project Bike Trip/Bike Tech offers free bike safety check-ups. Santa Cruz Neighbors will collect input on neighborhood traffic issues and the Impact Teen Drivers booth offers probability wheels, video stories of lives lost and graduated driver's license info.

Our Santa Cruz Public Works Department and Go Santa Cruz campaign will be on hand to discuss latest projects. Performer Matt Meyer will entertain with amazing bike stunts. The Regional Transportation Commission will provide commuter info, bike maps and Coastal Rail Trail updates. AAA and Mothers Against Drunk Driving will provide traffic safety trivia games with prizes and info on their safety programs.

Mayor Cynthia Chase will lead a brief ceremony to recognize the many sponsors, donors and community partners who have joined forces in our City of Santa Cruz Street Smarts mission.

We are grateful to our generous donors who have supplied the ma ny raffle prizes listed below for pedestrians, drivers and bicycli sts.

Special thanks to Holiday Inn Express & Suites for donating accommodations for our keynote speaker!

Street Smarts

TRAFFIC SAFETY KICKOFF CELEBRATION SEPT 13

TERRIFIC RAFFLE PRIZES

FOR PEDESTRIANS, DRIVERS & BICYCLISTS!

1st Two Southwest Airlines round-trip tickets to any domestic destination

2nd Momentum Street Commuter Bike donated by Bicycle Trip (unisex, $410 value)

3rd Lloyd's Tire and Auto $400 gift certificate for auto service

4th Sockshop and Shoe Company $130 gift certificate for walking shoes

5th RoyalBaby Kids 18" Bike donated by Target (unisex)

- **6-10** (5) Santa Cruz Nissan $86 gift certificates for auto service
- **11** Cosco convertible infant/toddler car seat donated by AAA
- **12-14** (3) Bike Tune-ups donated by Cycle Works, $50 value
- **15-16** (2) Bike light sets from Target: Schwinn 300 LED Headlight & Bell Arella 100 Tail Light
- **17** Specialized child bike helmet donated by Spokesman Bicycles
- **18-20** (3) Specialized adult bike helmets donated by Spokesman Bicycles
- **21** Specialized youth bike helmet donated by Spokesman Bicycles
- **22** Cat & Jack Kid's Reflective Backpack donated by Target
- **23** Unisex Reflective Vest
- **24** Zefal bicycle mount iPhone holder donated by Cycle Works
- **25-26** (2) 4 passes to NCM Regal Cinema


Many thanks to our generous prize donors:
AAA
Bicycle Trip
Cycle Works
Lloyd's Tire & Auto Care
NCM Regal Cinema
Santa Cruz Nissan
Sockshop & Shoe Company
Southwest Airlines
Spokesman Bicycles
Target
Prize winners will be notified by 5 p.m. Thursday, Sept 14
CITY OF SANTA CRUZ
cityofsantacruz.com/StreetSmarts

Safety Tips

If you want to make Santa Cruz streets safer, the first step is to travel smart. We've put together some basic tips and guidance to help you make better decisions whether you're walking, riding or driving.

Walk This Way

Walking is a great form of exercise and a wonderful way to get around. Be sure to make safety a priority and you'll be able to enjoy the benefits of walking for many years to come.

- Always cross at an intersection and preferably in a marked crosswalk.
- Make eye contact with drivers to be sure you are seen.
- Look in front and behind, as well as both ways when crossing the street.
- Avoid wearing headphones or using your phone when crossing the street.
- Watch for traffic the entire time you are crossing a street.
- Be aware of turning vehicles.
- Do not cross in the middle of the street or between parked cars.
- Avoid walking in traffic where there are no sidewalks or crosswalks.
- If you have to walk on a road without sidewalks, walk facing traffic.
- Never walk behind a vehicle that is backing up.
- Wear bright colors or reflective clothing if walking at night. Consider carrying a flashlight.
- Don't start walking if you see a flashing DON'T WALK SIGNAL.
- Wait for the WALK signal to cross the street safely.
- Always hold your child's hand and never allow a child under 10 to cross the street alone.

Cycle Safely

When you're riding your bike, you get the great benefit of exercise and being outside. Follow these tips to ensure you stay safe on your ride:

- Wear a snug fitting helmet.
- Be sure to be seen by wearing bright colors and reflective clothing.
- Use lights and reflectors at night.
- Ride with traffic.
- Use bike lanes or ride near the right curb.
- Make your turns from the turn lanes.
- Obey traffic signs and signals.
- Use hand signals for turning or stopping.
- Respect the right of way of others.
- Be aware of cars and pedestrians.

Safe Driving Strategies

Smart driving decisions are a critical part of ensuring we have safer streets. And how you drive is a reflection of the respect you have for your community. By making more conscious and conscientious choices when you're behind the wheel, you can do your part for Street Smarts.

- Don't be a distracted driver.
- Do not text or talk on the phone.
- Adjust mirror, seats and other controls before driving off.
- Keep your attention focused on the road, not your passengers.
- Don't eat or drink while driving.
- Be courteous - slow down and allow others to merge.
- Always stop at stop signs.
- Respect the right of way of others, especially cyclists and pedestrians.
- Slow down when you see a yellow light.
- Always use your turn signals and check for bicyclists before turning.
- When you pass a cyclist, allow three feet of space between your car and the bike.
- Check for cyclists before you open your car door.
- Remember, you may encounter pedestrians anytime and anywhere.
- Reduce your speed and always watch for kids and pets in neighborhoods.
- Maintain a consistent speed and keep a buffer zone between your vehicle and other cars.
- Stop for pedestrians crossing the street.
- Don't assume pedestrians see you or that they will act predictably.
- Slow down and watch for children in school zones.

Share the Road Safety with Buses and Trucks

PLEASURE POINT COMMERCIAL CORRIDOR

COMMUNITY WORKSHOP #1

Saturday, September 16, 2017
from 10 A.M. to 12:00 P.M.
Live Oak Elementary School Multi-Use Room

Provide your thoughts on the future of the Portola Drive Commercial Corridor, including design guidelines for new projects and improvements to the Portola Drive streetscape.

Who: You! Especially if you live, work, visit or play in Pleasure Point

What: Community Workshop #1 for the County's commercial and mixed-use design guidelines and streetscape project in Pleasure Point

When: September 16, 2017, starting at 10 A.M.

Where: Live Oak Elementary School Multi-Use Room
1916 Capitola Road, Santa Cruz

Approximate Project Area

Quarterly TDA Report : FY 16/17 QUARTER 3

Time Period: JAN - FEB - MAR 2017

#	Performance Measures to be	CC 20,23,26,31,32,38,39 Medical					YTD % of Goals	CC 21 Meals on Wheels					YTD % of Goals	CC 29 Taxi Scrip					YTD % of Goals	CC 24,30 Elderday					YTD % of Goals	CC36 ISSP					YTD % of Goals	Qtr Total	YTD Total
		Jan	Feb	Mar	Qtr	YTD		Jan	Feb	Mar	Qtr	YTD		Jan	Feb	Mar	Qtr	YTD		Jan	Feb	Mar	Qtr	YTD		Jan	Feb	Mar	Qtr	YTD			
1	Unduplicated Passengers per Month	101	89	84	**169**	**559**		47	54	48	**60**	**182**		82	78	80	**109**	**348**		102	107	114	**117**	**363**		142	136	125	132	**305**		**587**	**1,757**
2	Total Passenger Trips (Units of Service) per Month	577	535	503	**1,615**	**5,106**	**76%**	859	987	1,166	**3,012**	**9,704**	**74%**	193	206	230	**629**	**1,971**	**82%**	2,144	2,387	2,797	**7,328**	**23,402**	**98%**	4249	3797	3862	**11,908**	**15,108**	**76%**	**24,492**	**55,291**
3	Number of Incidents per Month	0	1	0	**1**	**1**		0	3	0	**3**	**4**		0	0	0	**0**	**0**		0	1	0	**1**	**13**		0	0	0	**0**	**0**		**5**	**18**
4	Number of Accidents per Month	0	0	0	**0**	**0**		0	0	0	**0**	**1**		0	0	0	**0**	**0**		0	0	1	**1**	**7**		0	0	0	**0**	**0**		**1**	**8**
5	Number of Mechanical Failures (including lift failure) per Month	0	0	0	**0**	**0**		0	1	0	**1**	**1**		N/A	N/A	N/A	0	**0**		2	2	0	**4**	**4**		1	0	0	**1**	**1**		**6**	**6**
6	Number of No-Shows per Month	33	34	40	**107**	**319**		54	66	127	**247**	**849**		N/A	N/A	N/A	0	**0**		74	60	82	**216**	**645**		N/A	N/A	N/A	**0**	**0**		**570**	**1,813**
7	Number of Turndowns or Referrals per Month	3	0	2	**5**	**49**		0	0	0	**0**	**0**		0	0	0	**0**	**0**		0	0	0	**0**	**0**		0	0	0	**0**	**0**		**5**	**49**
8	Number of Cancels per Month	78	76	61	**215**	**817**		151	131	188	**470**	**1,440**		N/A	N/A	N/A	**0**	**0**		996	720	923	**2,639**	**7,218**		N/A	N/A	N/A	**0**	**0**		**3,324**	**9,475**
9	Total Donations per Month	$2,891	$143	$369	**$3,403**	**6,301**		N/A	N/A	N/A	**$0**	**0**		N/A	N/A	N/A	**$0**	**0**		N/A	N/A	N/A	**$0**	**0**		N/A	N/A	N/A	**$0**	**0**		**$3,403**	**$6,301**
10	Operating Cost per Passenger Trip				**$30.99**						**$10.24**						**$12.22**						**$12.81**						**$2.54**				
11	Operating Cost per Vehicle Service Hour				**$46.92**						**$55.33**												**$56.68**						**$56.56**				
12	Passengers per Vehicle Service Hour				**1.36**						**5.41**												**4.55**						**22.23**				
13	Passengers per Vehicle Service Mile				**0.10**						**0.40**												**0.25**						**0.64**				
14	Van Mileage per Program				**11,375**						**7,342**												**27,786**						**18,463**				

Santa Cruz Metropolitan Transit District

DATE: August 25, 2017

TO: Board of Directors

FROM: April Warnock, Paratransit Superintendent

SUBJECT: ACCEPT AND FILE METRO PARACRUZ OPERATIONS STATUS REPORT FOR APRIL, MAY AND JUNE 2017

I. RECOMMENDED ACTION

That the Board of Directors accepts and file the quarterly METRO ParaCruz Operations Status Report for April, May and June 2017

II. SUMMARY

- Summary review of monthly operational statistics for ParaCruz.
- Summary of monthly operational information about ParaCruz.

III. DISCUSSION/BACKGROUND

This report provides informational data pertaining to ParaCruz Operational Status for the March, April and May 2017 quarter.

Comparing March 2017 statistics to April 2017, ParaCruz rides decreased by 799 rides.

Comparing April 2017 statistics to May 2017, ParaCruz rides increased by 236 rides.

Comparing May 2017 statistics to June 2017, ParaCruz rides decreased by 442.

Comparing the monthly statistics of FY16 to the monthly statistics of FY17:

- In April the number of ParaCruz rides decreased by 637.
- In May the number of ParaCruz rides decreased by 243.
- In June the number of ParaCruz rides decreased by 408.

For April / May 2017, the contractual agreement between Santa Cruz Metropolitan Transit District (METRO) and Santa Cruz Transportation (Taxi) expired. Previously, the business conditions and impending sale of Taxi were beginning to affect Taxi's ability to provide "overflow" service in a manner that was not acceptable to METRO, and did not meet Federal Transportation Administration (FTA) guidelines under the Americans with Disabilities Act (ADA).

METRO staff decided not to renew the contract with Taxi and proceed with having ParaCruz perform all rides with no overflow service from Taxi. This resulted in an increase in rides for April / May 2017.

The Federal Requirements a taxi company must adhere to in order to perform ADA Paratransit services are the same as what is mandated of METRO. These requirements are complicated, expensive and involve elements such as on-going training and drug and alcohol testing. Currently there are no taxicab companies in the Santa Cruz area that have the proper infrastructure or program in place to support ParaCruz in the manner that Taxi was capable of performing.

As a result of Taxi no longer being available to reliably provide overflow services, coupled with several retirements and resignations that reduced ParaCruz Operator staffing, on-time performance was impacted. METRO staff has taken steps to address this deficiency by hiring four Operators in November of 2016; three of which are performing revenue service at this time. An additional three Operators were recently hired in June 2017; they will complete training and be ready for revenue service by the end of August 2017. Recruitment is currently being performed for one additional Operator that was funded in FY18, which will fully staff the ParaCruz Operator ranks, and help to improve on-time performance.

In the near future, METRO staff will also be meeting and discussing with Santa Cruz Transportation and other Taxi representatives the need METRO has for overflow service, and explaining the mandated requirements for providing this service.

METRO ParaCruz is the federally mandated ADA complementary paratransit program of the Santa Cruz Metropolitan Transit District, providing shared ride, door-to-door demand-response transportation to customers certified as having disabilities that prevent them from independently using the fixed route bus.

This staff report has been coordinated with statistics provided by the Finance and Fleet Departments. Additional data was provided by the Eligibility Coordinator.

IV. FINANCIAL CONSIDERATIONS/IMPACT

There are no financial considerations for this report.

V. ALTERNATIVES CONSIDERED

Not applicable

VI. ATTACHMENTS

Attachment A: ParaCruz On-time Performance Charts for April, May, and June 2017

Attachment B: Comparative Operating Statistics Tables for April, May, and June 2017

Attachment C: Number of Rides Comparison Chart

Attachment D: Shared vs. Total Rides Chart

Attachment E: Mileage Comparison Chart

Attachment F: Monthly Eligibility Assessment

Prepared By: April Warnock, Paratransit Superintendent

VII. APPROVALS:

Approved as to fiscal impact:
Angela Aitken, Finance Manager

Alex Clifford, CEO/General Manager

Attachment A

Board Meeting August 25, 2017

ParaCruz On-time Performance Report

	April 2016	**April 2017**
Total pick ups	6,870	6,233
Percent in "ready window"	**91.03%**	**82.02%**
1 to 5 minutes late	4.06%	5.76%
6 to 10 minutes late	2.01%	4.22%
11 to 15 minutes late	1.02%	3.06%
16 to 20 minutes late	.86%	1.91%
21 to 25 minutes late	.58%	1.09%
26 to 30 minutes late	.22%	.80%
31 to 35 minutes late	.15%	.48%
36 to 40 minutes late	.04%	.22%
41 or more minutes late (excessively late/missed trips)	.04%	.43%
Total beyond "ready window"	**8.97%**	**17.98%**

During the month of April 2017, ParaCruz received seven (7) Customer Service Reports*. One (1) of the reports was valid (Booking error); three (3) of the reports were not valid (2 Alleged late rides (On time per GPS) and Rude Customer Service Representative (Recorded call); three (3) reports complimented five (5) ParaCruz Operators.

*Customer Service Reports include all compliments, complaints, concerns and suggestions regarding ParaCruz staff and/or service. All Customer Service Reports are investigated and responded to by letter or by telephone call.

	May 2016	**May 2017**
Total pick ups	6,712	6,469
Percent in "ready window"	**89.83%**	**80.89%**
1 to 5 minutes late	4.47%	6.66%
6 to 10 minutes late	2.45%	4.10%
11 to 15 minutes late	1.46%	3.22%
16 to 20 minutes late	.51%	1.96%
21 to 25 minutes late	.58%	1.33%
26 to 30 minutes late	.47%	.73%
31 to 35 minutes late	.10%	.49%
36 to 40 minutes late	.09%	.29%
41 or more minutes late (excessively late/missed trips)	.06%	.32%
Total beyond "ready window"	**10.17%**	**19.11%**

During the month of May 2017, ParaCruz received two (2) Customer Service Reports. Both of the reports were valid (Late rides).

Attachment A

Board Meeting August 25, 2017

*Customer Service Reports include all compliments, complaints, concerns and suggestions regarding ParaCruz staff and/or service. All Customer Service Reports are investigated and responded to by letter or by telephone call.

	June 2016	**June 2017**
Total pick ups	6,435	6,027
Percent in "ready window"	**89.88%**	**78.94%**
1 to 5 minutes late	4.65%	5.61%
6 to 10 minutes late	2.30%	3.97%
11 to 15 minutes late	1.60%	3.03%
16 to 20 minutes late	.47%	2.37%
21 to 25 minutes late	.42%	1.38%
26 to 30 minutes late	.44%	1.07%
31 to 35 minutes late	.11%	.71%
36 to 40 minutes late	.06%	.42%
41 or more minutes late (excessively late/missed trips)	.08%	1.07%
Total beyond "ready window"	**10.12%**	**19.62%**

During the month of June 2017, ParaCruz received three (3) Customer Service Reports. Two of the reports were valid (Late rides). One (1) of the reports was a compliment for three Operators.

*Customer Service Reports include all compliments, complaints, concerns and suggestions regarding ParaCruz staff and/or service. All Customer Service Reports are investigated and responded to by letter or by telephone call.

Attachment B

Board Meeting August 25, 2017

Comparative Operating Statistics through April 2017.

	April 2016	April 2017	FY16	FY17	Performance Averages	Performance Goals
Requested	7,759	7,186	81,699	71,458	7,121	
Performed	6,870	6,233	72,621	62,620	6,212	
Cancels	20.78%	21.97%	21.33%	21.80%	22.2%	
No Shows	3.27%	3.58%	3.13%	3.47%	3.46%	Less than 3%
Total miles	53,328	50,549	577,260	511,270	50,861	
Av trip miles	5.70	6.10	5.77	6.05	6.01	
Within ready window	91.03%	82.02%	89.20%	84.51%	85.72%	92.00% or better
Call center volume	5,167	4,989	54,677	51,499	N/A	
Hold times less than 2 minutes	92.6%	92.3%	92.5%	92.1%	N/A	Greater than 90%
Distinct riders	750	687	1,748	1,646	712	
Most frequent rider	53 rides	58 rides	380 rides	358 rides	51 rides	
Shared rides	63.0%	68.9%	62.9%	65.0%	63.36%	Greater than 60%
Will Calls	276	199	6,143	3,112	N/A	
Passengers per rev hour	1.94	1.95	1.92	1.89	1.87	Greater than 1.6 passengers/hour
Rides by supplemental providers	.90%	2.18%	3.31%	5.82%	4.84%	No more than 25%
Vendor cost per ride	$23.06	$28.18	$24.14	$24.12	$22.00	
Rides < 10 miles	65.95%	62.97%	65.72%	61.19%	65.27%	
Rides > 10	34.05%	36.91%	34.28%	38.81%	34.73%	
Denied Rides	0	0	0	0	0	Zero
Missed Trips	3	21	36	196	15.42	N/A
Excessively Long Trips	N/A	3	N/A	6	N/A	New Stat Jan 2017

Attachment B

Board Meeting August 25, 2017

Comparative Operating Statistics through May 2017.

	May 2016	May 2017	FY16	FY17	Performance Averages	Performance Goals
Requested	7,770	7,160	89,469	78,618	7,070	
Performed	6,712	6,469	79,333	69,089	6,192	
Cancels	23.0%	20.47%	21.48%	21.68%	21.99%	
No Shows	3.18%	2.79%	3.14%	3.41%	3.43%	Less than 3%
Total miles	53,267	52,001	630,528	563,270	50,756	
Av trip miles	5.79	6.05	5.77	5.77	6.03	
Within ready window	89.24%	80.89%	89.24%	84.11%	85.02%	92.00% or better
Call center volume	5,214	4,957	59,891	56,456	N/A	
Hold times less than 2 minutes	91.7%	91.6%	92.4%	91.7%	N/A	Greater than 90%
Distinct riders	759	712	1,811	1,706	708	
Most frequent rider	62 rides	52 rides	407 rides	384 rides	50 rides	
Shared rides	59.6%	67.9%	62.6%	65.2%	64.05%	Greater than 60%
Will Calls	273	186	5,542	3,016	N/A	
Passengers per rev hour	1.90	1.94	1.90	1.89	1.87	Greater than 1.6 passengers/hour
Rides < 10 miles	66.00%	63.09%	65.75%	61.37%	65.03%	
Rides > 10	34.00%	36.91%	34.25%	38.63%	34.97%	
Denied Rides	0	0	0	0	0	Zero
Missed Trips	4	21	40	217	16.83	N/A
Excessively Long Trips	N/A	4	N/A	10	N/A	New Stat Jan 2017

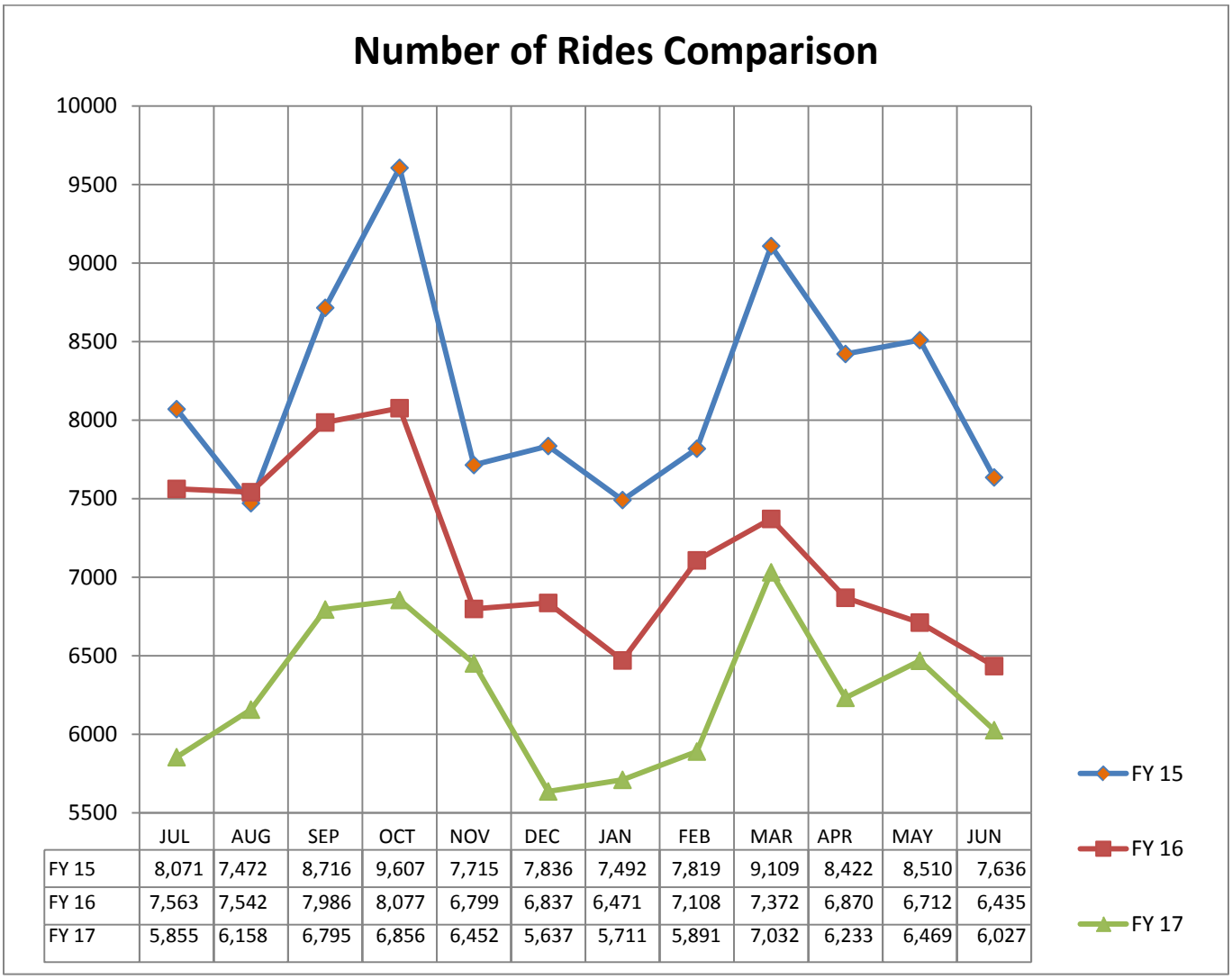
Attachment B

Board Meeting August 25, 2017

Comparative Operating Statistics through June 2017.

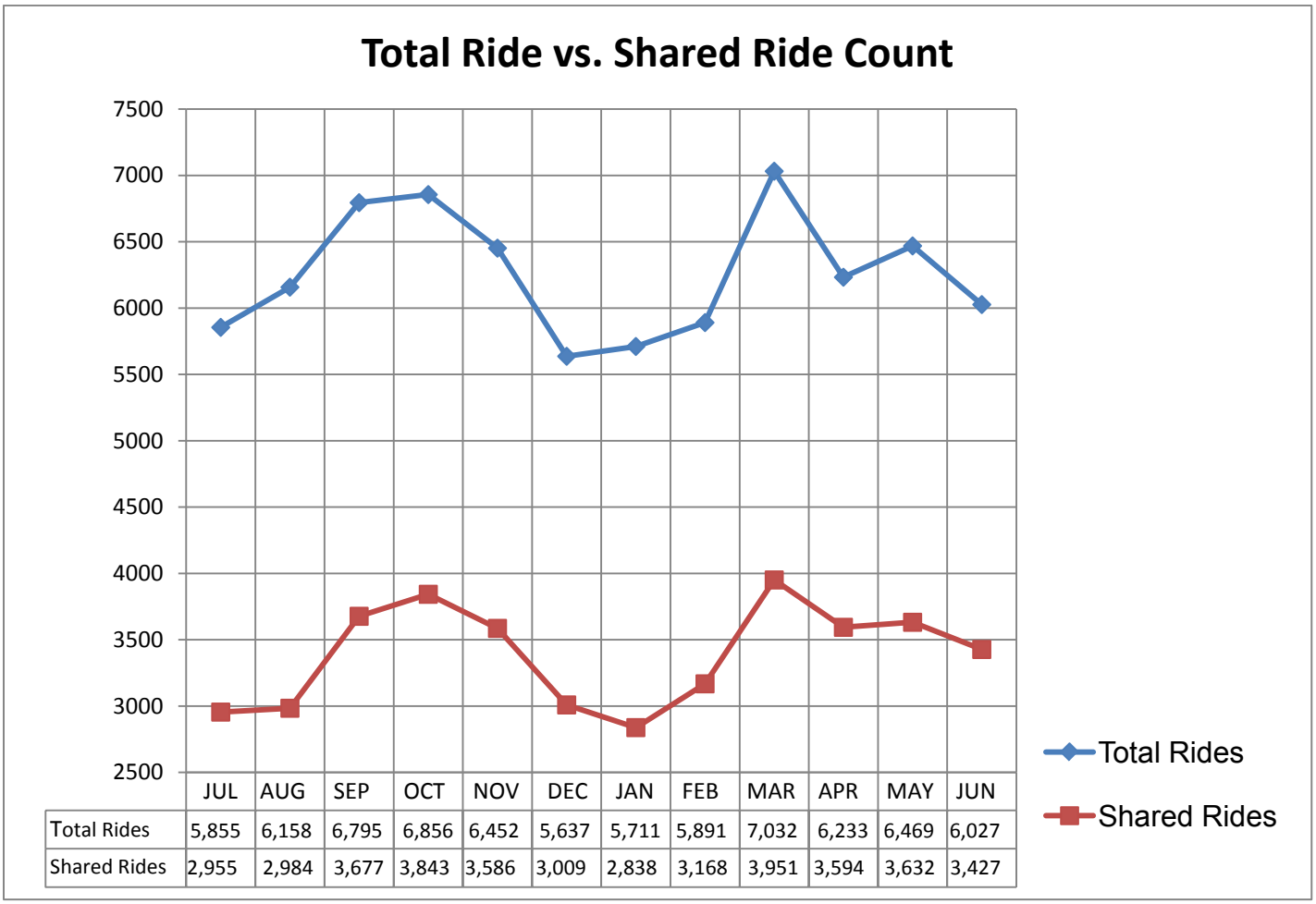
	June 2016	June 2017	FY16	FY17	Performance Averages	Performance Goals
Requested	7,168	6,658	96,637	85,276	7,028	
Performed	6,435	6,027	85,768	75,116	6,158	
Cancels	20.54%	20.65%	21.41%	21.60%	22.0%	
No Shows	3.75%	3.03%	3.18%	3.38%	3.37%	Less than 3%
Total miles	52,928	49,061	683,456	612,331	50,434	
Av trip miles	5.96	6.09	5.78	6.05	6.04	
Within ready window	89.88%	78.94%	89.29%	83.75%	84.11%	92.00% or better
Call center volume	5,410	4,809	65,301	61,265	N/A	
Hold times less than 2 minutes	91.7%	90.8%	92.3%	91.9%	N/A	Greater than 90%
Distinct riders	717	691	1,875	1,781	707	
Most frequent rider	44 rides	49 rides	428 rides	415 rides	50 rides	
Shared rides	61.3%	69.3%	62.5%	65.6%	64.72%	Greater than 60%
Will Calls	290	198	5,092	2,937	N/A	
Passengers per rev hour	1.85	1.99	1.85	1.90	1.88	Greater than 1.6 passengers/hour
Rides < 10 miles	64.88%	63.65%	65.68%	61.55%	64.93%	
Rides > 10	35.12%	36.35%	34.32%	38.45%	35.07%	
Denied Rides	0	0	0	0	0	Zero
Missed Trips	5	69	45	286	22.17	N/A
Excessively Long Trips	N/A	2	N/A	12	N/A	New Stat Jan 2017

Attachment C



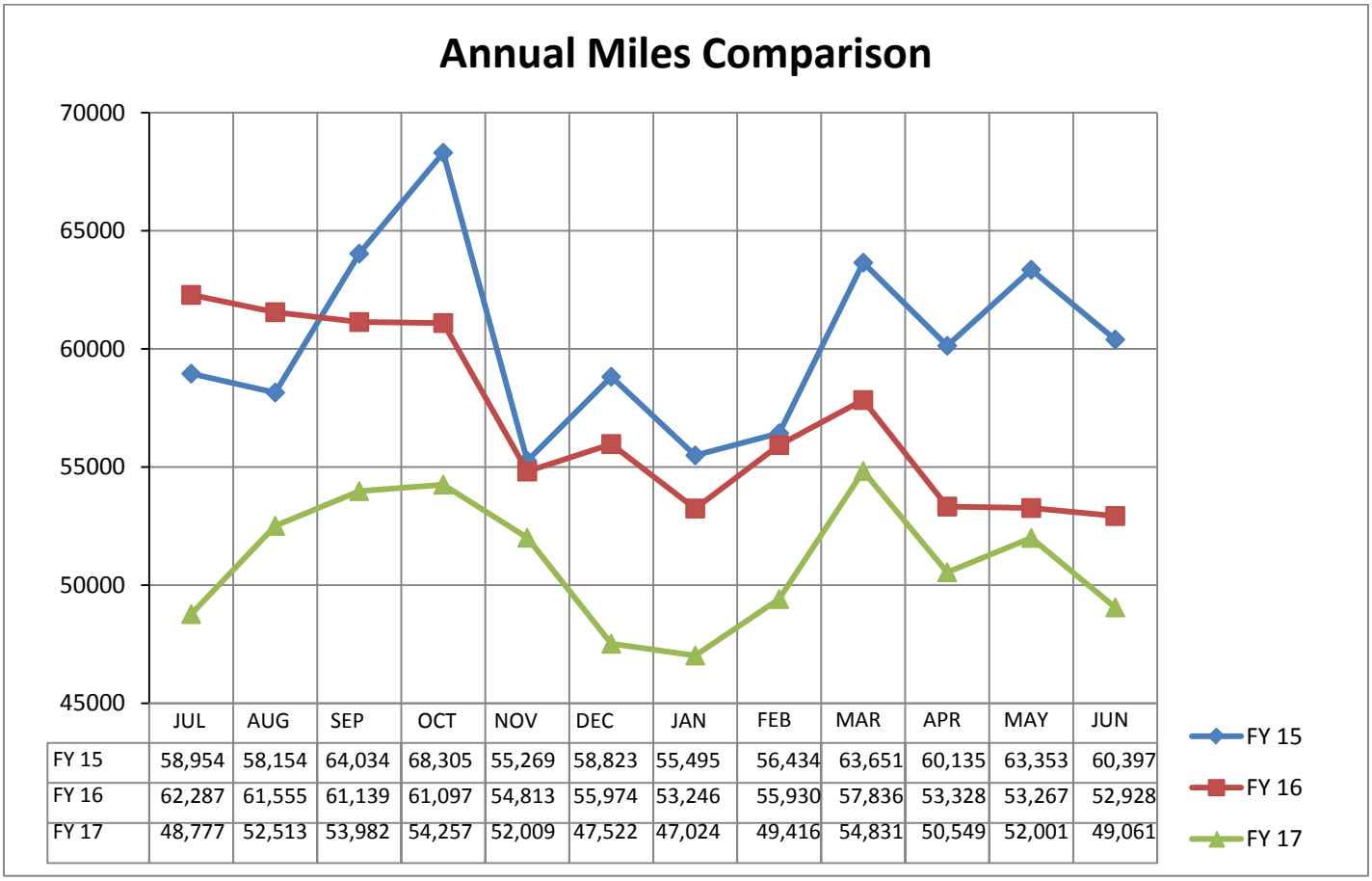
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY 15	8,071	7,472	8,716	9,607	7,715	7,836	7,492	7,819	9,109	8,422	8,510	7,636
FY 16	7,563	7,542	7,986	8,077	6,799	6,837	6,471	7,108	7,372	6,870	6,712	6,435
FY 17	5,855	6,158	6,795	6,856	6,452	5,637	5,711	5,891	7,032	6,233	6,469	6,027

Attachment D



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Total Rides	5,855	6,158	6,795	6,856	6,452	5,637	5,711	5,891	7,032	6,233	6,469	6,027
Shared Rides	2,955	2,984	3,677	3,843	3,586	3,009	2,838	3,168	3,951	3,594	3,632	3,427

Attachment E



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY 15	58,954	58,154	64,034	68,305	55,269	58,823	55,495	56,434	63,651	60,135	63,353	60,397
FY 16	62,287	61,555	61,139	61,097	54,813	55,974	53,246	55,930	57,836	53,328	53,267	52,928
FY 17	48,777	52,513	53,982	54,257	52,009	47,522	47,024	49,416	54,831	50,549	52,001	49,061

Attachment F

Board Meeting August 25, 2017

Monthly Assessments

	UNRESTRICTED	RESTRICTED CONDITIONAL	RESTRICTED TRIP BY TRIP	TEMPORARY	DENIED	TOTAL
JULY 2016	43	1	1	4	2	51
AUGUST 2016	40	2	3	6	0	51
SEPTEMBER 2016	28	0	1	5	0	34
OCTOBER 2016	53	0	2	2	0	57
NOVEMBER 2016	24	0	1	3	0	28
DECEMBER 2016	28	0	0	3	0	31
JANUARY 2017	50	0	1	1	0	52
FEBRUARY 2017	27	0	0	2	0	29
MARCH 2017	50	0	0	1	0	51
APRIL 2017	22	0	0	3	0	25
MAY 2017	22	0	0	2	1	25
JUNE 2017	36	0	1	1	0	38

Number of Eligible Riders for the month of April 2017 = 3,628

Number of Eligible Riders for the month of May 2017 = 3,635

Number of Eligible Riders for the month of June 2017 = 3,678

AGENDA: September 12, 2017

TO: Elderly & Disabled Transportation Advisory Committee

FROM: Ginger Dykaar and Grace Blakeslee, Senior Transportation Planners

RE: Unified Corridor Investment Study - Draft Step 1Scenario Results

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RECOMMENDATIONS

Staff recommends that the Elderly & Disabled Transportation Advisory Committee provide input on the draft Step 1 scenario results (Attachments 1 and 2).

BACKGROUND

The objective of the Unified Corridor Investment Study (UCS) is to identify multimodal transportation investments that provide the greatest benefit and most effective use of Highway 1, Soquel Avenue/Drive and Freedom Blvd, and the Santa Cruz Branch Rail Line. See the project area map in Attachment 3. Goals for the UCS focus on developing a sustainable transportation system which seeks to maximize benefits in terms of the natural environment, economic vitality and health and equity. At the May 4, 2017 meeting, the RTC approved the goals, criteria, performance measures (Attachment 4) and project list (Attachment 5). At the June 15, 2017 meeting the RTC approved the groups of projects or scenarios to be evaluated in the Step 1 analysis (Attachment 5). Input from the public, stakeholders, and RTC advisory committees have been solicited at key milestones of project development.

DISCUSSION

An analysis is in progress to determine how different scenarios or groups of transportation projects implemented by 2035 will advance the goals of the project. A two step scenario analysis is being performed. In Step 1, scenarios are being evaluated based on feasibility using an initial set of criteria which will allow some scenarios to be eliminated early on. Step 2 will be a more detailed evaluation of the remaining scenarios using performance measures and will result in a recommended preferred scenario or group of projects for implementation.

Step 1 Analysis

The scenarios being evaluated in the Step 1 analysis (Attachment 5) were 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. The scenarios present a range of potential future transportation networks that are well integrated and connect the three parallel routes. 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. The development of the scenarios considered input from the public, community organizations, stakeholders, RTC Advisory Committees, and the RTC.

The draft Step 1 analysis qualitatively evaluates projects and scenarios based on a set of feasibility criteria. The summary of the Step 1 analysis is in Attachment 1 with information on the methodology for how projects and scenarios were evaluated. The detailed evaluation of each of the projects is in Attachment 2.

RTC staff is requesting input from E&DTAC on the following:

- Project descriptions
- Completeness of issues discussed for each project and criterion
- Rating per criterion for each project
- Overall rating per project
- Projects to recommend for evaluation in Step 2
- Scenarios to recommend for evaluation in Step 2

RTC staff will be soliciting input from all RTC advisory committees and stakeholders in September, 2017. Two public workshops will be held to solicit public input (see details in timeline below). The public workshops were scheduled for September 20 and 21 in Watsonville and Live Oak but will be rescheduled to a later date. RTC staff will be bringing the draft Step 1 scenario analysis results to the RTC in November, 2017 with a recommendation on scenarios to evaluate in the quantitative Step 2 analysis. **RTC staff recommends that the Elderly & Disabled Transportation Advisory Committee provide input on the draft Step 1 scenario results (Attachments 1 and 2).**

Timeline

September, 2017: Draft results of Step 1 scenario analysis brought to stakeholders, RTC advisory committees, and public workshops.

September, 2017: Public Workshops scheduled for September will be rescheduled to a later date.

September, 2017: Survey released soliciting input on draft Step 1analysis

November 2, 2017: Results of draft Step 1 scenario analysis and recommendations for Step 2 brought to RTC for approval.

Fall 2018: Results of Step 2 scenario analysis and draft preferred scenario brought to stakeholders, RTC advisory committees, public and RTC.

Fall 2018: Develop draft project report.

December 2018: Final Unified Corridor Investment Study report and preferred scenario.

SUMMARY

The Unified Corridor Investment Study is in progress to identify multimodal transportation investments that optimize usage of Highway 1, Soquel Avenue/Drive and Freedom Blvd and the Santa Cruz Branch Rail Line while advancing sustainability goals. Input is being solicited from the public, stakeholders, and RTC advisory committees on the draft Step 1 scenario results. **RTC staff recommends that the Elderly & Disabled Transportation Advisory Committee provide input on the draft Step 1 scenario results (Attachment 1 and 2).**

Attachments:

1. Summary of Draft Step 1 Scenario Analysis Results
2. Project Evaluations by Criterion
3. Project Area Map
4. Goals, Criteria and Performance Measures
5. Step 1 Scenarios to be Evaluated

S:\UnifiedCorridorsStudy\StaffReports\AdvisoryCommittees\September2017\0-SR_UCS_Step1draft-E&DTAC.docx

Attachment 1

Unified Corridor Investment Study

Step 1 Draft Scenario Analysis

The Unified Corridor Investment Study (UCS) will identify multimodal transportation investments that provide the greatest benefit and most effective use of Highway 1, Soquel Ave/Dr and Freedom Blvd, and the Santa Cruz Branch Rail Line to help meet the transportation needs of current and future generations. In investigating how these three parallel routes can work together most effectively, the UCS will provide an analysis of the transportation options for the rail corridor as required by Measure D.

A scenario analysis is being performed for comparing different groups of projects to assess how well they advance the goals of the project. The scenario analysis for the UCS is a two step analysis where Step 1 will evaluate the projects based on the following set of feasibility criteria.

Goal	Step 1 Criteria
Promote feasible solutions that address transportation challenges.	Community support and coordination/consistency with local, regional, state and federal plans
	Potential to address transportation challenges and advance environmental, economic and equity goals
	Compatibility with regulatory requirements
	Level of public investment
	Right of way and constructability constraints
	Technological feasibility

Table 1. Step 1 Criteria for Project Evaluation

The detailed evaluation of each project, based on these Step 1 criteria, is in Attachment 2. The projects were evaluated using a standard set of indicators that were developed for each criterion as well as a narrative providing an explanation of the opportunities and challenges that affect the feasibility of the project. Each project was given a rating for each criterion based on a five level rating system as shown in Table 2. An overall rating was also given for each project.

Ratings	***Rating Definition***
	Indicates a greater level of potential opportunities within the criteria
	Indicates more potential opportunities than challenges within the criteria
Neutral	Indicates a balance of opportunities and challenges within the criteria
	Indicates more potential challenges than opportunities within the criteria
	Indicates a greater level of potential challenges within the criteria

Table 2. Step 1 Project Rating System

The Step 1 scenario analysis aims to evaluate the feasibility of the various projects and scenarios in order to help direct the discussion on what projects will provide the greatest benefit. The main question that is posed in this step of the analysis is "Will this project help Santa Cruz County address its transportation challenges? For example, will it reduce congestion on Highway 1, will it help to meet the requirements for GHG emission reductions, will it improve safety and provide access for people who do not drive, etc."

If there is benefit from the project, are there other barriers that would make this project infeasible?

- Is there community support for the project?
- How much will it cost the residents of Santa Cruz County to implement this project?
- What are the right-of-way needs and will that delay the project significantly?
- Are there significant environmental impacts that will make the project less feasible?
- Are there regulatory requirements for this project that will be challenging to meet?

The Step 1 evaluation attempts to address these questions in order to determine project feasibility and if projects should be evaluated further in Step 2. A summary of the draft Step 1 results can be found below which provides the list of projects in each scenario along with the project ratings for each criterion. An acronym guide is provided on the last page of the attachment.

Scenario A

	Projects in Scenario A	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	HOV lanes	👍	👍	👍	👎	👍	👍👍	👍
	Auxiliary lanes (State Park to Freedom)	👍👍	👍	👍	👍👍	👍	👍👍	👍👍
	Ramp Metering	👍	👍	👍👍	👍	👍	👍👍	👍
	San Lorenzo River Bridge widening	👍	👍	👍👍	👍	👍	👍👍	👍
	Mission St Intersection Improvements	👍👍	👍👍	👍	👍👍	👍	👍👍	👍👍
Soquel/ Freedom	BRT lite	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
	Increased transit frequency	👍👍	N	👍👍	👍	👍👍	👍👍	👍
	auto intersection improvements	👍	👍	👍	👍	👍	👍👍	👍👍
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍

Scenario A includes major transportation investments for auto and transit on Highway 1, low cost auto and transit improvements on Soquel/Freedom and a bike and pedestrian trail solely on the rail ROW. The Highway 1 projects include construction of high occupancy vehicle lanes (and associated auxiliary lanes and ramp metering) for improvements to travel time, travel time reliability and safety for carpools, transit and single occupant vehicles on Santa Cruz County's primary transportation route. Scenario A includes operational improvements on Soquel/Freedom through implementation of bus priority strategies at intersections, increased transit frequency and intersection improvements for autos. The transit investments on Soquel/Freedom will improve transit travel time, improve access, support lower cost transportation options and benefit people who don't drive. The primary improvement for bicycles and pedestrians included in Scenario A is construction of a bike and pedestrian trail on the rail ROW, which has potential to improve safety and health and promote a shift from driving to bicycling and walking for short trips and in turn, reduce VMT and GHG emissions.

Scenario B

	Projects in Scenario B	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	Bus on Shoulders	👍	👍	👍	👍👍	👍	👍👍	👍
	Ramp Metering	👍	👍	👍👍	👍	👍	👍👍	👍
	Mission St Intersection Improvements	👍👍	👍👍	👍	👍👍	👍	👍👍	👍👍
Soquel/ Freedom	BRT lite	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
	Increased transit frequency	👍👍	N	👍👍	👍	👍👍	👍👍	👍
	Buffered/protected bike lanes	👍	👍👍	👍👍	👍👍	N	👍👍	👍👍
	Bike/pedestrian intersection improvements	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍
	Rail transit	👍	👍	👍👍	👎	👍	👍👍	👍

Scenario B projects provide an expanded transit network by supporting transit improvements on each of the three routes. Projects include low cost transportation improvements for auto and transit on Highway 1, buffered/protected bike lanes and low cost transit improvements for Soquel/Freedom and significant increases in transit capacity with a major investment in rail transit on the rail ROW, along with a bike and pedestrian trail in the rail ROW. The Highway 1 bus on shoulders and ramp metering projects will provide some operational improvements for autos and transit including travel time and travel time reliability improvements. The feasibility of bus on shoulders is currently being investigated. The Soquel/Freedom projects will provide some improvement to transit travel time and reliability, increase transit frequency, and improve bicycle and pedestrian safety. A bike and pedestrian trail and rail transit on the rail ROW could improve access to jobs, education and services, increase the potential for shifting trips from auto to transit and biking and walking, improve safety, reduce VMT and GHG emissions, support lower cost transportation options and benefit people who don't drive. Rail transit from Watsonville to Santa Cruz also encourages more intensive and compact use of land surrounding stations and the potential for future regional transit connections to Monterey, the Bay Area and beyond. Together, the trail on the rail ROW and buffered bicycle lanes on Soquel provide significant safety improvements for bicyclists that will promote a shift from driving to bicycling and in turn, a reduction in VMT and GHG.

Scenario C

	Projects in Scenario C	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	Auxiliary lanes (State Park to Freedom)	👍👍	👍	👍	👍👍	👍	👍👍	👍👍
Soquel/ Freedom	BRT lite	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
	Increased transit frequency	👍👍	N	👍👍	👍	👍👍	👍👍	👍
	auto intersection improvements	👍	👍	👍	👍	👍	👍👍	👍
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍
	Bus rapid transit	👍	👍	N	N	👍	👍👍	👍

Scenario C offers a scenario with moderate auto improvements on Highway 1, transit and auto improvements on Soquel and major bus transit, bike and pedestrian improvements on the rail ROW. Construction of auxiliary lanes on Highway 1 between State Park Dr. and San Andreas Rd will improve traffic flow and safety for autos on Highway 1. Projects on Soquel/Freedom improve transit operations through implementation of bus priority strategies at intersections, an increase in transit frequency and improvements to intersections for autos. Bus rapid transit on the rail ROW is a major cost investment that significantly increases transit capacity. Bus rapid transit and a bike and pedestrian trail on the rail ROW could improve access to jobs, education and services, increase the potential for shifting trips from auto to transit and biking and walking, improve safety, reduce VMT and GHG emissions, support lower cost transportation options and benefit people who don't drive. Implementing bus rapid transit utilizing only the rail ROW north of Aptos and south of Natural Bridges Dr in the City of Santa Cruz would allow for trail and transit services between Aptos and Westside of Santa Cruz with only a bike and pedestrian trail south of Aptos and north of the City of Santa Cruz up to Davenport.

Scenario D

	Projects in Scenario D	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	Rail Transit on Hwy 1	👎👎	N	N	👎👎	👎	👍👍	👎
	Automated Vehicles	👍	👍	👍	👍	👍	👍	👍
Soquel/ Freedom	Dedicated lane for BRT and bike	👎	N	👍👍	👍👍	👍	👍👍	N
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍

Scenario D significantly increases transit capacity in the corridor by implementing rail transit on the highway and replacing a general purpose lane on Soquel/Freedom with dedicated lanes for bus rapid transit shared with biking. The rail ROW is used solely for a bike and pedestrian trail. The rail transit investment along the highway would require a major cost investment with limited benefits and significant environmental impacts. The percentage of automated vehicles on the highway by 2035 would not create a significant increase in capacity or improvements to auto travel time although safety improvements will be likely. A dedicated lane for bus rapid transit and biking that would occupy a general purpose lane will likely have substantial traffic impacts with negative effects on auto travel time but would improve transit travel time and reliability significantly. A bicycle and pedestrian trail on the rail ROW has potential to improve safety and health and promote a shift from driving to bicycling and walking for short trips and in turn, reduce VMT and GHG emissions. Together, the trail on the rail ROW and the dedicated lanes for bus and bike on Soquel/Freedom provide significant safety improvements for bicyclists that will promote a shift from driving to bicycling and in turn, a reduction in VMT and GHG.

Scenario E

	Projects in Scenario E	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	HOV lanes	👍	👍	👍	👎	👍	👍👍	👍
	Auxiliary lanes (State Park to Freedom)	👍👍	👍	👍	👍👍	👍	👍👍	👍👍
	Ramp Metering	👍	👍	👍👍	👍	👍	👍👍	👍
Soquel/ Freedom	Buffered/protected bike lanes	👍	👍👍	👍👍	👍👍	N	👍👍	👍👍
	Bike/pedestrian intersection improvements	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍
	Rail transit	👍	👍	👍👍	👎	👍	👍👍	👍
	Freight Service	👍	👍	👍👍	👍	👍👍	👍👍	👍

Scenario E includes major transportation investments for auto and transit on Highway 1, buffered/protected bike lanes for Soquel/Freedom and significantly increases transit capacity with a major investment in rail transit, along with freight service and bike and pedestrian trail in the rail ROW. The construction of high occupancy vehicle lanes (and associated auxiliary lanes and ramp metering) is expected to provide improvements to travel time, travel time reliability and safety for carpools, transit and single occupant vehicles. Soquel/Freedom projects prioritize bicycle and pedestrian facilities for safety benefits through buffered/protected bicycle lanes. Trail and rail transit on the rail ROW could improve access to jobs, education and services, increase the potential for shifting trips from auto to transit and biking and walking, improve safety, reduce VMT and GHG emissions, support lower cost transportation options and benefit people who don't drive. Rail transit from Watsonville to Santa Cruz also encourages more intensive and compact use of land surrounding stations and the potential for future regional transit connections to Monterey, the Bay Area and beyond. Freight service on the rail line would provide an alternative option with less congestion for goods movement in Santa Cruz County and improve safety by reducing the number of trucks on Highway 1. Together, the trail on the rail ROW and buffered bicycle lanes on Soquel provide significant safety improvements for bicyclists that will promote a shift from driving to bicycling and in turn, a reduction in VMT and GHG.

Scenario F

	Projects in Scenario F	Community support and coordination/ consistency with plans	Potential to address transportation challenges	Compatibility with regulatory requirements	Level of public investment	Right of way and constructability constraints	Technological feasibility	OVERALL RATING
Hwy 1	Bus on shoulders	👍	👍	👍	👍👍	👍	👍👍	👍
	Ramp Metering	👍	👍	👍👍	👍	👍	👍👍	👍
Soquel/ Freedom	Dedicated lane for BRT and bike	👎	N	👍👍	👍👍	👍	👍👍	N
	Bike/pedestrian intersection improvements	👍	👍👍	👍👍	👍👍	👍	👍👍	👍👍
Rail Corridor	Bike and pedestrian trail	👍👍	👍	👍👍	👍👍	👍👍	👍👍	👍👍
	Rail transit	👍	👍	👍👍	👎	👍	👍👍	👍

Scenario F significantly increases transit capacity through the corridor by implementing bus on shoulders on the highway, converting a general purpose lane on Soquel/Freedom to dedicated lanes for bus rapid transit shared with biking, and with a major investment in rail transit and bike and pedestrian trail in the rail ROW. The Highway 1 bus on shoulders and ramp metering projects will provide some operational improvements for autos and transit including travel time and travel time reliability improvements. The feasibility of bus on shoulders is currently being investigated. A dedicated lane for bus rapid transit and biking on Soquel/Freedom that would occupy a general purpose lane will likely have substantial traffic impacts with negative effects on auto travel time but would improve transit travel time and reliability significantly. Trail and rail transit on the rail ROW could improve access to jobs, schools and services and supports lower cost transportation options and benefit people who don't drive. Rail transit from Watsonville to Santa Cruz also encourages more intensive and compact use of land surrounding stations and the potential for future regional transit connections to Monterey, the Bay Area and beyond. Together, the trail on the rail ROW and the dedicated lanes for bus and bike on Soquel/Freedom provide significant safety improvements for bicyclists that will promote a shift from driving to bicycling and in turn, a reduction in VMT and GHG.

Route	**Highway 1**
Project Title	Bus On Shoulder (BOS)
Project Description	A Bus on Shoulders Feasibility Study is currently underway to investigate the possibility of express bus service utilizing the shoulders on Highway 1 between Santa Cruz Metro Center and Watsonville Transit Center. Options being considered include use of either inside or outside shoulders and potential use of the existing/future (funded by Measure D) auxiliary lanes between Morrissey Blvd and State Park Dr (approximately 6 miles). The Bus on Shoulders Feasibility Study is scheduled to be finalized in spring 2018. Frequency of transit service on Highway 1 would remain the same as existing service but would utilize the shoulders/auxiliary lanes and therefore would require minor or no change in operating costs.
Overall Rating	
Summary	BOS is a potentially low cost option that could improve transit travel time and reliability. Decreases in travel time could increase transit ridership, reducing VMT and therefore greenhouse gas emissions. The available right-of-way along shoulders is being investigated in the BOS Feasibility Study.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Project specific planning effort (BOS Feasibility Study) ✓ Consistent with long range planning effort with public input (approved draft 2040 RTP project list)	▫ Monterey Salinas Transit/Metro/Caltrans District 5/CHP are working in cooperation on a feasibility study for bus on shoulders. The feasibility study is scheduled to be finalized in spring 2018. ▫ The approved draft project list for the 2040 Regional Transportation Plan (RTP) includes the bus on shoulders project. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services Environmental ✓ Mode shift to transit ✓ Reduces VMT and GHG Equity ✓ Improves access for people who do not drive ✓ Reduces household transportation costs	▫ Bus on shoulders has the potential to improve transit travel times and travel time reliability between Watsonville and Santa Cruz Metro Center providing improved access to jobs, education centers and services. ▫ Transit in the auxiliary lanes (with minimal time on shoulders) may still provide operational improvements but not as significant as transit travel on a dedicated shoulder. ▫ Faster and more reliable transit service could encourage people to shift from driving to transit, reducing VMT and GHG emissions. Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who do not drive including youth, seniors, people with disabilities, low income, and minorities.
	Negatives		Economic × Increases auto travel time (on ramps) Environmental	▫ Highway shoulders have typically been used for emergency and traffic law enforcement. As required by legislation (AB 1746) emergency and traffic law enforcement use is still the priority for highway shoulders. ▫ Highway 1 ramp metering to benefit transit may have a negative effect on auto travel time as transit would be given priority over autos.

Step 1 Criteria		Rating	Evaluation	Narrative
			× Environmentally sensitive areas may be impacted × Traffic impacts (at highway ramps due to bus priority) Equity × Potential Safety conflicts (with emergency response vehicles, law enforcement and disabled vehicles)	
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓Consistent with legislation (AB 1746, SB 375, SB 32) ✓Consistent with design standards (Caltrans) ✓Approvals required (Caltrans and CHP)	▫ AB 1746 provides the authority for Metro to use highway shoulders for bus-only traffic during congested periods with approval from Caltrans and CHP. ▫ Greenhouse gas reduction legislation (SB 375, SB 32) requires reductions in GHG from transportation in order to slow climate change.
	Negatives			
Level of Public Investment	**Positives/ Neutral**		✓ Minor new investment for capital costs may be required ✓ Minor new investment for operations required ✓ Existing funding sources could cover cost of operations ✓ Some funding sources (federal, state or local) may be available for capital costs	▫ Once the auxiliary lane projects between State Park Dr and Soquel that have been funded by Measure D have been constructed, the cost for BOS on the auxiliary lanes will be minimal. Minor amounts of paving may be required near the interchanges where bus will travel on shoulders. ▫ Frequency of transit service on Highway 1 would remain the same as existing service but would utilize the shoulders/auxiliary lanes, and therefore would require minor or no change in operating costs. Some new investment in buses and operations would be needed if transit service is expanded as a result of this project.
	Negatives			
Right-of-Way and Constructability Constraints	**Positives/ Neutral**		✓Minor amounts of right-of-way may need to be acquired	▫ Bus on shoulder transit services are expected to be accommodated primarily within existing Highway 1 right-of-way. Some additional right-of-way may need to be acquired for widening at ramps and widening of over and under-crossings.
	Negatives		× Construction challenges may require significant additional funds or alternative designs	▫ Limited shoulder width at a number of over-crossings and under-crossings along Highway 1 may make project infeasible in the near term due to cost required to widen these structures. Any widening necessary for BOS would be consistent with the Highway 1 Corridor Investment Program DEIR. The BOS Feasibility Study is scheduled to be final in spring 2018 which will provide information on feasibility and cost.
Technological Feasibility	**Positives/ Neutral**		✓Technologically feasible ✓Could accommodate future technologies	▫ BOS and any associated widening requirements are all technologically feasible. New technologies could be implemented to improve bus flow through ramp meters. Design could allow for implementation of self-driving buses in future.
	Negatives			

Route	**Highway 1**
Project Title	Additional lanes for high occupancy vehicles (HOV) and increased transit frequency
Project Description	The project would construct HOV lanes for a nine mile section between San Andreas Rd and Morrissey Blvd in both the north and southbound directions. Project includes construction of new HOV lanes, auxiliary lanes (in addition to those included in Measure D) and reconstruction of the interchanges and ramps, and over and under-crossings along this nine mile section. Interchange improvements include enhanced bicycle and pedestrian treatments. Express transit service in the HOV lanes is also considered here with 15 minute headways between Watsonville and Santa Cruz. Stops at Cabrillo and Capitola will be more limited.
Overall Rating	
Summary	Highway 1 is a principle transportation route for Santa Cruz County residents with traffic volumes as high as approximately 97,000 vehicles per day. Commuters, visitors, residents and businesses rely on Highway 1 for accessing their destinations. The HOV lanes project is a high cost capacity increasing project which would relieve congestion on Highway 1 and provide travel time improvements for transit, carpooling and single occupancy vehicle (SOV) motorists. Project would promote carpooling and transit use as a means to further increase transportation system capacity. Economic vitality of the region could be increased and access between north and south county improved. There could be potentially significant environmental impacts for all interchange improvements and over and under-crossings along this 9 mile stretch of Highway 1.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Project specific planning effort with public input (Hwy 1 Corridor Investment Program Draft EIR) ✓ Consistent with long range planning effort (2014 RTP) ✓ Multi-agency support (RTC, City of Capitola General Plan)	▫ The RTC is working in cooperation with Caltrans and FHWA on the draft Highway 1 Corridor Investment Program environmental review. The draft EIR has gone through the public comment period and responses to comments are being generated. ▫ The HOV Lane Project is included in the 2014 Regional Transportation Plan. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development.
	Negatives		× May have some public opposition	▫ Concern has been expressed that increasing highway capacity will make traveling by automobile easier, increasing the number or length of trips people take, and thus will increase VMT and GHG emissions. Some members of the public are represented by advocacy groups that oppose improvements to Highway 1.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves auto travel time ✓ Improves auto travel time reliability ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services	▫ Travel time for HOV, SOV and transit would be reduced, improving access to jobs, education centers and services and promoting business development and associated economic vitality for the region. Travel time improvements will also benefit emergency vehicles. Faster and more reliable transit travel times could increase transit ridership and HOV lane travel times could increase carpooling. HOV lanes would help to decrease the "cut-through" traffic on local streets by adding capacity to the highway. Auxiliary lanes improve traffic flow and safety of the highway by extending the merging area between off and on ramps.

Step 1 Criteria		Rating	Evaluation	Narrative
			✓ Potential to increase land use development, business activity, employment and tax revenues Environmental ✓ Mode shift to transit ✓ Mode shift to carpooling Equity ✓ Improves access for people who do not drive (transit) ✓ Improves safety	
	Negatives		Environmental × Environmentally sensitive areas may be impacted × Potential to increase GHG emissions	▫ The HOV lane project extending over a 9 mile section of highway with reconfiguration of the interchanges may impact environmentally sensitive areas. ▫ The goal of adding HOV lanes is to reduce congestion and increase the speed of travel. Increasing travel speeds and making it easier to travel can increase the number or length of trips but the extent of any induced demand would need to be evaluated. GHG could be increased if the number or length of trips is increased due to induced demand. Alternatively, GHG could be reduced if speeds are in the most optimal range (30-50 mph) for GHG emission reductions.
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Standard permitting process ✓ Consistent with legislation (FAST Act)	▫ Permitting of any roadway project can be a time and resource intensive endeavor. Hwy 1 HOV lanes will be required to go through the standard permitting process although the large scale of the project, geography and natural resources potentially within the project area, may increase the amount of coordination needed with federal and state agencies may require significant effort to obtain the required permits. However, the length of the project (9 miles), geography and natural resources potentially in the area may increase the amount of coordination with federal and state agencies and increase the level of effort required to obtain the necessary permits. ▫ FAST Act legislation will require AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. HOV lanes can improve safety and travel time reliability to help meet regional targets.
	Negatives		× Design exceptions required	▫ Requests for design exceptions are anticipated on the HOV Lane project to avoid sensitive resources such as protected plant, animal and wetland habitat areas and to minimize impacts to residential, commercial and existing infrastructure.
Level of Public Investment	**Positives/ Neutral**		✓ Some funding sources may be available for capital costs (STIP, STBG, SB1 -LPP & CC, TIGER, trade corridor funds but unlikely) ✓ Minor new investment for operations required ✓ Existing funding sources could	▫ With the passage of Senate Bill 1 (SB 1) earlier this year, additional funds for transportation investments in Santa Cruz County will be available through both formula funding and grant programs. The congested corridors program, a grant program through SB 1 designed to provide funds for congested commute corridors could provide funds for Highway 1 HOV lanes, although it is unlikely at this time that Highway 1 will be competitive for these funds. STIP funds have been a source of funds for SCC over the years although even the STIP funds dropped within the last few years. STIP funds will be restored by SB 1 although they still may be lower than historic levels.

Step 1 Criteria		Rating	Evaluation	Narrative
			cover cost of operations (Caltrans SHOPP and maintenance budget)	▫ Opportunities arise from time to time from federal infrastructure investment programs, road user fees, and special grants to fund projects that are essentially "one-time" events. ▫ Currently, highway maintenance operation costs are paid for by the state. In future, Caltrans may require local agencies to cover costs of maintenance for projects that increase capacity.
	Negatives		× Major new investment for capital costs required × Few funding sources may be available for capital costs	▫ Cost to implement HOV lanes on Highway 1 is significant due to the interchange and crossing improvements that are needed to eliminate the constrictions that limit widening of the highway.
Right of Way and Constructability Constraints	**Positives/ Neutral**		✓ Can be built in phases	▫ Project can be implemented in phases with independent utility as funding becomes available. One of the several auxiliary lane projects that are needed to accommodate the additional HOV lane has already been built and three more are funded through Measure D.
	Negatives		× Moderate amounts of ROW will need to be acquired × Construction challenges may require significant additional funds or alternative design	▫ The project can generally be accomplished within the existing Caltrans highway right-of way, but some additional right-of-way acquisition will be required to expand some interchanges to accommodate HOV lanes. Geometrically challenged structures at interchanges and bridges may require additional funds or alternative designs.
Technological Feasibility	**Positives/ Neutral**		✓ Technologically feasible ✓ Could accommodate future technologies	▫ The HOV lanes project is feasible with current day technology. Technologies such as autonomous vehicles could be accommodated in future that may increase the capacity of the facility, safety and operational efficiencies such as fuel economies and emissions
	Negatives		x Planning for future technologies has not been initiated	▫ The effect of automated vehicles on the future transportation system is still unknown. Roadway capacity may increase as vehicles can travel more closely together but there will likely be increases in travel due to ease of taking more and longer trips. Regulations related to automated vehicles are still in their infancy. Larger MPOs are beginning to take steps to plan for future technologies. The smaller RTPAs such as RTC will be following their lead in planning for future technologies.

Route	**Highway 1**
Project Title	Auxiliary lanes to extend merging distance *(in addition to Measure D auxiliary lanes)*
Project Description	This project would construct auxiliary lanes along Highway 1 between interchanges from State Park Dr to San Andreas Rd. Auxiliary lanes between Morrissey and Soquel were completed in 2015. Measure D provides funds for 3 sets of auxiliary lanes between Soquel and 41st Ave, Bay-Porter and Park Ave, and Park to State Park Dr. This project would continue construction of auxiliary lanes between interchanges from State Park Dr. to San Andreas Rd. The project would require reconstruction of the two overcrossings of the Santa Cruz Branch Rail Line in Aptos, and widening of the Aptos Creek Bridge.
Overall Rating	
Summary	Moderate cost operational improvement to improve traffic flow and safety of the highway by extending the merging area between off and on ramps. Congestion may be slightly reduced, improving travel time and travel time reliability.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Project specific planning effort with public input (Highway 1 Corridor Investment Program and DEIR) ✓ Consistent with long range planning effort with public input (2014 RTP)	▫ The RTC is working in cooperation with Caltrans and FHWA on the draft Highway 1 Corridor Investment Program Environmental Documents. The draft EIR has gone through the public comment period and responses to comments are being generated. The auxiliary lane projects being considered here between State Park Dr and San Andreas are included in the Highway 1 Corridor Investment Program. Other auxiliary lane projects along Highway 1 (between Soquel and State Park Dr) have been supported by voters through passage of Measure D. ▫ Auxiliary lanes projects are included in the 2014 Regional Transportation Plan as stand-alone projects with independent utility. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development.
	Negatives		× May have some public opposition	▫ Concern has been expressed that increasing highway capacity will make traveling by automobile easier, increasing the number or length of trips people take, and thus will increase VMT and GHG emissions. Some members of the public are represented by advocacy groups that oppose improvements to Highway 1.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves auto travel time ✓ Improves auto travel time reliability Equity × Improves safety	▫ The auxiliary lanes projects could improve traffic flow and safety of the highway by extending the merging area between off and on ramps. Travel time benefits could be realized due to improvements in traffic flow and fewer traffic incidents.
	Negatives		× Environmentally sensitive areas may be impacted	▫ The auxiliary lane project extending a 3 mile section from State Park Dr to San Andreas Rd may impact environmentally sensitive areas.

Step 1 Criteria		Rating	Evaluation	Narrative
Compatible with Regulatory Requirements	Positives/ Neutral		✓ Consistent with legislation (FAST Act) ✓ Consistent with design standards (Caltrans) ✓ Standard permitting process	▫ Permitting of any roadway project can be a time and resource intensive endeavor. Auxiliary lanes will be required to go through the standard permitting process however the length of the project (5 miles), geography and natural resources potentially in the area, may increase the amount of coordination with federal and state agencies and increase the level of effort require to obtain the necessary permits. ▫ FAST Act legislation will require AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. Auxiliary lanes can improve safety and travel time reliability to help meet regional targets.
	Negatives			
Level of Public Investment	Positives/ Neutral		✓ Moderate new investment for capital costs required ✓ Some funding sources may be available for capital costs (STIP, STBG, SB1 -LPP & CC, TIGER, trade corridor funds but unlikely) ✓ Minor new investment for operations required ✓ Existing funding sources could cover cost of operations (Caltrans SHOPP and maintenance budget)	▫ A significant amount of funds are needed to implement auxiliary lanes on Highway 1. The cost of constructing auxiliary lanes between State Park and Rio Del Mar is greater due to the need to replace two rail road bridges in Aptos. With the passage of Senate Bill 1 (SB 1) earlier this year, additional funds for transportation investments in Santa Cruz County will be available through both formula funding and grant programs. The congested corridors program, a grant program through SB 1 designed to provide funds for congested commute corridors, could provide funds for Highway 1 auxiliary lanes, although it is uncertain at this time whether Highway 1 will be competitive for these funds. STIP and STBG funds have been a source of formula funds for SCC over the years although even the STIP funds dropped within the last few years. STIP funds will be restored by SB 1 although they still may be lower than historic levels. ▫ Opportunities arise from time to time from federal infrastructure investment programs, road user fees, and special grants to fund projects that are essentially “one-time” events. ▫ Currently, highway maintenance operation costs are paid for by the state. In future, Caltrans may require local agencies to cover costs of maintenance for projects that increase capacity.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓ Can be built in phases ✓ Minor amounts of ROW may need to be acquired	▫ Project can be implemented in phases with independent utility as funding becomes available. One auxiliary lane project has already been built on Highway 1 and three more are funded through Measure D. This project would construct 3 more sets of auxiliary lanes phased over time. The project can generally be accomplished within the existing Caltrans highway right-of-way, but some additional right-of-way acquisition may be required to for under and over-crossings through this area.
	Negatives		× Design exceptions required	▫ Requests for design exceptions are anticipated on the Auxiliary Lane project to avoid sensitive resources such as protected plant, animal and wetland habitat areas and to minimize impacts to residential, commercial and existing infrastructure.
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible ✓ Could accommodate future technologies	▫ The auxiliary lanes project is feasible with current day technology. Technologies such as autonomous vehicles could be accommodated in future.
	Negatives			

Route	**Highway 1**
Project Title	Ramp Metering
Project Description	Reconfiguration of on-ramps and local streets to allow for ramp metering and installation of ramp meters at interchanges between San Andreas Rd and Morrissey Blvd. Ramp metering will control entry onto the highway through use of meter lights during peak periods. The metering rate will be traffic responsive based on actual traffic conditions of the mainline flow in the vicinity of the ramp. Reconfiguration of on-ramps may require widening and/or lengthening of the on-ramps to allow room for queuing to limit backup onto local streets. Separate lanes for SOV and HOV would be installed with faster metering rates for HOV.
Overall Rating	
Summary	Highway 1 is a principle transportation route that serves Santa Cruz County residents with traffic volumes up to approximately 97,000 vehicles per day. Commuters, visitors, residents making local trips and businesses rely on Highway 1 for accessing their destinations. The economy of Santa Cruz County is dependent on a functioning transportation system where Highway 1 is the backbone. Ramp metering on Highway 1 has the potential to make significant near term operational efficiencies at a low project cost. Benefits from ramp metering include safety improvements from spacing vehicles as they merge onto highway and less stop and go traffic; improvements to travel time and travel time reliability; and reductions in GHG emissions. With the improved efficiencies of the highway, cut through traffic through the neighborhoods will be reduced. Ramp metering loses effectiveness when demand is significantly greater than capacity.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓Project specific planning effort with public input (Highway 1 Corridor Investment Program DEIR) ✓Consistent with long term planning effort (2014 RTP)	▫ The RTC is working in cooperation with Caltrans and FHWA on the draft Highway 1 Corridor Investment Program Environmental Documents. The Highway 1 Corridor Program includes ramp metering in both alternatives being evaluated. The draft EIR has gone through the public comment period and responses to comments are being generated. The ramp metering project being considered here between Morrissey Blvd and San Andreas Rd are included in the 2014 Regional Transportation Plan as a stand-alone project with independent utility.
	Negatives		× May have some public opposition	▫ Ramp metering could result in queue overflow on local streets impacting traffic but this could be limited with ramp design, detector placement and timing design. Motoring public and businesses could express opposition.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		<u>Economic</u> ✓Improves auto travel time ✓Improves auto travel time reliability ✓Improves access to jobs, education and services ✓Potential to increase land use development, business activity, employment and tax revenues	▫ The ramp metering project could improve operational efficiencies by metering the flow of vehicles onto the highway during peak periods. Ramp metering has also been shown to increase capacity of the highway. Speeds will increase on the freeway and congestion will be reduced, decreasing travel time and improving travel time reliability. A short wait on the on-ramp allows motorists to increase their average freeway speed and shorten overall freeway travel times. Ramp metering loses effectiveness when demand is significantly greater than capacity. ▫ Greater operational efficiencies on the highway will relieve cut through traffic through the neighborhoods. ▫ Ramp metering has also been shown to improve safety by spacing the vehicles as they

Step 1 Criteria		Rating	Evaluation	Narrative
			Environmental ✓Potential to reduce GHG Equity ✓Improves safety	merge onto the highway and by reducing the stop and go traffic thereby reducing the number of collisions. ▫ Vehicles traveling at speeds between 30 to 50 mph emit fewer GHG emissions per mile than vehicles in stop and go traffic.
	Negatives		Environmental × Environmentally sensitive areas may be impacted × Traffic Impacts (on local streets)	▫ Widening of ramps where needed for queuing capacity may have an impact on environmentally sensitive areas ▫ Ramp metering could result in queue overflow on local streets impacting traffic but this could be managed with detector placement and timing design.
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓Consistent with legislation (FAST Act, SB 375, SB 32) ✓Consistent with design standards (Caltrans) ✓Standard permitting process	▫ FAST Act legislation requires AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. Ramp metering can improve both safety and travel time reliability. ▫ Greenhouse gas reduction legislation (SB 375, SB 32) requires reductions in GHG from transportation in order to slow climate change.
	Negatives			
Level of Public Investment	**Positives/ Neutral**		✓Minor new investment for capital costs required ✓Minor new investment for operations required ✓Some funding sources may be available for capital costs (STIP, STBG, SB1 -LPP & CC, TIGER, trade corridor funds but unlikely) ✓Some funding sources may be available for operations (Caltrans SHOPP and maintenance budget)	▫ The level of investment needed for ramp metering still needs to be determined in detail based on how much effort will be needed to provide the queuing capacity on the on-ramps. The amount of investment may be relatively small compared to increase in operational efficiencies and the safety benefits. The 3 sets of auxiliary lane projects funded through Measure D could potentially include reconfiguration of on-ramps for ramp metering which would reduce the amount of additional funds needed for this project.
	Negatives			
Right-of-way and Constructability Constraints	**Positives/ Neutral**		✓Some right-of-way may need to be acquired ✓Project is readily constructible	▫ Some additional right-of-way may need to be acquired for widening at ramps to accommodate queuing as shoulder widths may be limited.
	Negatives		× Design exceptions required	▫ Requests for design exceptions are anticipated on the ramp metering project to minimize impacts to residential, commercial and existing infrastructure.
Technological Feasibility	**Positives/ Neutral**		✓Technologically feasible ✓Could accommodate future technologies	▫ Current technology exists for implementation that would allow the metering rate to be responsive to actual traffic conditions of the mainline flow in the vicinity of ramp. Additional technology also exists to determine the metering rate based on overall traffic conditions of highway and major arterials which will likely improve over time.
	Negatives			

Route	**Highway 1**
Project Title	Additional lanes on Highway 1 bridge over San Lorenzo River
Project Description	The project would widen the bridge at the San Lorenzo River overcrossing from 2 lanes in each direction to 3 lanes southbound and 4 lanes northbound to improve traffic flow through the Highway 1/9 intersection and bring the bridge up to seismic safety standards.
Overall Rating	
Summary	The project could help to improve traffic flow through the Hwy 1/9 intersection, one of the most utilized intersections in the county at a moderate cost. Safety improvements include increasing the distance for automobiles to merge on/off Highway 1 from Ocean Street and River Street/Highway 9. Bridge replacement would be completed to meet seismic safety standards and could also decrease environmental impacts by removing the center pier from the middle of the river channel.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP) ✓ Consistent with other planning efforts (City of Santa Cruz CIP)	▫ Project is included in the 2014 RTP. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		<u>Economic</u> ✓ Improves auto travel time ✓ Improves auto travel time reliability ✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and tax revenues <u>Equity</u> ✓ Improves safety	▫ The Highway 1 bridge over the San Lorenzo River is part of the bottleneck for automobiles accessing the west side of the City of Santa Cruz and the Harvey West business area. Widening San Lorenzo Bridge in coordination with the Highway 1/9 intersection improvements will improve traffic operations in this area. The degree to which travel time and reliability improve may not be significant. ▫ Safety will improve by increasing length of merge lanes northbound from Ocean St onto Highway 1 and southbound from River Street/Hwy 9 onto Highway 1.
	Negatives		<u>Environmental</u> × Environmentally sensitive areas may be impacted	▫ Widening the bridge over San Lorenzo River may impact the riverine habitat and associated species. Designs to reduce project impacts compared to existing impact are being considered.
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Consistent with design standards ✓ Standard permitting process	▫ Project includes seismic retrofit of bridge as required by the Caltrans Seismic Retrofit Program. ▫ The San Lorenzo Bridge Widening will be required to go through the standard permitting process although the need for construction near the waterway may require significant effort to obtain the required permits.
	Negatives			

Step 1 Criteria		Rating	Evaluation	Narrative
Level of Public Investment	**Positives/ Neutral**		✓ Existing funding sources could cover cost of operations ✓ Moderate new investment for capital costs required	▫ Currently, highway maintenance operation costs are paid for by the state. In future, Caltrans may require local agencies to cover costs of maintenance for projects that increase capacity.
	Negatives		× Few funding sources may be available for capital costs (STIP, STBG, CC, Measure D – local)	▫ Few funding sources are available for capital costs of project.
Right-of-Way and Constructability Constraints	**Positives/ Neutral**		✓ Right of way is sufficient	
	Negatives		× Construction challenges may require significant additional funds or alternative design	▫ Alternative designs may be considered to reduce impacts on traffic during construction and impacts to environmentally sensitive areas.
Technological Feasibility	**Positives/ Neutral**		✓ Technologically feasible ✓ Could accommodate future technologies	
	Negatives			

Route	**Highway 1**
Project Title	Mission Street Intersection Improvements
Project Description	The project would improve intersections along Mission Street in Santa Cruz including modifying design and adding lanes at Hwy1/Mission/Chestnut/King intersection, widening at Mission and Bay, right turn lanes at Swift and Laurel, and installation of a traffic signal at Shaffer Rd. Intersection improvements are needed to reduce conflicts between autos, transit, bicyclists and pedestrians and to improve traffic flow.
Overall Rating	
Summary	Mission Street on the west side of Santa Cruz has many roles to perform. It functions as State Route 1 for through traffic connecting the north coast to the City of Santa Cruz and destinations to the south. It also serves as the "main street" for the City of Santa Cruz's upper and lower westside neighborhoods and is the primary automobile and transit route serving UCSC. The Mission Street intersection improvements will improve access for through traffic and local destinations, improve traffic operations and travel time reliability and improve safety for autos, bicyclists and pedestrians.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP, City of SC General Plan and 2015-2017 CIP) ✓ Multi-agency support (City of SC, RTC)	▫ Intersection improvement projects on Mission Street are included in the 2014 RTP. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development. ▫ Hwy 1/Mission/Chestnut/King and Mission/Bay projects are listed in the most recent City of Santa Cruz CIP. ▫ Improving safety for bicyclists on Mission Street was the focus of recent bicycle safety campaigns.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves auto travel time ✓ Improves auto travel time reliability ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and tax revenues Equity ✓ Improves safety	▫ The intersection improvements will improve traffic flow on Mission Street to destinations on the westside of SC including UCSC, commercial areas and residences. Safety, travel time and travel time reliability for autos and transit will be improved. Commuters, businesses, residents making local trips, visitors and students will benefit from these improvements. ▫ Improvements for auto and transit must consider effects on bicyclists and pedestrians and their ability to navigate safely through intersections.
	Negatives			
Compatible with	**Positives/ Neutral**		✓ Consistent with design standards (Caltrans)	▫ FAST Act legislation requires AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need

Step 1 Criteria		Rating	Evaluation	Narrative
Regulatory Requirements			✓ Consistent with legislation (FAST Act)	to be met in the next few years. Mission St. intersection improvements can improve both safety and travel time reliability.
	Negatives		X Design exceptions required	▫ Request for design exceptions are anticipated for intersection improvements on Mission St. to minimize impacts to residential, commercial and existing infrastructure.
Level of Public Investment	Positives/ Neutral		✓ Minor new investment for capital costs required ✓ No new investment for operational costs required ✓ Some funding may be available for capital costs (STIP, STBG, SB1 -LPP & CC, TIGER, trade corridor funds but unlikely)	▫ Funding may be available for these projects from a number of different sources including the traditional sources (STIP, STBG) and a couple of new sources of funds due to passage of SB 1 (LPP and CC). Operational costs would not likely need to be increased based on these intersection improvements.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓ Minor amounts of ROW may need to be acquired	▫ Intersection improvements to accommodate all modes (auto, transit, biking and walking) will require some additional right-of-way.
	Negatives			
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible	▫ Intersection improvements can be designed to accommodate future technologies.
	Negatives			

Route	**Highway 1**
Project Title	Provide rail transit along the Highway 1 alignment
Project Description	Rail transit service would travel primarily along Highway 1 between Santa Cruz and Watsonville. Rail transit service would be bidirectional and extend from Depot Park in Santa Cruz along Chestnut St to Highway 1 at Mission St, continue on Highway 1 until north of Beach St in Watsonville where rail transit service would continue on the Santa Cruz Branch Rail Line to Pajaro Station. Rail transit along Highway 1 would occur in the median in order to limit the number of points where the highway and rail cross. Portions of the rail transit service are expected to be elevated and other sections constructed in tunnels as a result of insufficient space in the median for bidirectional tracks and platforms, proximity of the project to the built environmental, and changes in grade along Highway 1. Station locations would include Depot Park, Emeline Ave, Soquel Ave, 41st Ave, Park Ave and downtown Watsonville.
Overall Rating	
Summary	Rail transit service on a combination of new rail transit facilities along Highway 1 and existing Santa Cruz Branch Line rail ROW and Roaring Camp ROW is a high cost capacity increasing improvement that would provide a new transit route along Santa Cruz County's most heavily traveled route connecting north and south county. Rail transit service along Highway 1 would improve transit travel time and transit travel time reliability and provide an alternative to congestion on Highway 1 and Soquel/Freedom. By improving travel time and travel time reliability, transit ridership could increase, reducing VMT and therefore greenhouse gas emissions. Rail transit increases options for those who do not drive including seniors, youth, people with disabilities, and low-income.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**			
	Negatives		× Project is not included in any planning document.	▫ A rail transit service alignment along Highway 1 has not previously been investigated by the RTC and community input has not been solicited on project concepts. However, RTC policy supports consideration of passenger rail service.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**	Neutral	<u>Economic</u> ✓Improves transit travel time ✓Improves transit travel time reliability ✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and tax revenues <u>Environmental</u> ✓Mode shift to transit ✓Improves safety ✓Reduces VMT and GHG <u>Equity</u>	▫ Rail transit service on Highway 1 between Watsonville and Santa Cruz has the potential to significantly improve transit travel times and travel time reliability between Santa Cruz and Watsonville by providing a separate continuous right of way dedicated to rail transit along Highway 1. This new direct transit connection between Watsonville and Santa Cruz will improve access to jobs, education centers and services and promote business development and associated economic vitality for the region. A new transit alternative to congested automobile travel on Highway 1 may increase ridership, encourage people to shift from driving to transit, reducing VMT and GHG emissions. ▫ Access to jobs, education and services may improve but may be limited. Rail ridership has been shown to correlate with the number of jobs within ¼ mile of rail stops (approximately a 5 minute walk) and the intensity of land use near the stations. Much of this ¼ mile distance (approximately 1/10 mile) is taken up by the highway/interchange structure limiting the amount of jobs that can be accessed within a 5 minute walk from the stations. The distance between rail stations along this rail line will also limit ridership. ▫ Access for people who do not drive (youth, seniors, people with disabilities, low income,

Step 1 Criteria		Rating	Evaluation	Narrative
			✓ Improves access for people who do not drive	minority) can be improved by a rail transit option.
	Negatives		× Environmentally sensitive areas may be impacted × Traffic impacts (near rail stations)	▫ A passenger rail project extending approximately 20 miles and requiring construction of new structures along the route may impact environmentally sensitive areas. Elevating or tunneling rail service would have more extensive environmental impacts. ▫ Traffic impacts near rail stations will be significant as station locations will be located in areas that are already congested during peak periods. Alternatively, rail along highway will not cross roadways at grade and thus will not have traffic or safety impacts at roadway intersections.
Compatible with Regulatory Requirements	Positives/ Neutral	Neutral	✓ Consistent with legislation (SB 375, SB 32) ✓ Consistent with design standards (Caltrans, CPUC, and rail operator)	▫ Greenhouse gas reduction legislation (SB 375, SB 32) requires reductions in GHG from transportation in order to slow climate change. Rail on Highway 1 could result in a significant mode shift to transit, thereby reducing VMT and GHG emissions.
	Negatives		× Complex permitting process	× Federal regulatory requirements for rail are challenging to meet
Level of Public Investment	Positives/ Neutral	👎👎	✓ Some funding sources may be available for capital costs (FTA5309-New/Small Starts, TIGER, STIP, STBG, SB 1-LPP & CC, LCTOP, TIRCP, Section 130)	▫ Capital funds may be available from Federal Transit Agency New/Small Starts program and other federal, state and local sources.
	Negatives		× Major new investment for capital costs required × Major new investment for operations required × New funding source required for operations	▫ Significant expense related to construction, provision of stations and rail operations. Costs would include interchange improvements to make room for rail transit in the median. A rail transit system that includes elevated sections as well as tunneled sections would require a major cost investment.
Right of Way and Constructability Constraints	Positives/ Neutral	👎		
	Negatives		✓ Moderate amounts of ROW may need to be acquired ✓ Construction challenges may require significant additional funds or alternative design	▫ The project can generally be accomplished within the existing Caltrans highway right-of way, but some additional right-of-way acquisition may be required to reconstruct interchanges to accommodate station stops. ▫ A design for rail transit along Highway 1 has not been initiated. An initial project design would need to consider right of way, terrain and station locations. Building new structures in locations where Highway 1 right of way is already constrained may present construction challenges. Interchanges would need to be reconstructed to remove column structures in median to allow for rail transit travel. Elevating or tunneling rail transit service along Highway 1 may be required due to geographical constraints and result in significant construction challenges.
Technological Feasibility	Positives/ Neutral	👍👍	✓ Technologically feasible ✓ Could accommodate future technologies (battery electric	▫ Future technologies could provide battery electric multiple units for noise reduction and for reduced GHG.

Step 1 Criteria		Rating	Evaluation	Narrative
			multiple units)	
	Negatives			

Route	**Highway 1**
Project Title	Automated vehicles
Project Description	Automated vehicles (AVs) are defined by the ability of the vehicle to control a safety-critical function such as steering, throttle, or braking without direct driver input. Driver-assistance automation is already included in many vehicles where the driver is assisted with acceleration through adaptive cruise control, assisted parking and other features. Improvements in these technologies are rapidly advancing. There is much debate in the field about the timeline for implementation of fully automated vehicles. The need for regulatory agencies to address ethical questions on maneuvering around obstacles including other vehicles, bicyclists, pedestrians, and animals is an area of uncertainty that may delay introduction of fully automated vehicles onto our roadways even after the technology is readily available. Based on historic vehicle purchasing and turnover rates as well as the infancy of the regulatory decision making process for automated vehicles, market saturation of fully automated vehicles are estimated for around the years 2050 - 2060. It is assumed that by 2035, the horizon for this study, fully automated vehicles with human presence (auto and transit) will be operating on the roadways, but they will constitute less than 20 percent of the fleet vehicle mix. This assumption relies on a number of factors including the adoption of state regulatory guidance, the realization of cost efficiencies, and consumer acceptance. Roadway infrastructure to support automated vehicles will be minimal in 2035. Traffic signals will include technology for detecting the presence of vehicles at intersections and communicating some data, but will not fully replace present day loop-detectors. Additional infrastructure that may be implemented prior to 2035 would include devices to provide vehicles with safety information such as warnings about work zones, sharp curves, or other hazards. As fully automated vehicles become a larger portion of the fleet vehicle mix, smart infrastructure such as traffic signals with wifi communication to vehicles, pedestrians, and bicyclists will be required.
Overall Rating	
Summary	The effects of automated vehicles on future transportation systems are under much debate. This new technology has the ability to make vast improvements to safety, access and mobility or conversely, the potential to drastically increase traffic congestion and vehicle miles traveled. The effect of AV technology on the transportation system is dependent on the regulatory system that is developed and the ability of government agencies to implement equitable solutions that serve the community's mobility needs and simultaneously reduce vehicle miles traveled. The cost for automated vehicles is mostly taken on by the individual consumer as the public infrastructure needs for AV will be minimal by 2035. By 2035, automated vehicles, including transit, will likely still be mixed with conventional vehicles on all roadways. Improvements to travel time and travel time reliability for autos and transit will likely be slight as the increased density at which vehicles can operate only becomes significant when there is at least 40% AVs in the flow. More significant traffic flow benefits could be achieved once there is 75% or greater AVs in the flow which is unlikely prior to 2035. Safety benefits could be significant with AV technology, reducing the number of collisions on roadways which in turn reduces non-recurring congestion.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency	**Positives/ Neutral**		✓Consistent with other planning efforts (Federal and State)	▫ The research, development and manufacturing of automated vehicle technology have increased substantially over the last decade. Efforts at the state and federal level to regulate manufacturing and use of AVs on roadways are challenged to keep pace with advancements in technology.

Step 1 Criteria		Rating	Evaluation	Narrative
with Applicable Plans				▫ Community support can be shown by individual purchasing of these vehicles.
	Negatives		× May have some public opposition	▫ Lower income individuals may not support government expenditures on infrastructure for AVs. Results from the UCS survey expressed significant concern from a number of survey responders that AVs are for the wealthy and they do not see benefit for themselves or the community.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	Positives/ Neutral		<u>Economic</u> ✓Improves auto travel time ✓Improves auto travel time reliability ✓Improves transit travel time ✓Improves transit travel time reliability <u>Environmental</u> ✓Reduces GHG <u>Equity</u> ✓Improves safety	▫ Improvements to safety from level 5 automated vehicles (AV5s) can be realized through use of sensing technology to detect obstructions in vehicle path and respond efficiently. Concerns have been raised about reliance on programmed systems rather than human response but overall safety is considered one of the main benefits to AV5s. ▫ Improvements to travel time and reliability for both autos and transit may occur as simulations have found that a small percentage of HAVs among human-driven cars on a lane reduces congestion. An AV5 will not sit idle after the car in front has started moving improving the traffic flow. AV5s will also systematically adhere to a closer distance to the car in front in comparison to human-driven which significantly increases the density of vehicles. This improvement will become more significant as the number of AV5s increases and human-driven vehicles are decreased. Others debate that any significant improvements to increased capacity and thus travel time improvements will only be realized in lanes dedicated to HAVs as mixed flows will not show much improvement to roadway capacity. ▫ Once AV technology is advanced to the point where human presence is not required in vehicles, vehicle miles traveled and thus travel time will likely increase substantially as vehicles will be sent to run errands and take other trips without regard for costs of travel time on people. This assumption is not being made here as this will likely occur after 2035. ▫ AV5s in 2035 will likely be primarily electric vehicles and thus will reduce GHG. Improved driving efficiencies from fuel powered AV5s will also reduce GHG. ▫ Fully autonomous vehicles may be able to operate much earlier on a dedicated facility but limited land and resources will limit the feasibility of this occurring by 2035. Once the market is saturated with HAVs, transit HAVs could provide increased local mobility at a low cost, for which private vehicles may be forfeited but this occurrence is likely further in the future than 2035.
	Negatives		<u>Economic</u> × Increases household transportation costs	▫ The expense of purchasing AVs is greater than the average costs for automobiles and thus will increase household transportation costs. Many people may not be able to afford AVs prior to 2035.
Compatible with Regulatory Requirements	Positives/ Neutral		✓Consistent with legislation (FAST Act)	▫ FAST Act legislation requires AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. Automated vehicles can improve safety and potentially travel time reliability.
	Negatives		× Standards currently under development	▫ Federal and State regulations determining the new requirements for both auto manufacturers and roadway users may take a while to catch up with the advancements in AV technology.

Step 1 Criteria		Rating	Evaluation	Narrative
Level of Public Investment	Positives/ Neutral		✓Minor new investment for capital costs required ✓Minor new investment for operations required	▫ The amount of public infrastructure needed in the short term for vehicle-to-vehicle technology for AVs will be minimal since AVs can operate in mixed traffic on existing roadways shared with conventional vehicles. Vehicle-to-infrastructure technology would require more significant investments but will likely not be utilized on a large scale until there is market saturation of HAVs. Examples include curve speed warning to vehicles that speed is too high to safely negotiate the curve; pedestrian in crosswalk warning that alerts vehicles that a pedestrian is in a crosswalk; work zone warnings to alert vehicles that a work zone is approaching; and transit signal requests for extended green when approaching intersection.
	Negatives		× Unknown sources of funding for capital and operational costs	▫ Sources of funding for capital and operational costs for infrastructure technology associated with AVs are unknown at this time but will likely become available over time as more AVs are on the roadways.
Right of Way and Constructability Constraints	Positives/ Neutral		✓Right of way is sufficient	▫ The right of way is sufficient in the near term for AVs but if dedicated facilities are required for HAVs in future, ROW needs will be substantial particularly while there is a shift from conventional vehicles to AVs.
	Negatives			
Technological Feasibility	Positives/ Neutral		✓Emerging technology	▫ Automated vehicles are an emerging technology that is rapidly advancing. The debate for when and exactly how HAVs will affect the transportation system is ongoing with large differences in opinions. Despite these differences, it is clear that highly automated vehicles will become an integral part of the transportation system in the future.
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Bus Rapid Transit lite (BRT lite)
Project Description	A branded bus rapid transit lite on Soquel Ave/Dr and Freedom Blvd would reconfigure intersections where feasible for transit queue jumps and transit signal priority to provide faster and more reliable service. Faster boarding could also be implemented through platform level boarding and electronic or off-board fare collection. Frequency of buses would remain same as existing service. Bus stops would be located to promote fast bus service and travel time, preferably at the downstream side of intersections.
Overall Rating	
Summary	BRT lite is a low cost operational improvement to improve transit travel time along Soquel Ave/Dr and Freedom Blvd, two of the main arterials through Santa Cruz County. By improving transit travel time and travel time reliability, transit ridership could increase, reducing VMT and therefore greenhouse gas emissions. BRT lite can be implemented incrementally as each intersection that is reconfigured for BRT lite can reduce transit travel times. As transit is prioritized, auto travel time may be increased.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP) ✓ Agency support (Metro staff) ✓ Consistent with other planning efforts (2015 Sustainable Santa Cruz County, Santa Cruz Corridors Plan)	▫ This project is consistent with recent planning efforts focused on improving transportation options on Soquel Ave/Dr by the County and City of Santa Cruz and is listed in the 2014 Regional Transportation Plan.
	Negatives		× May have some public opposition	▫ Traffic impacts due to transit priority at intersections and moving on-street parking to alternate locations in some sections could be opposed by motoring public and some businesses. ▫ Members of the public, some represented by advocacy groups, oppose parking being relocated from Soquel Ave and have signature gathering efforts in progress.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services Environmental ✓ Mode shift to transit ✓ Reduces VMT and GHG. Equity ✓ Improves access for people	▫ The reason for implementing bus rapid transit lite would be to decrease transit travel times and improve transit travel time reliability by allowing transit to have priority at intersections and decrease boarding times. Faster and more reliable transit travel times will promote increased ridership, reducing VMT and GHG emissions. Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who don't drive including, but not limited to, youth, seniors, people with disabilities, low income, and minorities.

Step 1 Criteria		Rating	Evaluation	Narrative
			who do not drive ✓ Reduces household transportation costs	
	Negatives		Economic × Increases auto travel time Environmental × Traffic impacts (at intersections)	▫ Intersection improvements for transit may have a negative effect on auto travel time as autos will need to wait for transit to move through the intersection.
Compatible with Regulatory Requirements	Positives/ Neutral		✓ Consistent with legislation (SB 375, SB 32) ✓ Consistent with design standards (local transit standards)	▫ SB 375 and SB 32 require reductions in GHG emissions. Faster transit travel times could make transit a more convenient alternative to driving and encourage a shift from driving to transit.
	Negatives			
Level of Public Investment	Positives/ Neutral		✓ Minor new investment for capital costs required ✓ No new investment for operations costs required ✓ Some funding sources may be available for capital costs (FTA5309-New/Small Starts, TIGER, STIP, STBG, SB 1-LPP & CC, LCTOP, TIRCP)	▫ Capital costs include new traffic signals with transit signal priority, reconfiguration of the intersection for a transit queue jump lane and electronic board payment or boarding platforms. ▫ Existing transit services on Soquel Ave/Dr and Freedom Blvd would continue and benefit from faster travel times. No additional transit service is planned as part of the BRT lite project and thus no additional operational costs are required.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓ Minor amounts of right of way may need to be acquired ✓ Project is readily constructible ✓ Could be built in phases	▫ BRT lite could be built in phases to work towards a continuous BRT lite system for the entire Soquel and Freedom route. Intersections with enough right of way could be reconfigured to incorporate transit priority initially. Intersections with limited right of way could be reconfigured over time as right of way is acquired.
	Negatives		× Parking may need to be moved	▫ On-street parking still exists along certain areas of Soquel Ave/Dr and Freedom Blvd. Utilizing the current right of way to prioritize transit may require moving parking to alternate locations.
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible	▫ Transit signal priority, transit queue jumps and faster boarding strategies are common uses of technology applied as a means for improving transit travel times.
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Dedicated Lanes for Bus Rapid Transit and Biking
Project Description	A branded bus rapid transit system on Soquel Ave/Dr and Freedom Blvd with dedicated lanes where feasible shared with biking. The dedicated lanes would occupy the existing right hand general purpose lane in segments where there are a minimum of 2 lanes in each direction. Intersections would be reconfigured for transit signal priority. Transit queue jumps would be provided where dedicated lanes are not feasible. Faster boarding would also be implemented through platform level boarding and electronic or off-board fare collection. Frequency of buses would be increased to 10 minute headways. Bus stops would be located to promote fast bus service and travel time, preferably at the downstream side of intersections.
Overall Rating	Neutral
Summary	BRT on dedicated lanes will significantly improve transit travel time along Soquel Ave/Dr and Freedom Blvd, two of the main arterials through Santa Cruz County. By improving travel time and travel time reliability, transit ridership could increase, reducing VMT and therefore greenhouse gas emissions. BRT can be implemented in phases with priority in sections with the greatest congestion. Shared bus-bike lanes provide basic bicycle access on transit-focused streets when no space is available for dedicated bikeways. Biking in a lane shared with BRT would create a safer biking facility and increase bicycle ridership as they generally travel at similar speeds and thus "leap frogging" is less likely. As transit and biking is prioritized, auto travel time will be increased.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP) ✓ Agency support (Metro staff) ✓ Consistent with other planning efforts (2015 Sustainable Santa Cruz County, Santa Cruz Corridors Plan)	▫ This project is consistent with recent planning efforts focused on improving transportation options on Soquel Ave/Dr by the County and City of Santa Cruz and is listed in the 2014 Regional Transportation Plan.
	Negatives		× May have some public opposition	▫ Traffic impacts due to transit priority at intersections, reducing the existing two general purpose travel lanes to one travel lane and moving on-street parking to alternate locations in some sections could be opposed by motoring public and some businesses.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**	Neutral	Economic ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services Environmental ✓ Mode shift to transit ✓ Mode shift to biking ✓ Reduces VMT and GHG. Equity ✓ Improves access for people who do not drive	▫ The reason for implementing bus rapid transit is to decrease transit travel times and improve transit travel time reliability by allowing transit to travel unrestricted by auto traffic. Faster and more reliable transit travel times will promote increased ridership, reducing VMT and GHG emissions. Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who don't drive including youth, seniors, people with disabilities, low income, and minorities. Access to jobs, education and services would be improved for transit riders but decreased for autos. ▫ A dedicated lane shared between buses and bikes would also provide a safer bicycling facility and promote increased bike ridership.

Step 1 Criteria		Rating	Evaluation	Narrative
			✓ Reduces household transportation costs	
	Negatives		Economic × Increases auto travel time Environmental × Traffic impacts	▫ Converting a general purpose lane to a dedicated lane for transit and biking will have significant traffic impacts and a substantial negative effect on auto travel time and travel time reliability.
Compatible with Regulatory Requirements	Positives/ Neutral		✓ Consistent with legislation (SB 375, SB 32, FAST Act) ✓ Consistent with design standards (local transit standards)	▫ SB 375 and SB 32 require reductions in GHG emissions. Faster transit travel times could make transit a more convenient alternative to driving and encourage a shift from driving to transit. Increased bicycle ridership will also contribute to reductions in VMT. ▫ FAST Act legislation will require AMBAG to meet regional targets for safety. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. A designated lane shared between buses and bicyclists can improve safety to help meet regional targets.
	Negatives			
Level of Public Investment	Positives/ Neutral		✓ Minor new investment for capital costs required ✓ Minor new investment for operational costs required ✓ Some funding sources may be available for capital costs (FTA5309-New/Small Starts, TIGER, STIP, STBG, SB 1-LPP & CC, LCTOP, TIRCP, ATP) ✓ Some funding sources may be available for operational cost (Fares, STA, TDA, LCTOP, TIRCP)	▫ Capital costs include new traffic signals with transit signal priority, reconfiguration of the intersection for a transit queue jump lane and electronic board payment or boarding platforms. Frequency of transit services on Soquel and Freedom would increase and benefit from faster travel times.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓ Minor amounts of right-of-way may need to be acquired ✓ Project is readily constructible ✓ Could be built in phases	▫ BRT could be built incrementally over time to work towards a more complete BRT system. Roadway segments with 2 general purpose lanes in each direction in congested areas could be prioritized first for converting to BRT. Intersections with enough right-of-way could be reconfigured to incorporate transit priority initially.
	Negatives		× Parking may need to be moved	▫ On-street parking still exists along certain areas of Soquel Ave/Dr and Freedom Blvd. Utilizing the current right of way for dedicated lanes for transit and bicyclists may require moving parking to alternate locations.
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible ✓ Could accommodate future technologies	▫ Dedicated transit lanes, transit signal priority, transit queue jumps and faster boarding strategies are common uses of technology as a means for improving transit travel times. Autonomous transit could utilize dedicated lanes in future.
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Increased Transit Frequency with Express Service
Project Description	Increased bus frequency on Soquel Ave/Dr and Freedom Blvd to increase headways to every 10 minutes along Soquel Ave/Dr, every 10 minutes along Freedom Blvd within the City of Watsonville and every 15 minutes on Freedom Blvd in rural areas.
Overall Rating	
Summary	Increased frequency of transit service along Soquel Ave/Dr and Freedom Blvd is a minor cost operational improvement to increase transit ridership along two of the major arterials connecting Watsonville to City of Santa Cruz. Increased frequency of service has been shown to increase ridership although without reductions in transit travel time, the increase in ridership will not likely be significant. Increased transit frequency will improve access for people who do not drive including youth, seniors, people with disabilities, low income and minorities. An increase in ridership will reduce VMT and therefore greenhouse gas emissions.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP) ✓ Agency support (Metro staff) ✓ Consistent with other planning efforts (2015 Sustainable Santa Cruz County, Santa Cruz Corridors Plan)	▫ Public expressed support for increases in transit service when Metro restructured service in 2016 due to budget shortfalls. ▫ Increasing transit frequency is included in the 2014 Regional Transportation Plan. Partner agency, public and stakeholder input are solicited at key milestones of the RTP development. ▫ This project is consistent with recent planning efforts focused on improving transportation options on Soquel Ave/Dr by the County and City of Santa Cruz.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**	Neutral	Economic ✓ Improves access to jobs, education and services Environmental ✓ Mode shift to transit ✓ Reduces VMT and GHG. Equity ✓ Improves access for people who do not drive ✓ Reduces household transportation costs	▫ Increasing transit frequency makes it easier for people to take transit and thus will promote increased ridership, reducing VMT and GHG emissions. However, increasing frequency may attract few new riders if transit travel times are not also improved in congested areas. Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who don't drive including youth, seniors, people with disabilities, low income, and minorities.
	Negatives			
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Consistent with legislation (SB 375, SB 32)	▫ SB 375 and SB 32 require reductions in GHG emissions. More frequent transit service could encourage a shift from driving to transit.
	Negatives			

Step 1 Criteria		Rating	Evaluation	Narrative
Level of Public Investment	Positives/ Neutral		✓ Minor new investment for capital costs required ✓ Minor new investment for operations costs required ✓ Some funding sources may be available for capital costs (STIP, STBG, LCTOP)	▫ Capital costs include new buses to support more frequent service. Capital costs could be funded from a number of sources including STIP, STBG and LCTOP).
	Negatives		× Few funding sources may be available for operational costs (Fares, STA, TDA, LCTOP, TIRCP)	▫ Operational costs could be funded from a number of sources including Fares, STA, TDA, LCTOP, and TIRCP although recent budget cuts reduced the level of transit service in 2016.
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓ Right of way is sufficient ✓ Project is readily implemented ✓ Could be implemented in phases	▫ There are no ROW or constructability constraints for this project.
	Negatives			
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible ✓ Could accommodate future technologies	▫ Autonomous vehicles could be accommodated in future.
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Buffered/protected bike lanes
Project Description	Bike lanes currently exist along much of Soquel Ave/Dr and Freedom Blvd. Where feasible, this project would widen the bicycle lanes to 5 feet and provide a 1-2 feet buffer zone next to the lanes with either striping or a physical barrier to clearly mark the area for bicycle travel. Bike boxes can be provided at signalized intersections where shared lanes are required.
Overall Rating	
Summary	Buffered/protected bike lanes are a low cost solution to improve safety for bicyclists if the right-of-way is available. The added width of the bicycle lanes with the additional buffer from high volume and high speed traffic would likely increase bicycle ridership as people feel more comfortable with the increased spacing from fast moving traffic. The right-of-way on Soquel and Freedom is limited and thus the feasibility to reconfigure the roadway design to accommodate buffered/protected bike lanes still needs to be determined. If right-of-way needs are substantial, environmentally sensitive areas may be impacted and permits may be required.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with other planning efforts (2015 Sustainable Santa Cruz County) ✓ Consistent with long range planning effort (2014 RTP)	▫ There is considerable support for bicycle facilities throughout Santa Cruz County, especially protected ones. RTC policy supports safe multimodal transportation options especially for the most vulnerable users.
	Negatives		× May have some public opposition	▫ Right-of-way may be a challenge to accommodate the motor vehicle general purpose lanes and the additional width required for a protected bicycle lane. Parking may need to be moved to alternate locations to accommodate improved bicycle facilities. ▫ Members of the public, some represented by advocacy groups, oppose parking being relocated from Soquel Ave and have signature gathering efforts in progress. ▫ Some members of the public may oppose buffered bike lanes if there are impacts to auto travel.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic × Improves access to jobs, education and services × Potential to decrease individual and community health care costs Environment × Mode shift to biking × Reduces VMT and GHG Equity × Improves health × Improves safety × Improves access for people	▫ A buffered/protected bike lane on Soquel Ave/Dr and Freedom Blvd will provide a more comfortable and safer facility for bicyclists. This in turn encourages people to shift from driving to biking, reducing VMT and GHG emissions. Additional benefits include increased physical activity (resulting in decreased health care costs) and improved access using active transportation, which can reduce transportation costs, and benefit people who don't drive including youth, some seniors, and low income individuals.

Step 1 Criteria		Rating	Evaluation	Narrative
			who do not drive × Reduces household transportation costs	
	Negatives		Environmental × Traffic Impacts	▫ Traffic may be impacted by reducing the width of the general purpose lanes slightly to accommodate the wider bicycle facilities. ▫ Moving parking to alternate locations to accommodate a wider bicycling facility may impact nearby businesses ▫ If right-of way is required, environmentally sensitive areas may be impacted including agricultural lands and soil characterization and remediation may be required
Compatible with Regulatory Requirements	Positives/ Neutral		✓ Consistent with legislation (SB 375, SB 32, FAST Act) ✓ Consistent with design standards (Caltrans standards, NACTO and AASHTO guidelines)	▫ SB 375 and SB 32 require reductions in GHG emissions. A comfortable and safer active transportation facility could encourage people to shift from driving to biking, reducing VMT and GHG emissions. ▫ The buffered/protected bike lanes can be designed to Caltrans standards and AASHTO best practices. The new tools available within the regulatory context encourage this application. ▫ FAST Act legislation will require AMBAG to meet regional targets for safety. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. Protected bike lanes can improve safety to help meet regional targets.
	Negatives			
Level of Public Investment	Positives/ Neutral		✓ Minor new investment for capital costs required ✓ Minor new investment for operational costs required ✓ Several funding sources may be available for capital costs (ATP, Measure D LJ allocation, SRTS) ✓ Some funding sources may be available for operating costs (STIP, STBG, Measure D -local, ATP, HUTA)	▫ Funding may be available for capital costs through several sources including ATP, Measure D allocation to local jurisdictions, HUTA, SRTS, STIP and STBG. If right-of-way needs are substantial, cost for project will escalate.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral	Neutral	✓ Minor amounts of right-of-way may need to be acquired ✓ Could be built in phases ✓ Project is readily constructible	▫ Additional right-of-way may be needed to accommodate a fully protected bike lane. Project could be built incrementally since there are significant benefits as incremental improvements are made. ▫ If right-of-way needs are substantial, cost for project will escalate, environmentally sensitive areas may be impacted and associated permits may be required
	Negatives		× Parking may need to be moved	▫ On-street parking still exists along segments of Soquel Ave/Dr and Freedom Blvd. Utilizing the current right-of-way to include a wider bicycling facility may require moving parking to alternate locations.
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible	▫ Buffered/protected bicycle facilities are currently technologically feasible and are becoming more and more common throughout the country.

Step 1 Criteria		Rating	Evaluation	Narrative
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Intersection Improvements for autos
Project Description	The project would improve intersections along Soquel Ave/Dr and Freedom Blvd for auto travel. Improvements include modifying design and adding turn lanes in numerous locations including Soquel/Morrissey/Poplar and Soquel/Frederick in the City of SC and Soquel/41st, Soquel/Bay-Porter, and Soquel/Robertson in the county. Intersection improvements along Freedom Blvd in the City of Watsonville include Freedom/Green Valley, Freedom/Airport and Freedom/Buena Vista. Widening of Soquel between Branciforte and Morrissey is also being considered here.
Overall Rating	
Summary	The intersection improvements are a low cost option that will improve traffic operations, travel time and reliability, safety, and access to local destinations.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP, City of SC General Plan, County of SC General Plan, Watsonville General Plan) ✓ Multi-agency support (City of Santa Cruz, County of Santa Cruz, Watsonville, RTC)	▫ Numerous intersection improvement projects on Soquel and Freedom are included in the 2014 RTP. These projects are consistent with local planning goals and policies.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		<u>Economic</u> ✓ Improves auto travel time ✓ Improves auto travel time reliability ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and visitor tax revenues <u>Equity</u> ✓ Improves safety	▫ The intersection improvements will improve traffic flow on Soquel Ave/Dr and Freedom Blvd improving safety, travel time and travel time reliability to destinations all along the route. Commuters, commerce, and emergency vehicles will benefit from these improvements.
	Negatives			
Compatible with	**Positives/ Neutral**		✓ Consistent with design standards (Caltrans)	▫ FAST Act legislation will require AMBAG to meet regional targets for safety and travel time reliability. Targets are currently being determined by the state for the MPOs and may need

Step 1 Criteria		Rating	Evaluation	Narrative
Regulatory Requirements			✓Standard permitting process ✓Consistent with legislation (FAST Act)	to be met in the next few years. Auto intersection improvements can improve safety and travel time reliability for motorists to help meet regional targets.
	Negatives			
Level of Public Investment	Positives/ Neutral		✓Minor new investment for capital costs required ✓No new investment for operational costs required ✓Some funding may be available for capital costs (STIP, STBG, Measure D -local, HUTA)	▫ Funding may be available for capital costs through a number of sources including the Measure D allocation to local jurisdictions, HUTA, STIP and STBG.
	Negatives			
Right-of-Way and Constructability Constraints	Positives/ Neutral		✓Minor amounts of ROW may need to be acquired ✓Project is readily constructible	▫ Intersection improvements to add turn lanes may need additional ROW.
	Negatives			
Technological Feasibility	Positives/ Neutral		✓Technologically feasible	▫ Improvements are technologically feasible
	Negatives			

Route	**Soquel Ave/Dr and Freedom Blvd**
Project Title	Bike and Pedestrian Intersection Improvements
Project Description	Project would improve intersections for bicyclists and pedestrians along Soquel Ave/Dr and Freedom Blvd using a variety of best practices including bike boxes, green lane treatments, bulb outs, islands, and bicycle and pedestrian priority at intersections.
Overall Rating	
Summary	Bicycle and pedestrian improvements at intersections are a low cost solution to improve safety for the most vulnerable transportation users. Safety improvements at intersections are the most critical as the majority of collisions occur at intersections. As safety for bicyclists and pedestrians is improved, people become more comfortable with choosing walking or biking as a way to access their destinations.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with other planning efforts (2015 Sustainable Santa Cruz County) ✓ Consistent with long range planning effort (2014 RTP)	▫ There is considerable support for bicycle facilities throughout Santa Cruz County, especially improvements that promote safety of bicyclists and pedestrians. RTC policy supports safe multimodal transportation options especially for the most vulnerable users.
	Negatives			
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves job and education access ✓ Decreases individual and community health care costs Environment ✓ Mode shift to biking ✓ Mode shift to walking ✓ Reduces VMT and GHG Equity ✓ Improves access for people who do not drive ✓ Reduces household transportation costs ✓ Improves safety ✓ Improves health	▫ Intersection improvements for bicyclists and pedestrians on Soquel Ave/Dr and Freedom Blvd will have the ability to greatly improve safety and help to shift people from driving to biking and walking. This in turn reduces VMT and GHG emissions. Additional benefits include decreased health care costs; improved active transportation access for youth, some seniors and people who do not drive a car; and a reduction in transportation costs.
	Negatives		Environmental × Traffic Impacts	▫ Traffic may be impacted by reconfiguring intersections to accommodate bicycle and pedestrian safety improvements.
Compatible with	**Positives/ Neutral**		✓ Consistent with legislation (SB 375, SB 32) ✓ Consistent with design	▫ SB 375 and SB 32 require reductions in GHG emissions. Intersection improvements for bicyclists and pedestrians on Soquel Ave/Dr and Freedom Blvd would help reduce GHG by providing safer active transportation facilities.

Regulatory Requirements			standards (Caltrans standards, NACTO and AASHTO guidelines) ✓ No additional permits required	▫ Bike and pedestrian intersection improvements will follow design standards or best practices although some treatments for bicycles and pedestrians at intersections are newer to the county, though many neighboring regions employ them extensively.
	Negatives			
Level of Public Investment	**Positives/ Neutral**		✓ Minor new investment for capital costs required ✓ Minor new investment for operational costs required ✓ Several funding sources may be available for capital costs (STIP, STBG, Measure D -local, ATP, HUTA, SRTS) ✓ Some funding sources may be available for operating costs (Measure D-local, HUTA, general funds)	▫ Funding may be available for capital costs through a number of sources including the ATP, Measure D allocation to local jurisdictions, HUTA, SRTS, STIP and STBG.
	Negatives			
Right of Way and Constructability Constraints	**Positives/ Neutral**		✓ Minor amounts of right of way may need to be acquired ✓ Could be built incrementally ✓ Project is readily constructible	▫ Additional right of way may be needed to accommodate intersection improvements. Project could be built incrementally since there are significant benefits as incremental improvements are made.
	Negatives			
Technological Feasibility	**Positives/ Neutral**		✓ Technologically feasible ✓ Could accommodate future technologies	▫ Bicycle and pedestrian intersection improvements are currently technologically feasible and are becoming more and more common throughout the country.
	Negatives			

Route	**Rail Right-of-Way (ROW)**
Project Title	Bike and Pedestrian Trail
Project Description	A bicycling and pedestrian trail along the rail right-of-way will span the 32-mile distance from Davenport on the north coast to Watsonville in south county. The trail will serve transportation, recreation and interpretive uses for walkers, joggers, bicyclists, people with mobility impairments, and families. The trail will pass within 1 mile of half of the County's population and will provide access to 44 schools and 92 parks including several beaches along the Monterey Bay. The width of the trail will vary depending on right-of-way and slope constraints but will range from 12 feet to 16 feet wide or wider for trail with transit and could be wider if a "trail-only" option is implemented. Connectivity to origins and destinations within the two-mile wide unified corridor will be provided via the existing and planned bike and pedestrian network infrastructure.
Overall Rating	
Summary	A biking and walking trail along the rail corridor, separated from motor vehicle traffic, will provide a new, safe, and more comfortable active transportation facility which could encourage people to shift from driving to biking and walking. Benefits include safety and health improvements, greenhouse gas emission reductions, and economic benefits from a trail facility that will attract both residents and visitors. A trail will improve access for people who do not drive including youth, low income, and minorities as well as some seniors and people with disabilities. A bike and pedestrian trail could be combined with rail or bus transit on the rail right-of-way or the trail could be the only facility in the rail right-of-way. Walking and biking are typically travel options for shorter trips but if combined with transit can extend travel distances significantly.

Step 1 Criteria		Rating	**Evaluation**	**Narrative**
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ RTC policy ✓ Project specific planning effort with public input (Monterey Bay Sanctuary Scenic Trail Master Plan (MBSST)) ✓ Project specific planning effort (Completing the California Coastal Trail) ✓ Consistent with long range planning effort (2014 RTP) ✓ Environmental Impact Report completed (MBSST EIR) ✓ Multi-agency support (Cities of Santa Cruz, Capitola and Watsonville; County of Santa Cruz; Coastal Conservancy) ✓ Supported by voters through passage of Measure D	▫ Voters approved Measure D in November 2016 which allocates funds for trail within the rail right-of-way. <u>Trail with Rail</u> ▫ The Monterey Bay Sanctuary Scenic Trail (MBSST) Master Plan establishes the alignment and a set of design standards for a bike and pedestrian trail within the rail right-of-way alongside the existing railroad track. The MBSST Master Plan went through a 3 year comprehensive and inclusive public and stakeholder outreach process and was adopted by the RTC in November 2013 and a revision in February 2014. Each of the local jurisdictions that the trail passes through (Cities of Watsonville, Santa Cruz, Capitola and Santa Cruz County) also adopted the MBSST Master Plan. A policy that was adopted in the Master Plan states "Develop trails in such a way so that future rail transit services along the corridor are not precluded." <u>Trail Only</u> ▫ Members of the public, some represented by advocacy groups, support a trail only option and have campaigns and/or signature gathering efforts in progress.
	Negatives		× May have some public	▫ Some farmers in the vicinity of Harkins Slough are concerned about the impacts of a trail on

Step 1 Criteria		Rating	Evaluation	Narrative
			opposition	crop production. Restrictions on spraying of crops to times when people are not in the vicinity, fecal matter from pets, farm equipment restrictions over the trail and other issues have raised concerns. Trail with Rail ▫ Farmers on north coast oppose trail if trail is not located in rail bed. Trail-Only or Trail with BRT ▫ Trail-only and trail with BRT options have not gone through a comprehensive public process. If the community decides to use the rail right-of-way only for a trail or for trail with BRT, it would require a new planning effort to solicit public input and more fully assess impacts and costs.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves access to jobs, education and services ✓ Decreases individual and community health care costs ✓ Potential to increase property values ✓ Recreational asset with potential to increase business activity and visitor tax revenues Environmental ✓ Mode shift to biking ✓ Mode shift to walking ✓ Reduces VMT and GHG Equity ✓ Improves health ✓ Improves safety ✓ Improves access for people who do not drive ✓ Reduces household transportation costs	▫ A trail separated from motor vehicles will provide a more comfortable and safer facility for people to ride bicycles and walk. This in turn encourages people to shift from driving to biking and walking for transportation, reducing VMT and GHG emissions. Additional benefits include increased physical activity (resulting in decreased health care costs) and increased visitor revenues associated with recreation on the trail. Properties along a trail separated from automobiles have been shown in other communities to increase in value. A trail on the rail right-of-way will provide new access to a low cost transportation option for shorter trips, which can reduce transportation costs and benefit people who don't drive including, youth, seniors, people with disabilities, low income, and minorities. Trail with Rail or Trail with BRT ▫ If trail use is combined with transit, the new facility will support longer trips for communities of south county who work in the Santa Cruz area.
	Negatives		Economic × Potential agricultural impacts Environmental × Environmentally sensitive areas may be impacted × Soil sampling, testing and/or remediation of contaminated soils may be needed	▫ Increased rail corridor use may impact agricultural lands that have been encroaching on the ROW. ▫ The trail may impact environmentally sensitive areas that have been found along the rail corridor as part of the MBSST EIR. ▫ Soil contaminants have been found along the rail corridor. Soil along rail corridor may need to be assessed for contaminants and possibly remediated. Construction of a paved surface over the bare soil could serve as the remediation for some of the contaminants. Trail with Rail or Trail with BRT

Step 1 Criteria		Rating	Evaluation	Narrative
			× Traffic impacts (at roadway crossings) Equity × Potential conflicts between modes (BRT and trail users- fencing could reduce conflicts; people riding bikes and people walking - separation could reduce the potential conflicts).	▫ A trail alongside transit in the rail corridor will provide numerous opportunities for separating biking and walking. If trail is not separated by use, potential safety conflicts could occur between bicyclists and pedestrians. ▫ More vegetation would likely need to be removed to accommodate a trail next to transit. ▫ Fencing between trail and rail is included in the MBSST trail design to reduce conflicts and utilize best practices for safety. Fencing may be recommended between trail and BRT for reducing conflicts and best practices for safety. Fencing between trail and transit may limit access to some destinations along the rail ROW. Trail Only ▫ A trail-only option could allow for separation of bicyclists and pedestrians along a greater portion of the rail line. The rail bridges and other constrained locations with elevation changes may not allow separation. ▫ Fencing would not be needed for a trail only option. Less vegetation would need to be removed for trail-only option and may be able to avoid environmentally sensitive areas.
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Consistent with legislation (SB 908, SB 375, SB 32, FAST Act) ✓ Consistent with state law (Trail and Rail -Proposition 116) ✓ Consistent with design standards (Caltrans, AASHTO, MUTCD) ✓ Standard permitting process	▫ Senate Bill 908 requires the State Coastal Conservancy to complete a plan to develop the California Coastal Trail. The entire MBSST project and trail along the rail right-of-way will serve as the California Coastal Trail through Santa Cruz County, as agreed to by the California Coastal Commission and the California Coastal Conservancy. ▫ SB 375 and SB 32 require reductions in GHG emissions. A comfortable and safer active transportation facility could encourage people to shift from driving to biking and walking, reducing VMT and GHG emissions. ▫ FAST Act legislation will require AMBAG to meet regional targets for safety. Targets are currently being determined by the state for the MPOs and may need to be met in the next few years. A bike and pedestrian trail separated from auto traffic can improve safety to help meet regional targets. ▫ Any trail that is designed for the rail corridor can be designed to meet trail design standards. Trail with Rail ▫ The Santa Cruz Branch Rail Line was purchased using Proposition 116 funds which were allocated for passenger rail capital projects. Trail with rail would meet these requirements.
	Negatives		× Not consistent with state law (Trail Only and Trail with BRT - Proposition 116)	Trail Only or Trail with BRT ▫ If rail right-of-way will not be used for passenger rail service, at least $11 million and possibly up to $25 million or more in funds will need to be returned to CTC because Proposition 116 requirements will not be met and the project will not be consistent with the funding application for purchase and rehabilitation of right-of-way.
Level of Public Investment	**Positives/ Neutral**		✓ Some funding already allocated for capital costs (Measure D – all Trail options) ✓ Some funding already allocated for capital costs (FLAP, ATP, Land Trust – Trail	Trail with Rail ▫ Funding that has been acquired from FLAP, ATP and Land Trust for capital costs assumes the trail alongside rail tracks. Trail Only ▫ Constructing the trail-only option could potentially require less capital costs than trail with

Step 1 Criteria		Rating	Evaluation	Narrative
			with Rail) ✓ Some funding sources may be available for capital costs (Measure D, ATP, STIP, STBG, FLAP, HSIP) ✓ Some funding already allocated for maintenance costs (Measure D) ✓ Some funding sources may be available for maintenance costs (HUTA, general funds) ✓ Minor new investment for maintenance required ✓ Moderate new investment for capital costs required	transit due to ability to use current rail bridges.
	Negatives		× Potential to lose funds (FLAP, ATP, Land Trust – Trail Only or Trail with BRT) × Additional funds/time needed (to revise current direction – Trail Only and Trail with BRT)	Trail Only or Trail with BRT ▫ If rail right-of-way will not be used for passenger rail service, at least $11 million and possibly up to $25 million or more in funds will need to be returned to CTC because Proposition 116 requirements are not met and the project will not be consistent with the funding application for purchase and rehabilitation of right-of-way. ▫ Funds currently allocated for trail from FLAP and ATP will not meet deadline for use of funds and thus will likely be lost. ▫ Costs and time to revise current direction are unknown (additional costs include new public outreach process, negotiations with CTC and Iowa Pacific, applying for abandonment of rail to Surface Transportation Board, soil contaminants assessment and mitigation, legal fees)
Right-of-way and Constructability Constraints	**Positives/ Neutral**		✓ ROW is sufficient (for Trail Only) ✓ Minor amounts of ROW may need to be acquired (trail with transit) ✓ Can be constructed in phases	▫ Project can be implemented in phases with independent utility as funding becomes available. ▫ Trail widths for the rail ROW as designed in the MBSST are paved widths of 8 to 12 feet wide or wider if right-of-way exists with 2 foot shoulders on either side. Trail with Transit (Rail or BRT) ▫ The ROW for trail with transit will accommodate a trail with many segments that can accommodate bike and pedestrian separation, especially where higher volumes may be expected. ▫ Additional ROW may be needed for stations and rail sidings. In some locations where the rail right-of-way is constrained, the bicycle and pedestrian route could be routed to on street facilities.
	Negatives		× Construction challenges may require additional funds or alternative design	Trail with Rail or Trail with BRT ▫ Trail with transit will require more retaining walls than a trail only option. Alternative alignments to on-street facilities may be required if expense of additional bridges to accommodate bike and pedestrian movement is too high.

Step 1 Criteria		Rating	Evaluation	Narrative
Technological Feasibility	**Positives/ Neutral**		✓ Technologically feasible ✓ Could accommodate future technologies	▫ Construction of trail is technologically feasible. ▫ Present and future pedal assist technologies could potentially be accommodated based on speed limitations.
	Negatives			

Route	**Rail Right-of-Way**
Project Title	Local rail transit with inter-regional connections
Project Description	Rail transit along the rail right-of-way would provide passenger rail transit service between the Westside of Santa Cruz and downtown Watsonville with service to approximately 10 stations along the corridor. Service would run on a frequency of every 30 minutes during the weekdays in each direction. Additional sidings will be needed to accommodate passing of trains due to single set of tracks. Recreational rail service would also be provided between the Westside of Santa Cruz and Davenport seasonally on weekends and holidays.
Overall Rating	
Summary	Rail transit would increase transportation choices, provide an alternative to congestion, and has the potential to shift people from driving to taking transit, thereby reducing vehicle miles traveled (VMT) and greenhouse gas emissions. Rail transit increases options for seniors, youth, people with disabilities, low-income, and those who cannot or do not drive. Rail transit can improve transit travel time and travel time reliability. Rail transit can carry many bicycles to help increase the range for bicyclists and encourage greater bicycle use for longer trips in combination with transit. Rail transit also encourages more intensive and compact use of land surrounding stations (transit oriented development) making more efficient use of limited land, ensuring greater levels of open space and helping to reduce automobile traffic, environmental impacts and GHG emissions.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Project specific planning effort with public input (Rail Transit Feasibility Study) ✓ Consistent with RTC policy (MBSST, policy 1.2.4) ✓ Consistent with long range planning effort (2014 RTP) ✓ Consistent with other planning efforts (MBSST Master Plan, 2013 California State Rail Plan) ✓ Advocacy groups in support of project	▫ The current RTC policy is for a trail to be developed along the rail corridor so that future rail transit is not precluded. Rail transit along the Santa Cruz Branch Rail Line could provide not only local transit but also interregional connections through Pajaro Station to Gilroy to connect to the high speed rail line that is currently being developed as well as the planned extension of Capitol Corridor service to Salinas and planned extension of the Coast Daylight to run between Los Angeles and San Francisco along the coast. ▫ Members of the public, some represented by advocacy groups, support rail with trail and have campaigns and/or signature gathering efforts in progress.
	Negatives		× May have some public opposition	▫ Horn noise from trains as required at roadway crossings has raised concerns. Horn noise could be mitigated with adequate crossing improvements and approval by the Federal Railroad Administration (FRA.) ▫ Members of the public, some represented by advocacy groups, support a trail only option and have campaigns and/or signature gathering efforts in progress.
Addresses Transportation Challenges &	**Positives/ Neutral**		Economic ✓ Improves transit travel time ✓ Improves transit travel time reliability	▫ Rail transit on the rail corridor could provide another option for how Santa Cruz County residents and visitors travel through the county. It could improve access to jobs and education centers by providing an alternative to congested roadways and provide a faster transit connection between Santa Cruz and Watsonville. Rail transit could increase the

Step 1 Criteria		Rating	Evaluation	Narrative
Environmental, Economic, and Equity Goals			✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and tax revenues ✓ Recreational asset with potential to increase visitor tax revenues and benefit businesses (north coast section) <u>Environmental</u> ✓ Mode shift to transit ✓ Reduces VMT and GHG <u>Equity</u> ✓ Improves access for people who do not drive ✓ Reduces household transportation costs	transit mode share which will reduce VMT and GHG emissions. Transit oriented developments will likely occur along the rail corridor that will help to reduce VMT. ▫ Recreational rail transit on the north coast could be used by residents and visitors to access the newly acquired San Vicente Redwoods and Cotini Coast Dairies National Monument as well as provide economic vitality to the town of Davenport. ▫ Rail transit also encourages more intensive and compact use of land surrounding stations making more efficient use of limited land, ensuring greater levels of open space and helping to reduce automobile traffic, environmental impacts and GHG emissions. ▫ Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who don't drive including youth, seniors, people with disabilities, low income, and minorities.
	Negatives		<u>Environmental</u> × Environmentally sensitive areas may be impacted (biological, cultural, aesthetic - noise) × Soil sampling, testing and/or remediation of contaminated soil may be needed × Traffic impacts at roadway crossings × Less adaptable to flooding from climate change <u>Equity</u> × Potential for conflicts between modes (rail with bikes and pedestrians and with autos at intersections)	▫ Increased rail service along the rail corridor could impact environmentally sensitive areas. Noise from horns could impact neighborhoods but quiet zones could be pursued that would reduce this impact. ▫ Any change in use of rail corridor will require characterization and possibly remediation of any soil contaminants. ▫ There may be increased safety conflicts between rail transit and autos at intersections and between rail transit and bikers/pedestrians on corridor that reduce comfort. Fencing can be constructed to minimize these safety concerns. There are greater opportunities to eliminate crossing conflicts at railroad rights-of-way than at roadways by making improvements that prevent automobiles, bicyclist and pedestrians from entering the railroad right-of-way when trains are coming. Fencing between trail and transit may limit access through neighborhoods. ▫ Rail right-of-way crosses areas that may be impacted by flooding due to climate change such as Harkins Slough area in south county. Rail is less adaptable to flooding from climate change as trains cannot readily shift onto alternate roadways where and when necessary due to temporary or permanent flooding on rail corridor. Railbed may need to be raised in areas that could be affected by climate change.
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Consistent with legislation (Proposition 116, SB 375, SB 32) ✓ Consistent with design standards (CPUC) ✓ Standard permitting process	▫ The Santa Cruz Branch Rail Line was purchased using Proposition 116 funds which were allocated for passenger rail capital projects. Rail transit on the rail corridor would meet Prop 116 requirements. ▫ Rail transit is consistent with requirements of SB 375 and SB 32 to reduce greenhouse gas emissions.

Step 1 Criteria		Rating	Evaluation	Narrative
	Negatives			
Level of Public Investment	Positives/ Neutral		✓ Some funding sources may be available for capital costs (FTA5309-New/Small Starts, TIGER, STIP, STBG, SB 1-LPP & CC, LCTOP, TIRCP, Prop 1A)	▫ Capital funds may be available from Federal Transit Agency New/Small Starts program and other federal, state and local sources as identified in the Rail Transit Feasibility Study. ▫ New capital funding for both inter-city and commuter rail was created by the state in passage of SB-1.
	Negatives		× Major new investment for capital costs required × Major new investment for operations required × New funding source required for operations	▫ Capital and operational costs may be costly and funding sources are limited. A tax measure would likely be needed to cover operational costs.
Right-of-way and Constructability Constraints	Positives/ Neutral		✓ Minor amounts of ROW may need to be acquired	▫ The existing ROW can accommodate a rail way track alongside a trail. ROW requirements for the rail line are 17 feet in width or 8.5 ft in both directions from the centerline of the tracks. ▫ Additional ROW may be needed for sidings for the trains to pass and for some station locations. The number and locations of sidings will depend on the desired rail transit service frequency. ▫ Tracks may need to be laid for some sidings
	Negatives			
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible ✓ Could accommodate future technologies (battery electric multiple units)	▫ Future technologies could provide battery electric multiple units for noise reduction and for reduced GHG emissions.
	Negatives			

Route	**Rail Right-of-Way**
Project Title	Bus rapid transit (BRT)
Project Description	Two-directional bus rapid transit between Watsonville Transit Center and Natural Bridges Dr on Westside of Santa Cruz would utilize a combination of the rail right-of-way, Highway 1, and local streets. Buses would travel on Highway 1 between Watsonville Transit Center and State Park Drive, utilize the rail ROW for two-directional travel between State Park Dr and Natural Bridges Dr. Connections to Capitola Transit Center, Santa Cruz Metro Center, UCSC, Cabrillo College and other locations could be made using local streets. The best available information on the rail right-of-way shows that for the majority of the distance between State Park Dr and Natural Bridges Dr, the ROW is greater than 50 feet wide which could accommodate two lanes of BRT (24 feet plus 4 feet for buffer zones) and trail. There are a limited number of sections/bridges with right-of-way width under 50 ft that could be addressed by alternate alignments on parallel streets; design solutions such as transit signals in short sections that hold one direction of travel while transit in other lane travels through; or acquisition of a minor amount of ROW. These sections include between 49th Ave and 30th Ave in Live Oak (Brommer St. could be used for alternate alignment), between Seabright Ave and California Ave, along Poplar Ave in Mar Vista and a few other shorter sections. Bridges in some locations could potentially be shared between buses and bikes/pedestrians using signals. Frequency of travel would be approximately every 15 minutes during peak periods. Local bus service between Capitola/Live Oak and Santa Cruz could also be enhanced by bus rapid transit utilizing the rail ROW. Electric buses could be utilized and buses would be prioritized at roadway crossings. Rail right-of-way south of State Park Drive and north of Natural Bridges Dr would be used solely for trail. One exception could be rail with trail from Lee Rd to Pajaro Station to continue freight service to Watsonville.
Overall Rating	
Summary	Bus rapid transit on a combination of the rail ROW, Highway 1 and local streets is a moderate cost capacity increasing improvement that would provide a new transit route connecting north and south county, improve transit travel time and transit travel time reliability and provide an alternative to congestion on Highway 1 and Soquel Ave/Dr. By improving travel time and travel time reliability, transit ridership could increase, reducing VMT and therefore greenhouse gas emissions. Electric vehicles would further reduce GHG emissions and reduce noise impacts along the rail right-of-way. BRT increases options for those who do not drive including seniors, youth, people with disabilities, low-income and minorities. BRT on rail right-of-way could require a shift from current RTC policy to not preclude rail transit.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ Consistent with long range planning effort (2014 RTP) ✓ Consistent with other planning efforts (1999 MTIS) ✓ Agency support (Metro staff)	▫ Bus rapid transit for Santa Cruz County without a specified location is included in the 2014 RTP ▫ The 1999 MTIS study recommended two lane bus way between Westside Santa Cruz and Aptos next to the tracks. The 1999 MTIS report was not limited by current understanding of ROW. ▫ Residents adjacent to the rail corridor may be more supportive of bus on right-of-way as it may be a quieter option (no noise from train horns, less noise from rubber wheels and electric motor).
	Negatives		× May have some public opposition	▫ BRT on the rail corridor has not gone through a comprehensive public process. If rail corridor was used for BRT and trail, it would require a new planning effort to solicit public input. ▫ Members of the public, some represented by advocacy groups, support a trail only option and have campaigns and/or signature gathering efforts in progress.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Improves transit travel time ✓ Improves transit travel time reliability ✓ Improves access to jobs, education and services ✓ Potential to increase land use development, business activity, employment and tax revenues Environmental ✓ Mode shift to transit ✓ Reduces VMT and GHG Equity ✓ Improves access for people who do not drive ✓ Reduces household transportation costs	▫ Bus rapid transit on the rail corridor will provide a new transit route connecting north and south Santa Cruz County. A new transit connection with competitive travel times could improve access to jobs, education centers and services by providing an alternative to congested roadways. Faster transit travel times could also make transit more convenient and encourage people to shift from driving to transit, reducing VMT and GHG emissions. Utilizing electric buses could decrease GHG emissions further. BRT would allow more flexibility in route and network structure than rail transit service on the rail ROW with potential to have greater ridership. ▫ The potential to encourage more intensive land use development as a result of investment in bus rapid transit is less than rail transit service due to the limited capacity of BRT when compared to rail transit, and the potential for bus rapid transit routes to change, unless bus rapid transit is seen as a precursor to rail transit. ▫ Transit improvements support lower cost transportation options which can reduce household transportation costs and benefit people who don't drive including youth, seniors, people with disabilities, low income, and minorities.
	Negatives		Environmental × Environmentally sensitive areas may be impacted × Soil sampling, testing and/or remediation of contaminated soil may be needed × Traffic impacts (at roadway crossings) Equity × Potential for conflicts between	▫ Improvements to support BRT on the rail right-of-way may impact environmentally sensitive areas but less so when compared to impacts of rail transit service on the rail ROW from Santa Cruz to Watsonville. This is attributed to the fact that BRT would only utilize about nine miles of the 32-mile rail right-of-way and would not utilize the rail ROW in the vicinity of the sloughs to the west of Watsonville. ▫ Noise impact from bus rapid transit will likely be less than rail due to horns not being required for BRT at intersections. ▫ Soil contaminants have been found along the rail ROW. Soil along rail ROW may need to be assessed for contaminants and possibly remediated. Construction of a paved surface over the bare soil could serve as the remediation for some of the contaminants. ▫ There may be conflicts between BRT and autos at intersections and between BRT and trail

Step 1 Criteria		Rating	Evaluation	Narrative
			modes (buses with bikes and pedestrians and with autos at intersections)	on rail ROW. Fencing may be recommended between BRT and trail for safety best practices. Fencing between trail and transit may limit access through neighborhoods.
Compatible with Regulatory Requirements	**Positives/ Neutral**	Neutral	✓ Consistent with legislation (SB 375, SB 32) ✓ Consistent with design standards (AASHTO, local transit standards) ✓ Standard permitting process	▫ BRT is consistent with requirements of SB 375 and SB 32 to reduce greenhouse gas emissions. ▫ BRT would be designed to follow design standards and best practices.
	Negatives		× Not consistent with regulations (Proposition 116)	▫ The Santa Cruz Branch Rail Line was purchased using Proposition 116 funds which were allocated for passenger rail capital projects. If rail right-of-way will not be used for passenger rail service, at least $11 million and possibly up to $25 million or more in funds will need to be returned to CTC because Proposition 116 requirements will not be met and the project will not be consistent with the funding application for purchase and rehabilitation of right-of-way. ▫ It is unknown what the requirements would be if the rail line was railbanked for rail in future with BRT and trail constructed in the near term.
Level of Public Investment	**Positives/ Neutral**	Neutral	✓ Some funding sources may be available for capital costs (FTA5309-New/Small Starts, TIGER, STIP, STBG, SB 1-LPP & CC, LCTOP, TIRCP, Section 130) ✓ Some funding sources may be available for operating costs (Fares, new sales tax for transit, STA, TDA, LCTOP, TIRCP) ✓ Moderate new investment for capital costs required ✓ Moderate new investment for operations required	▫ Capital funds may be available from federal, state and local sources. BRT is a typical starter project for a light rail or heavy passenger rail project. FTA funding will support this approach. Funds available from SB 1 may also be available for this project. ▫ Could be operated by existing operator (Metro)
	Negatives		× Potential to lose funds	▫ If rail right-of-way will not be used for passenger rail service, at least $11 million and possibly up to $25 million or more in funds will need to be returned to CTC because Proposition 116 requirements will not be met and the project will not be consistent with the funding application for purchase and rehabilitation of right-of-way. A new planning effort would be needed to solicit public input. Funds currently allocated for trail from FLAP and ATP may not meet deadline for use of funds and thus may be lost. ▫ Costs and time to revise current direction are unknown (additional costs include new public outreach process, negotiations with CTC and Iowa Pacific, applying for abandonment of rail to Surface Transportation Board, hazardous material assessment and mitigation, legal fees).
Right-of-way and	**Positives/ Neutral**		✓ Minor amounts of right-of-way may need to be acquired (along	▫ The existing ROW could potentially accommodate two lanes for bus movement alongside a trail for the majority of the length between State Park Dr and Seabright Ave. ROW

Step 1 Criteria		Rating	Evaluation	Narrative
Constructability Constraints			some constrained sections and at station stops) ✓ Could be built in phases ✓ Project is readily constructible	requirements for two-directional BRT are approximately 24 ft plus 2 feet buffer zones on either side. ▫ Additional ROW may be needed along constrained sections and for some station stop locations.
	Negatives			
Technological Feasibility	Positives/ Neutral		✓ Technologically feasible ✓ Could accommodate future technologies (autonomous and evolving electric buses)	▫ Electric buses along the rail right-of-way are currently feasible and will likely become even more efficient in future. New technologies could be implemented to improve bus flow at rail ROW and roadway intersection crossings. BRT on dedicated lanes along the rail corridor could allow for implementation of self-driving buses sooner than they could be implemented in traffic mixed with conventional vehicles.
	Negatives			

Route	**Rail Right-of-Way**
Project Title	Freight service on the rail line
Project Description	Freight service on the rail line between Davenport and Pajaro Station, with connection to the Harvey West industrial area and Felton via the Big Trees line, as needed primarily during nighttime to not conflict with weekday and weekend passenger rail schedules.
Overall Rating	
Summary	Freight service is a moderate cost option that has been occurring on the rail line for nearly 140 years although currently not many businesses are utilizing this service. Rail freight provides an alternative option for goods movement as opposed to travel on a congested highway, reduces GHG emissions, and can increase safety by reducing the number of trucks on the highway. Noise impacts from freight can be challenging for residents in the vicinity of the rail corridor especially if freight occurs during night time to avoid a passenger rail schedule.

Step 1 Criteria		Rating	Evaluation	Narrative
Community Support and Consistency with Applicable Plans	**Positives/ Neutral**		✓ RTC policy ✓ Consistent with long range planning effort (2014 RTP) ✓ Supported by voters through passage of Measure D	▫ Freight service on the rail line has been more or less active since its inception. Freight service is the current RTC policy and is included in the agreement with the rail operator, Iowa Pacific. Upgrades to the rail line for freight service are included in the 2014 RTP. Voters approved Measure D in November 2016 which allocates funds for rail corridor infrastructure preservation.
	Negatives		× May have some public opposition	▫ Horn noise from trains as required at roadway crossings has raised concerns. ▫ Members of the public, some represented by advocacy groups, support a trail only option and have campaigns and/or signature gathering efforts in progress.
Addresses Transportation Challenges & Environmental, Economic, and Equity Goals	**Positives/ Neutral**		Economic ✓ Alternative option for goods movement to/from businesses Environmental ✓ Reduces GHG Equity ✓ Improves safety (by removing trucks off roadways)	▫ Freight service on the rail line would provide an alternative option for goods movement in SCC with less congestion and reduce the number of trucks on Highway 1, improving safety. Rail freight uses significantly less fuel and thus reduces GHG emissions. ▫ Environmental impact assessment is not required since freight service has been ongoing for decades and there has not been a change in use.
	Negatives			
Compatible with Regulatory Requirements	**Positives/ Neutral**		✓ Consistent with legislation (SB 32) ✓ Consistent with design standards ✓ No additional permits required	▫ Rail freight is consistent with SB 32 to reduce GHG emissions.
	Negatives			
Level of Public Investment	**Positives/ Neutral**		✓ Moderate new investment for capital costs required	▫ Rail freight due to increased weight of loads, may require a greater level of bridge repair and maintenance if passenger rail service is not also provided. Measure D provides some

Step 1 Criteria		Rating	Evaluation	Narrative
			✓ Some funding sources may be available for capital costs (Trade corridor grants, TIGER, leases, operator funds, Section 130/crossing, RRIF) ✓ Minor new investment for operations required ✓ Some funding sources may be available for operations (Measure D, leases, operator funds/fees)	funds for maintenance costs of tracks for good movements of the rail line. Private businesses who utilize rail corridor for freight can pay for use providing funds for rail operations.
	Negatives			
Right-of-way and Constructability Constraints	**Positives/ Neutral**		✓ ROW is sufficient ✓ Project is readily constructible	▫ The existing ROW is sufficient for freight service and can accommodate a rail way track alongside a trail. ROW requirements for the rail line are 17 feet in width or 8.5 ft in both directions from the centerline of the tracks on straight track and up to 20 feet or 10 feet in both directions from the centerline of the tracks at curves. ▫ Additional ROW may be needed for sidings for trains to pass if freight service increases significantly. ▫ Freight has been operational since inception of rail service and thus only maintenance of tracks is required.
	Negatives			
Technological Feasibility	**Positives/ Neutral**		✓ Technologically feasible ✓ Could accommodate future technologies (autonomous trains for goods movement)	▫ Future technologies for improved goods movement could be accommodated.
	Negatives			

Acronym Guide

AASHTO: American Association of State Highway and Transportation Officials
ATP: Active Transportation Program
ATP: Active Transportation Program
BRT: Bus rapid transit
CIP: Capital Improvement Program
CPUC: California Public Utilities Company
CTC: California Transportation Commission
EIR: Environmental Impact Report
FLAP: Federal Lands Access Program
FTA: Federal Transit Administration
GHG: Greenhouse gas
HOV: High Occupancy Vehicle
HSIP: Highway Safety Improvement Program
HUTA: Highway User's Tax Account
LCTOP: Local Carbon Transit Operations Program
LJ: Local jurisdiction
MBSST: Monterey Bay Sanctuary Scenic Trail
MTIS: Major Transportation Investment Study
MUTCD: Manual on Uniform Traffic Control Devices
ROW: Right of way
RTC: Regional Transportation Commission
RTP Regional Transportation Plan
SB1 - CC: Senate Bill 1 - Congested Corridors
SB1 - LPP: Senate Bill 1 - Local Partnership Plannning
SC: City of Santa Cruz
SCC: Santa Cruz County
SHOPP: State Highway Operation and Protection Program
SOV: Single occupancy vehicle
SRTS Safe Routes to Schools
STA: State Transportation Agency
STBG: Surface Transportation Block Grant
STIP: State Transportation Improvement Program
STIP: State Transportation Improvement Program
TDA: Transportation Development Act
TIGER: Transportation Investment Generating Economic Recovery
TIRCP: Transit and Intercity Rail Capital Program
UCSC: University of California Santa Cruz
VMT: Vehicle miles traveled

ATTACHMENT 3

Unified Corridor Investment Study

Highway 1, Soquel Ave/Drive & Freedom Blvd, and the Santa Cruz Branch Rail Line

Goals, Criteria and Performance Measures

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

Goal	Step 1 Criteria
Promote feasible solutions that address transportation challeges.	Community support and coordination/consistency with local, regional, state and federal plans
	Potential to address transportation challenges and advance environmental, economic and equity goals
	Compatibility with regulatory requirements
	Level of public investment
	Right of way and constructability constraints
	Technological feasibility
Goals	**Step 2 Performance Measures**
Safer transportation for all modes	Injury and fatal collisions by mode
Reliable and efficient transportation choices that serve the most people and facilitate the transport of goods	Peak period mean automobile travel time
	Peak period mean transit travel time
	Peak period travel time reliability
	Mode share
	Person trips across N-S screenline
Develop a well-integrated transportation system that supports economic vitality	Level of public investment
	Visitor tax revenues
	Cost associated with fatalities and injuries
Minimize environmental concerns and reduce adverse health impacts	Automobile vehicle miles traveled
	Environmentally sensitive areas
	Criteria pollutants
	Greenhouse gas emissions
Accessible and equitable transportation system that is responsive to the needs of all users	Transit Vehicle Miles Traveled
	Household transportation costs
	Benefits and impacts to transportation disadvantaged communities

Unified Corridor Investment Study - Step 1 Scenarios for Analysis

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F	No Build
Highway 1 Projects							
buses on shoulders							
high occupancy vehicle lanes (HOV) and increased transit frequency							
auxiliary lanes to extend merging distance IN ADDITION TO MEASURE D							
metering of on-ramps							
additional lanes on bridge over San Lorenzo River							
Mission St intersection improvements							
rail transit on Hwy 1 between Santa Cruz and Watsonville							
self driving cars							
Soquel Avenue/Drive and Freedom Blvd							
bus rapid transit lite (faster boarding, transit signal priority and queue jumps)							
dedicated lane for bus rapid transit and bikes							
parking moved from Soquel Avenue/Drive to improve bike and transit options							
increased frequency of transit with express services							
buffered/protected bike lanes							
intersection improvements for auto							
intersection improvements for bikes/pedestrians							
Rail Corridor							
multiuse trail (bike and pedestrian)							
bike trail separate from pedestrian trail							
local rail transit with interregional connections							
bus rapid transit							
freight service on rail							
Overall Project Area/Connections between Routes							
improved bike/pedestrian facilities throughout urban area closing gaps in network	These projects will be evaluated in all scenarios.						
additional transit connections							
bike share, bike amenities, transit amenities, park and ride lots							
multimodal transportation hubs							
Transportation Demand and System Management							
employers and residences - incentive programs	These projects will be evaluated in all scenarios.						
education and enforcement - electric vehicle, motorist safety, and bike safety							

Agenda: September 12, 2017

To: Elderly and Disabled Transportation Advisory Committee

From: Grace Blakeslee, Transportation Planner

Re: City of Scotts Valley Article 8 Transportation Development Act Claim for the Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project

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RECOMMENDATION

Staff recommends that the Elderly and Disabled Transportation Advisory Committee recommend that the Regional Transportation Commission approve the City of Scotts Valley's Transportation Development Act (TDA) claim for the Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project in the amount of $93,963.

BACKGROUND

Each year the Regional Transportation Commission allocates Article 8 Transportation Development Account (TDA) funds to local jurisdictions for bikeway and pedestrian projects. TDA funds allocated to a local jurisdiction may be rolled over from one fiscal year to the next. TDA claims with bicycle amenities must be reviewed by the Bicycle Advisory Committee and those with pedestrian components must be reviewed by Elderly & Disabled Transportation Advisory Committee prior to approval by the Regional Transportation Commission.

DISCUSSION

The City of Scotts Valley submitted a request for TDA funds for Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project in the amount of $93,963 (Attachment 1). The Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project includes improvements to reduce conflicts between automobiles, bicyclists and pedestrians. The TDA funds will support development of the bicycle and pedestrian facilities portion of this project including:

- Installing bicycle loop detectors and bicycle boxes, restriping bike lanes with green lane treatments;
- Providing new crosswalk striping and installing pedestrian signal faces with countdown indicators and Accessible Pedestrian Signals (APS), which include pedestrian push buttons with audible and vibrating features, on all approaches on Mt. Hermon Road and Scotts Valley Drive and installing Rectangular Rapid Flashing Beacons (RRFB) for the southbound approach to enhance awareness of pedestrians crossing the free flow right turn lane; and,

- Reconstructing the curb return on the southeast corner to square up the intersection, slightly shortening crosswalks, installing larger pedestrian refuge areas within the existing traffic islands, new curb ramps at all four corners and flatter crosswalks to improve accessibility, and providing ADA compliant improvements and realigning and widening crosswalks to improve pedestrian crossing safety.

Staff recommends that the Elderly and Disabled Transportation Advisory Committee recommend that the Regional Transportation Commission approve the TDA Article 8 Claim for the City of Scotts Valley's Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project in the amount of $93,963.

SUMMARY

The City of Scotts Valley submitted a TDA Article 8 allocation request for Mt. Hermon/Scotts Valley Rd/Whispering Pines Intersection Improvement Project for improvements in the amount of $93,963 to reduce conflicts between automobiles, bicyclists and pedestrians. The TDA funds will support development of the bicycle and pedestrian facilities portion of this project.

Attachments

1. Article 8 TDA Allocation Claim Form from the City of Scotts Valley

Transportation Development Act (TDA) – Local Transportation Funds
CLAIM FORM
for Bike/Ped Projects

If you have any questions about this claim form or would like an electronic copy of the form, please contact the Santa Cruz County Regional Transportation Commission at 460-3200.

Project Information

1. Project Title: **Mt. Hermon Road/Scotts Valley Drive/Whispering Pines Drive Intersection Operations Improvement Project**

2. Implementing Agency: **City of Scotts Valley**

3. Sponsoring Agency (if different) – must be a TDA Eligible Claimant:

4. TDA funding requested this claim: **$93,963**

5. Fiscal Year (FY) for which funds are claimed: **FY 2017/2018**

6. General purpose for which the claim is made, identified by the article and section of the Act which authorizes such claims: ☒ **Article 8 Bicycle and/or Pedestrian Facility**

7. Contact Person/Project Manager: **Scott Hamby**
   Telephone Number: **(831) 438-5854** E-mail: **shamby@scottsvalley.org**

   Secondary Contact (in event primary not available): **Jessica Kahn**
   Telephone Number: **(831) 438-5854** E-mail: **jkahn@scottsvalley.org**

8. Project/Program Description/Scope (use additional pages, if needed, to provide details such as work elements/tasks):

   The project calls for implementing the following improvements to the intersection of Mt. Hermon Road/Scotts Valley Drive/Whispering Pines Drive.

   - **Lengthening the westbound left-turn lane from Mt. Hermon Road to Whispering Pines Drive to provide adequate storage for projected queues.**
   - **Re-striping the northbound approach on Whispering Pines Drive to provide separate left-turn, through and right-turn lanes.**
   - **Modifying the signal to eliminate the split phasing and allow for protected left-turn phasing for the northbound Whispering Pines Drive and southbound Scotts Valley Drive approaches.**
   - **Installing bicycle loop detectors and provide new crosswalk striping on all approaches on Mt. Hermon Road and Scotts Valley Drive.**
   - **Restriping bike lanes with green lane treatments.**
   - **Installing bicycle boxes at all approaches.**
   - **Installing pedestrian signal faces with countdown indicators on all approaches on Mt. Hermon Road and Scotts Valley Drive.**
   - **Install Accessible Pedestrian Signals (APS) which include pedestrian push buttons with audible and vibrating features.**

- **Reconstructing the curb return on the southeast corner to square up the intersection, slightly shorten the crosswalks and provide ADA compliant improvements.**
- **Installing Rectangular Rapid Flashing Beacons (RRFB) for the southbound approach to enhance awareness of pedestrians crossing the free flow right turn lane.**
- **Replacing asphalt concrete pavement to repair rutted stopping zones.**
- **Installing asphalt micro seal, new striping and new pavement markers to increase visibility.**
- **Realigning and widening crosswalks to improve pedestrian crossing safety.**
- **Installing larger pedestrian refuge areas within the existing traffic islands.**
- **Relocating storm drain inlets to outside of the crosswalks.**
- **Installing new curb ramps at all four corners and flatter crosswalks to improve accessibility.**
- **Installing a new signal pole in a better location.**
- **Installing all new traffic signals, wiring and detection loops.**

9. Number of people to be served/anticipated number of users of project/program:
   ADT volumes MHR: 33,000 VPD and SVD: 16,500 VPD. This intersection is a significant route from the Whispering Pines neighborhood to Scotts Valley Middle School and many other parents drop off children to walk from this intersection to the Middle School. All streets on this intersection currently have bike lanes that are moderately traveled.

10. Project Location/Limits (attach a map and/or photos if available/applicable, include street names):
    Intersection of Mt. Hermon Road, Scotts Valley Drive, and Whispering Pines Drive. See map.

11. Justification for the project. (Why is this project needed? Primary goal/purpose of the project; problem to be addressed; project benefits; importance to the community):

    The intersection of Mt. Hermon Road/Scotts Valley Drive is a major intersection in the city of Scotts Valley. It serves the surrounding residential neighborhoods, as well as those from other regions. Motorists use this intersection to access commercial and employment centers, corporate buildings, law enforcement offices, urgent care medical clinics, shopping centers, small businesses and parks. Mt. Hermon Road is a major arterial road providing east-west access from Highway 17 to Highway 9 and San Lorenzo Valley. The Scotts Valley Drive Corridor is an important major arterial roadway in Scotts Valley. It provides the only north-south access between Mt. Hermon Road and north Scotts Valley/Highway 17.

    The project will double the length of the left turn lane from northbound Mt. Hermon Road to eastbound Whispering Pines Drive, modify existing signals, resynchronize intersection timing and improve pedestrian and bicycle safety with improvements to sidewalks, curb ramps, striping and pavement markings. The resulting improvements will provide more efficient use of the transportation system by reducing vehicle stops; especially during peak commute hours. These improvements are considered critical to provide a safe environment for motorists, bicyclists and pedestrians, school children and others in this heavily concentrated area of the city.

12. Consistency and relationship with the 2014 Regional Transportation Plan (RTP) – please reference Project or Policy:
    RTP Project Number: SV-27

13. Measures of performance, success or completion to be used to evaluate project/program:
    Increased LOS, Reduction of conflicts and risk between motorists, pedestrians, and bicyclists.

The project has been designed to meet local, state, and/or federal standards inclusive of for ADA path of travel, Accessible Pedestrian Signals (APS) and Rectangular Rapid Flashing Beacons (RRFB), and use green lane treatments and bicycle boxes.

14. Impact(s) of project on other modes of travel, if any (ex. parking to be removed):
No negative impacts, improved LOS as described above.

15. Project Cost/Budget, including other funding sources, and Schedule:

***Capital Projects* – Attached construction bid sheet highlights bicycle and pedestrian elements**

Project Start Date: September 2017

	Planning	Environ-mental	Design/ Engineering	ROW	Construction	Other *	Contingency	**Total**
SCHEDULE (Month/Yr) Completion Date __/__	**Completed**	**Exempt**	**Completed July 2017**	**N/A**	**September-November 2017**			**November 2017**
Total Cost/Phase			**$208,783**		**999,990**			**$1,208,773**
$TDA Requested (this claim)			**$0**		**$93,963**			**$93,963**
Prior TDA:			**$0**		**$0**			**$0**
Grant:			**$0**		**$346,000**			**$346,000**
Measure D:			**$0**		**$160,615**			**$160,615**
City Funds			**$208,783**		**$393,412**			**$602,195**

**Please describe what is included in "Other":*

16. Preferred Method and Schedule for TDA fund distribution, consistent with the RTC Rules and Regulations (a. 90% prior to completion/10% upon completion; or b. 100% after completion):
a. 90% prior to completion/10% upon completion

17. TDA Eligibility:

	YES?/NO?
A. Has the project/program been approved by the claimant's governing body? Attach resolution to claim. (If "NO," provide the approximate date approval is anticipated.)	**Yes**
B. Has this project previously received TDA funding?	**No**
C. For capital projects, have provisions been made by the claimant to maintain the project or facility, or has the claimant arranged for such maintenance by another agency for the next 20 years?	**Yes**
D. Has the project already been reviewed by the RTC Bicycle Committee and/or Elderly/Disabled Transportation Advisory Committee? (If "NO," project will be reviewed prior to RTC approval).	**Yes**
E. For "bikeways," does the project meet Caltrans minimum safety design criteria pursuant to Chapter 1000 of the California Highway Design Manual? (Available on the internet via: http://www.dot.ca.gov).	**Yes**

<u>Documentation to Include with Your Claim:</u>

All Claims

- ✓ **A letter of transmittal** addressed to the SCCRTC Executive Director that attests to the accuracy of the claim and all its accompanying documentation.
- ✓ **Resolution from the TDA Eligible Claimant** indicating its role and responsibilities.

Article 8 Bicycle/Pedestrian Claims

- ✓ Evidence of environmental review for capital projects

Local Agency Certification:

I certify that the information provided in this form is accurate and correct. I understand that if the required information has not been provided this form may be returned and the funding allocation may be delayed.

Signature _____ Title: **Public Works Director** Date: **August 21, 2017**

This TDA Claim Form has been prepared in accordance with the SCCRTC's Rules and Regulations, and Caltrans TDA Guidebook (http://www.dot.ca.gov/hq/MassTrans/State-TDA.html).

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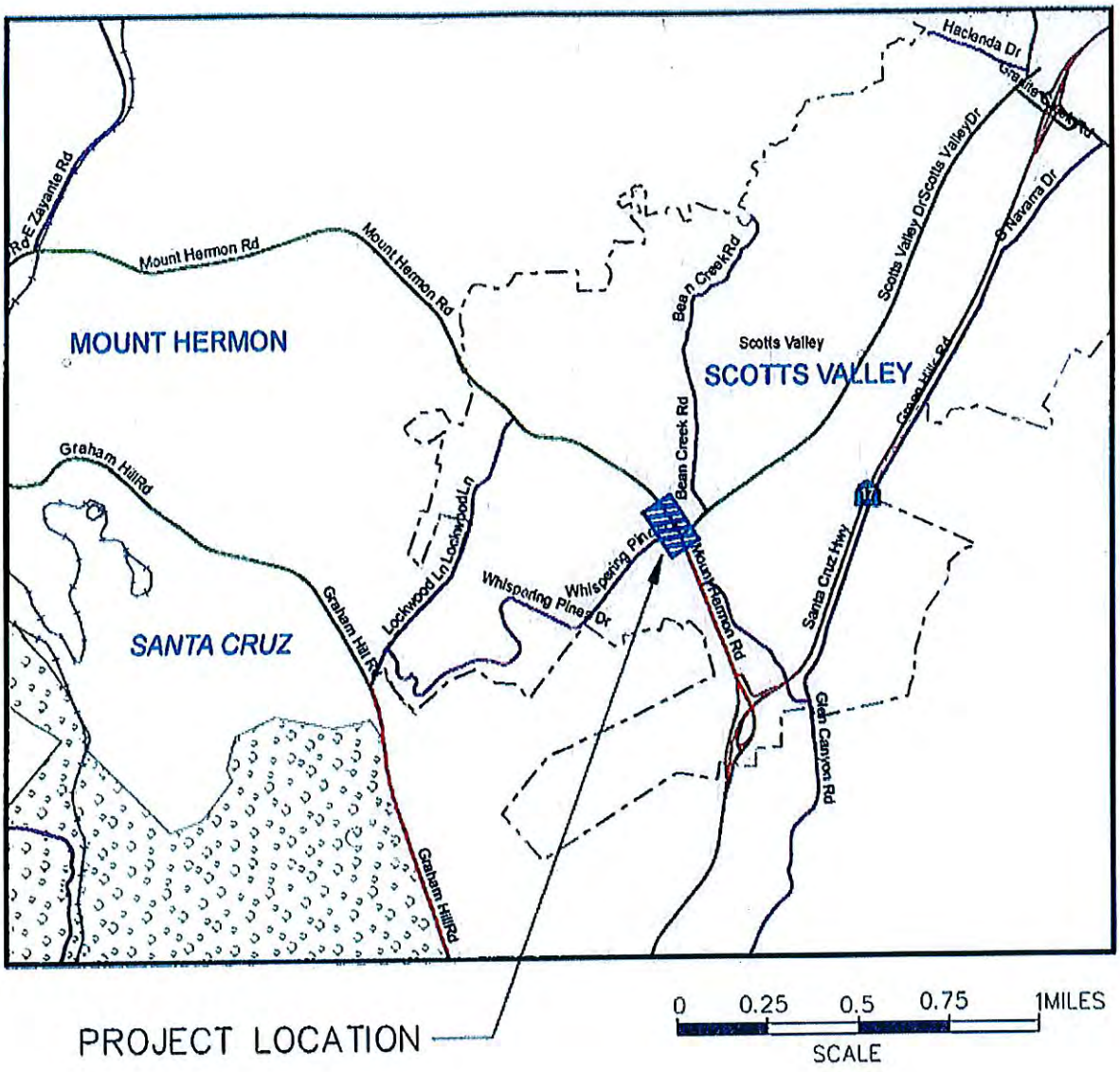


PROJECT LOCATION MAP

ATTACHEMENT 1

PAVEMENT DELINEATION GENERAL NOTES

1. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALTRANS STANDARD SPECIFICATIONS AND STANDARD PLANS (2015) AND ALL APPLICABLE ERRATA, AND THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION OF THE 2014 CA MUTCD).

2. ALL CONSTRUCTION MATERIALS, PAINT, THERMOPLASTIC STRIPING, AND PAVEMENT MARKERS SHALL BE FURNISHED BY THE CONTRACTOR.

3. ALL NEW STRIPING, PAVEMENT LEGEND AND SYMBOL MARKINGS SHALL BE THERMOPLASTIC.

4. ALL SIGN CALL–OUTS ARE PER THE 2014 CA MUTCD, UNLESS OTHERWISE NOTED. SIZES FOR ALL NEW SIGNS SHALL BE STANDARD SIZES PER THE 2014 CA MUTCD AND THE 2004 STANDARD HIGHWAY SIGNS MANUAL, UNLESS OTHERWISE NOTED ON THE PLANS.

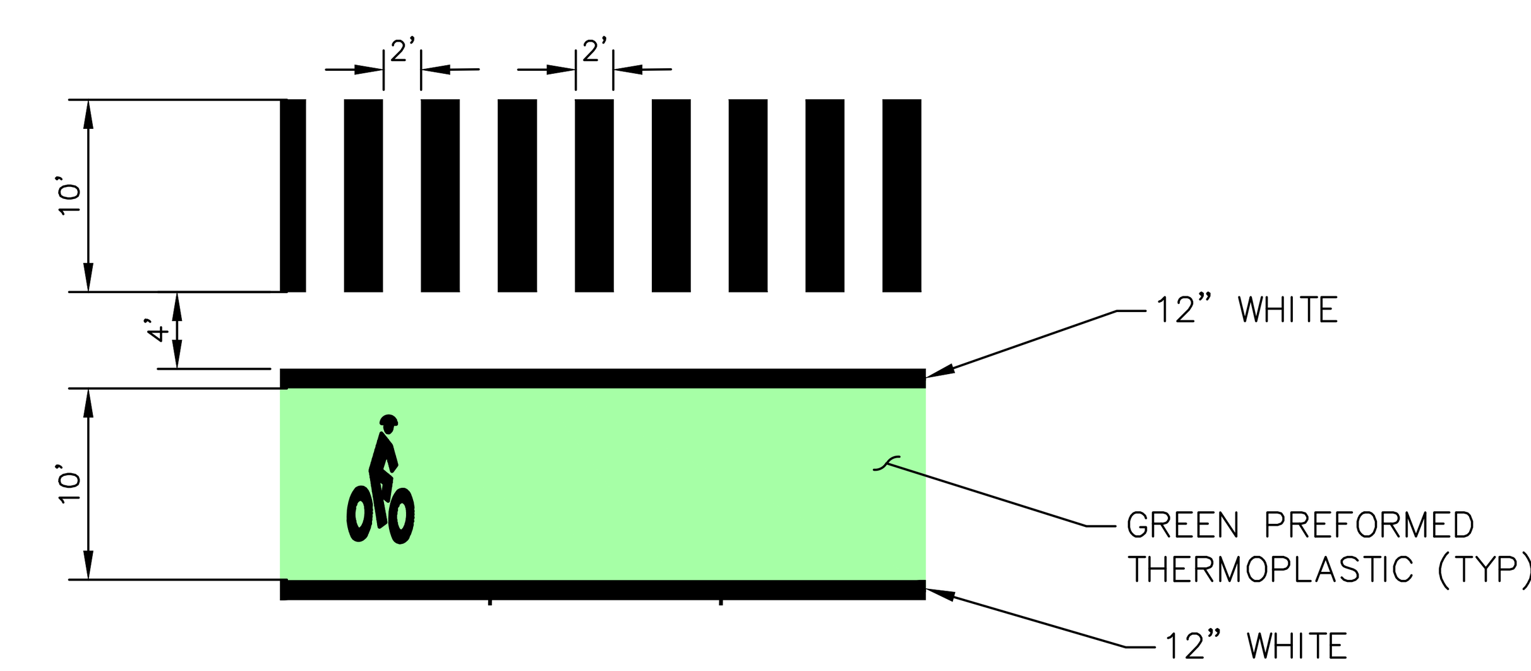
5. ALL NEW SIGNS SHALL BE STANDARD COLORS PER MUTCD REQUIREMENTS, UNLESS NOTED OTHERWISE.

6. ALL SIGNS SHALL BE A MINIMUM HIP STYLE III SHEETING TO MEET CURRENT FHWA REFLECTIVITY REQUIREMENTS.

7. ALL GREEN MARKINGS SHALL BE PREFORMED GREEN THERMOPLASTIC.

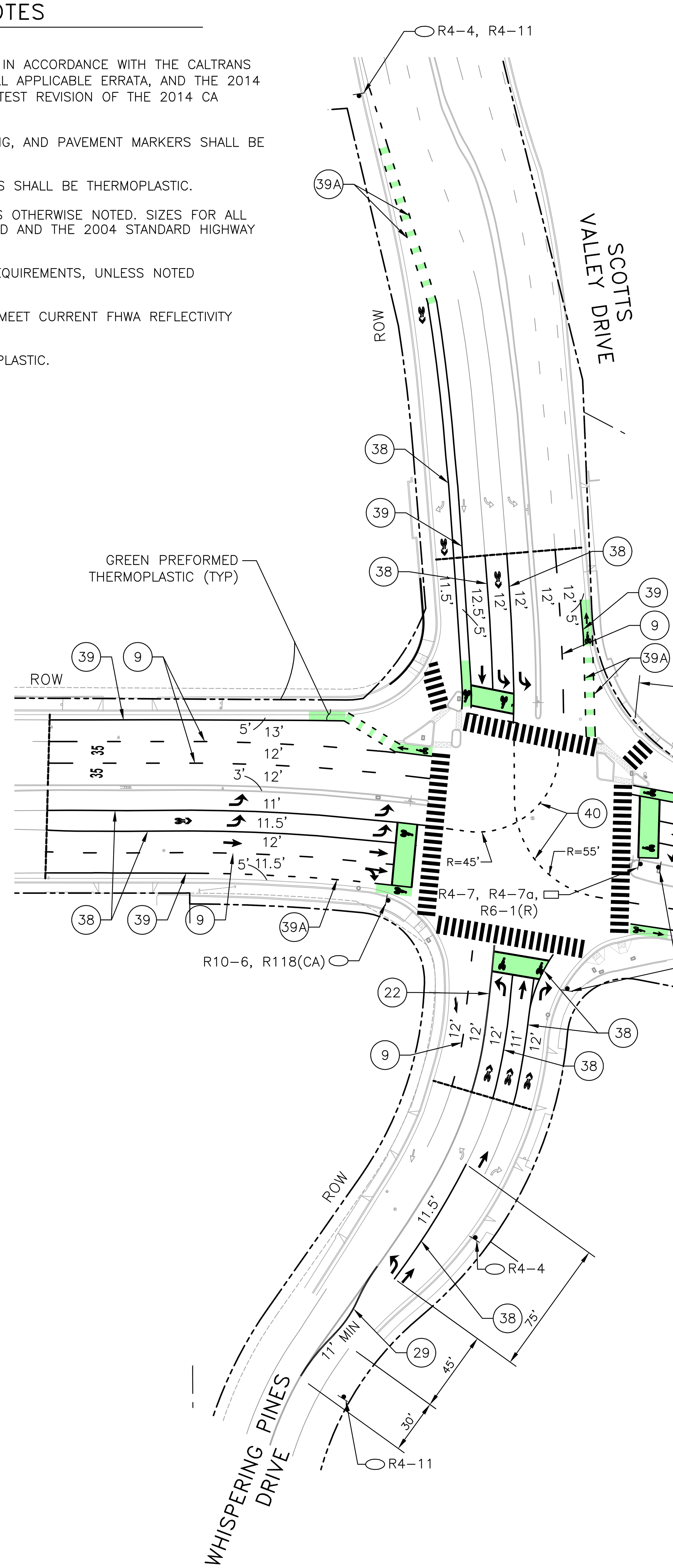
LEGEND (THIS SHEET)

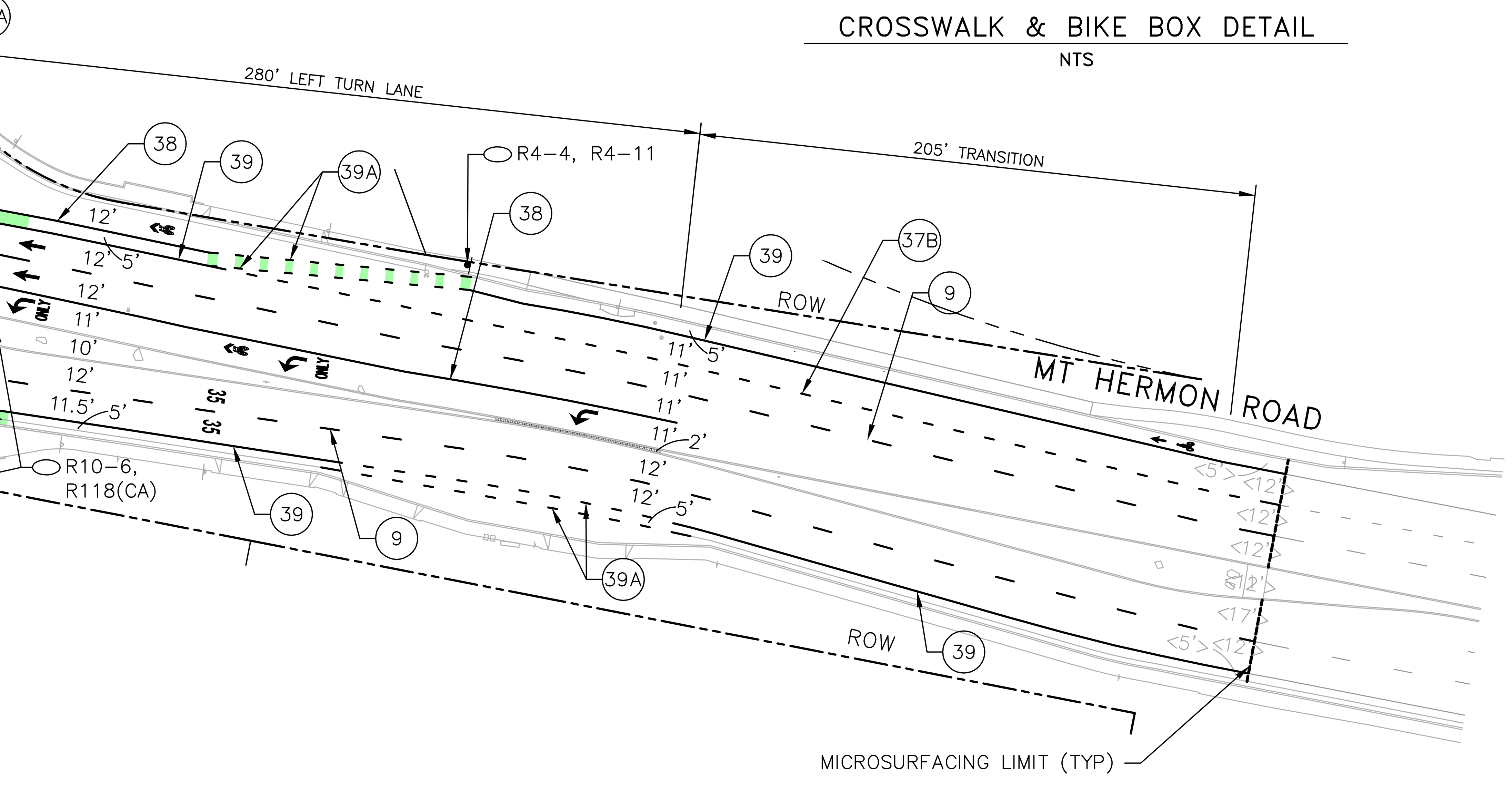
- = EXISTING STRIPING
- = NEW STRIPING
- = NEW CROSSWALK STRIPE (12" WHITE)
- = NEW TYPE I (10') ARROW
- = NEW TYPE IV ARROWS
- = NEW BIKE LANE PAVEMENT LEGEND
- = NEW SHARE THE ROAD PAVEMENT LEGEND
- 35 = NEW PAVEMENT LEGEND
- = EXISTING SIGN
- = NEW SIGN
- = REINSTALL EXISTING SIGN PANELS ON NEW POST
- = INSTALL NEW SIGN PANEL AND POST
- (#) = CALTRANS STRIPING DETAIL #



CROSSWALK & BIKE BOX DETAIL

NTS





GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

MOTT MACDONALD
1300-B FIRST STREET
GILROY, CA 95020
(408)848-3122
WWW.MOTTMAC.COM

REV.	DESCRIPTION	BY	DATE
0	BID SET	LT	5/5/2017
1			
2			
3			
4			

Mesiti-Miller Engineering, Inc.
CIVIL AND STRUCTURAL DESIGN
831.426.3186 | Santa Cruz | www.m-me.com

REGISTERED PROFESSIONAL ENGINEER LEOPOLDO TRUJILLO 63950 Exp. 9–30–18 CIVIL STATE OF CALIFORNIA

MT HERMON RD / SCOTTS VALLEY DR INTERSECTION IMPROVEMENTS

PREPARED AT THE REQUEST OF
CITY OF SCOTTS VALLEY
ONE CIVIC CENTER DRIVE
SCOTTS VALLEY, CA 95066

SIGNING AND STRIPING PLAN

DRAWN BY: ET
CHECKED BY: LT
JOB NUMBER: 366673
SHEET
PD-2

Drawing: J:\2016\366673 – Mt Hermon Rd–Scotts Valley Dr\14.0 Drawings\14.2 Design\366673 D5.dwg
May 08, 2017, 11:00am

AGENDA: September 12, 2017

TO: Elderly and Disabled Transportation Advisory Committee

FROM: Grace Blakeslee, Transportation Planner

RE: Vision Zero Report: Impact of Traffic Violence on Santa Cruz County

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RECOMMENDATIONS

Staff recommends that the Elderly and Disabled Transportation Advisory Committee (E&D TAC) receive a presentation from Santa Cruz County Health Services Agency (HSA) staff on the Vision Zero initiative.

BACKGROUND

Along with the Community Traffic Safety Coalition (CTSC), Santa Cruz County Health Services Agency (HSA) staff prepared a report titled "The Impact of Traffic Violence on Santa Cruz County" (Attachment 1). This report was officially released at CTSC's Vision Zero Forum on June 29th, 2017 at Simpkins Swim Center where stakeholders and community members were in attendance.

DISCUSSION

Santa Cruz County Health Services Agency (HSA) staff will present the "The Impact of Traffic Violence on Santa Cruz County" report at this meeting. The report documents 24 traffic-related deaths that have been reported countywide in the twelve month period from May 2016 to May 2017. This is a significant spike from the five-year average of 13 traffic deaths per year. The report is a first step in introducing the Vision Zero initiative to Santa Cruz County, inviting communities to make the prevention of traffic deaths and injuries a top priority. The report and additional information is online at: www.sctrafficsafety.org/VisionZero.

SUMMARY

The E&D TAC will receive a presentation on the Vision Zero initiative at this meeting.

Attachment: "The Impact of Traffic Violence on Santa Cruz County" report

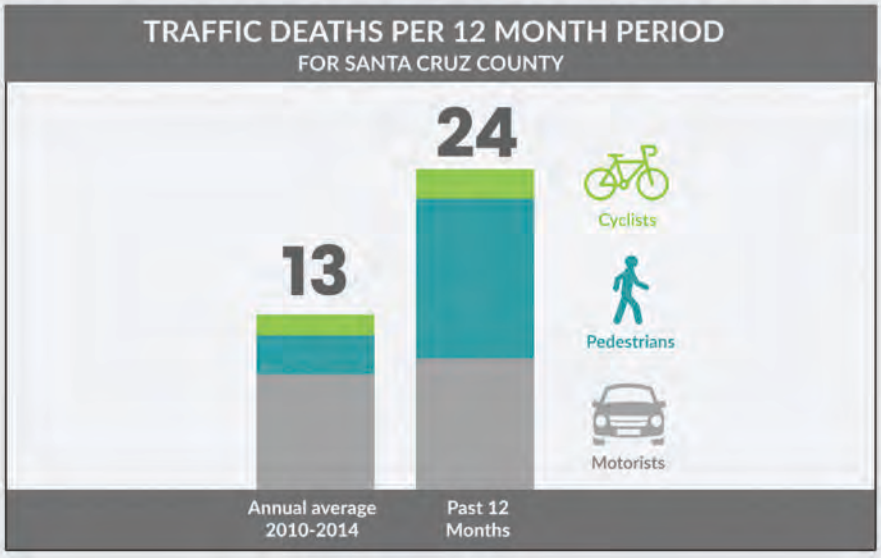
THE IMPACT OF TRAFFIC VIOLENCE ON SANTA CRUZ COUNTY

Prepared by the
Community Traffic Safety Coalition
June 2017

Every 3 days, one pedestrian, cyclist, or motorist is severely injured in our county.

Many of our friends, neighbors, and loved ones have been impacted by traffic violence. From 2010-2014, an average of 13 people died on our roads each year and another 120 experienced life-altering injuries,[1] costing the County $500 million in expenses and quality of life annually.[2]

In 2015 and 2016, the U.S. saw the biggest spikes in traffic deaths in 50 years[3]—a tragic trend that continues here in Santa Cruz County, where a review of local media uncovers a staggering 24 deaths in the past 12 months:



It doesn't have to be this way.

Now is the time for Santa Cruz County to join the cities around the country and the world in creating **Vision Zero policies,** laying out plans to eliminate all traffic deaths and serious injuries.

SANTA CRUZ COUNTY REPORT CARD

Compared to all CA counties, **we rank among the worst** for these types of collisions:

- **INJURIES & FATALITIES** among bicyclists.
- **INJURIES & FATALITIES** among pedestrians under the age of 15
- **HIT & RUN** collisions

Source: OTS Rankings, 2014

Report made possible with funding from CA Office of Traffic Safety and the Santa Cruz County Regional Transportation Commission

Sources: [1] 2010-2014 CHP SWITRS; [2] 2010 NHTSA; [3] 2017 NSC

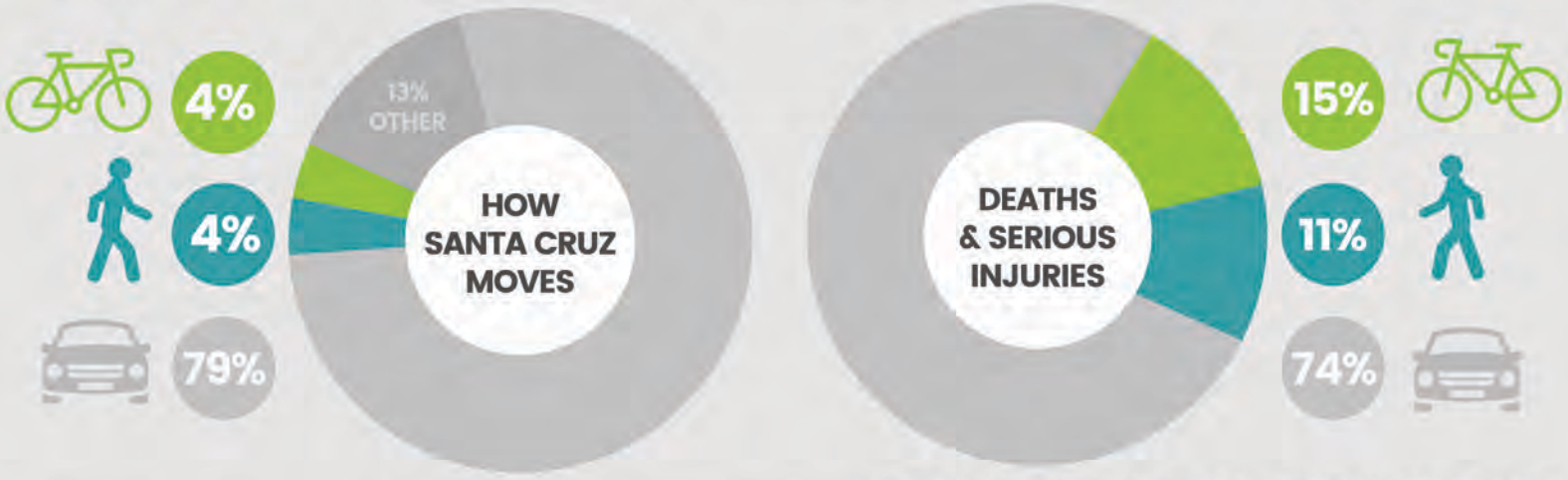
54%

of all fatal or serious injury crashes occur on **6% of our streets.**

More than half of these streets are in low income neighborhoods.

Sources: 2011-2015 American Community Survey via CDPH, 2010-2014 CHP SWITRS

SANTA CRUZ COUNTY TRAVEL MODE VS. TRAFFIC DEATHS AND SERIOUS INJURIES



Sources: 2011-2015 American Community Survey via CDPH, 2010-2014 CHP SWITRS

Most roads that we use today were designed with one thing in mind: getting motorists from Point A to Point B. While it is true that 79% of people in our community commute by car, the 8% who bike or walk experience 26% of the deaths and severe injuries that occur on our roadways. All road users in Santa Cruz County have the right to be safe using the transportation network we all depend on everyday—whether driving, biking, walking, or using public transit.

ACCIDENTS ~~ACCIDENTS~~ CRASHES! ON THE RISE IN SANTA CRUZ COUNTY

Traffic collisions are NOT random incidents that we have no control over. By using the words "crash" or "collision" rather than "accident", we acknowledge that traffic deaths and severe injuries are preventable.

> *"It's time we stop viewing deaths on our roadways as acceptable, by-products of a modern transportation system. These are not "accidents" but preventable events that can be eliminated by designing a system and promoting a culture that makes safety the number one priority."*

Supervisor Bruce McPherson
County of Santa Cruz, 5th District

> *He was riding his bike, wearing a helmet, following the rules of the road, and the driver just didn't see him. Now he's in the hospital with broken bones and a partially collapsed lung. My family is lucky; just like that I could have become a widow at 45, left to raise two kids alone on one salary.*

– Wife of Santa Cruz County crash survivor

WHAT CAUSES CRASHES IN SANTA CRUZ COUNTY?

33% UNSAFE SPEED

30% IMPROPER TURNING & RIGHT OF WAY VIOLATIONS

11% DRUGS & ALCOHOL

Source: 2010–2014 CHP SWITRS Primary Collision Factors

VISION ZERO
NO MORE TRAFFIC DEATHS

Vision Zero saves lives.

In New York City, one of 28 Vision Zero cities in the U.S., traffic deaths fell by 15% in three years following the launch of their Vision Zero initiative.

What is Vision Zero?

Vision Zero is a world-wide strategy to end all traffic deaths and serious injuries and make safety the number one priority.

What does it take to be a Vision Zero community?

The first step is for a city council or county board of supervisors to make a public commitment to preventing all roadway deaths and life-altering injuries.

Stakeholders from public works, transportation, law enforcement and public health prioritize safety when making decisions about policies, funding, roadway design, and community programs.

To learn more visit:
visionzeronetwork.org

Logo provided courtesy of the San Francisco Vision Zero Coalition

DEATH DUE TO SPEED

A pedestrian is **four times more likely to die** when hit at 45 MPH than at 25 MPH.

Source: AAA Foundation for Traffic Safety

fewer than 1 in 5 die

2 in 5 die

3 in 5 die

People will make mistakes and poor choices; Vision Zero says those mistakes don't have to cost lives. Working together, we can eliminate deaths and serious injuries on our streets. The Community Traffic Safety Coalition of Santa Cruz County and its community partners are committed to promoting multifaceted traffic safety policies and strategies guided by the 6 E's, a framework developed by the Safe Routes to School movement.

ENCOURAGEMENT

Promoting a culture that recognizes drivers, cyclists, and pedestrians as road users who all share the responsibility for safety.

EDUCATION

Equipping people with knowledge, skills, and confidence to use the roads safely and respectfully.

ENFORCEMENT

Ensuring that all road users understand and follow traffic laws and regulations.

EVALUATION

Using data to measure progress and plan for future success.

ENGINEERING

Designing and building a transportation system that creates safe, convenient, and comfortable places to drive, bike, and walk.

EQUITY

Prioritizing safety and access for communities who are most impacted by traffic violence.

JOIN US TO SAVE LIVES!

The Community Traffic Safety Coalition (a program of the Santa Cruz County Health Services Agency's Public Health Department) promotes safe, accessible, and equitable transportation. We offer technical assistance to local jurisdictions and other community partners and can help develop Vision Zero policies and strategies, provide local data, identify funding sources, and conduct program evaluation. If you are interested in pursuing Vision Zero in your Santa Cruz County community, please contact us.

Public Health
Prevent. Promote. Protect.
Santa Cruz County

COMMUNITY TRAFFIC SAFETY COALITION

CTSC@santacruzcounty.us
www.sctrafficsafety.org
www.facebook.com/sctrafficsafety
831-454-4312

AGENDA: September 12, 2017

TO: Elderly and Disabled Transportation Advisory Committee

FROM: Brianna Goodman, Transportation Planner

RE: Visualizing Sustainable Transportation Progress Report

RECOMMENDATIONS

Staff recommends that the Elderly and Disabled Transportation Advisory Committee receive an update on the Visualizing Sustainable Transportation in Santa Cruz County project.

BACKGROUND

Originally titled "Sustainable Transportation Prioritization Plan," the Visualizing Sustainable Transportation in Santa Cruz County project (Visualization project) is funded through a Caltrans Transit Planning for Sustainable Communities grant. The project's objectives include an emphasis on public engagement through the use of innovative visual mechanisms to create a deeper understanding of sustainable transportation options that meet the state's goal of expanded accessibility and multimodal options.

The project is coordinated with other RTC projects through incorporation of transportation improvements under consideration in the long range Regional Transportation Plan (RTP) and Unified Corridors Investment Study (UCS) using technologically advanced and effective techniques to engage the community. The final product will be a toolkit for public engagement that includes a review of these methods as well as a final plan that documents lessons learned and current public understanding of sustainable transportation systems in Santa Cruz County. The toolkit will be available for others throughout the state.

DISCUSSION

The Visualization project began with interviews of stakeholders, partner agencies, RTC staff and location-based interest groups, as well as research by the consultant. Focus groups and a design charette were then held to ensure a well-rounded and representative discussion. They included city and county planners, representatives of local businesses, community non-profits and schools. The focus groups provided a forum for dialogue about how to best promote and help the community envision a more robust sustainable transportation system in Santa Cruz County. The charrette included a hands-on mapping exercise and discussion of specific improvements that would represent a sustainable transportation system. The findings from the focus

group and charrette informed the placement, components, and details for the visual simulations along with plans and projects currently under development or consideration by the cities and County.

Visualization Tools

One of the main goals of the Visualization project is to develop tools that effectively communicate complex transportation and land use concepts with the public. The primary technology chosen for this is a tool called an "Owl" viewer. It was developed in the Bay Area by a firm called Owlized. The viewer looks similar to the binocular units at scenic lookouts, but functions much differently. Looking into the viewer, the participant sees a photo-realistic three dimensional representation of proposed sustainable transportation improvements. This virtual reality technology will be used at four locations around the County: the County of Santa Cruz on Soquel Drive at Chanticleer Avenue, the City of Santa Cruz on Natural Bridges Drive at the railroad right-of-way, the County of Santa Cruz on 17th Avenue at the railroad right-of-way, and in the City of Watsonville on Walker Street at Beach Street (see map included as Attachment 1). All the Owls are at locations with transit and sidewalk access. The viewers will be installed in such a way that access and egress will be maintained. Each visual will also be available through a "pocket owl" link for smart phones or other devices (see example images included as Attachment 2).

Participants will be able to provide feedback about the short and long term sustainable transportation and land use visualizations via a short survey which will be administered by the Owl and will be available on the RTC website. Contact information will be provided as part of the survey for the user to submit questions, comments or concerns not captured by the survey.

The Owls will be deployed in two phases. The Soquel Drive and Natural Bridges Drive Owl viewers are planned to be installed on September 20th and October 4th respectively. The second phase will occur in early spring 2018 after daylight savings time goes into effect and will include the 17th Avenue in Live Oak and Walker Street in Watsonville locations. The second phase is staggered to take advantage of the time of year when people are more likely to be outdoors and active. Each Owl will be up for approximately six weeks during which time staff will be conducting outreach to draw visitors to the viewers. Methods for raising awareness of the installations will include pop-up events, Instagram, Facebook and other social media posts, presentations to community groups and wayfinding from nearby points of interest.

Relationship to Other RTC Projects

The Visualization project will support other projects underway at the RTC and partner agencies by providing realistic demonstrations to raise public awareness of potential transportation options for advancing sustainable transportation goals. The land use changes demonstrated by each Owl are reflective of current County and City visioning exercises and/or approved plans that have undergone extensive

community input. The visuals are intended to engage the community in a dialogue about what could be viable in the future, rather than reflect any definitive conclusions from other concurrent RTC projects such as the Unified Corridor Investment Study (UCS) or Regional Transportation Plan. Time and budget constraints for the Visualization project do not allow all scenarios that are being evaluated in the UCS to be demonstrated through the Owl viewers.

SUMMARY

The Visualization project will provide an educational experience and feedback opportunity for participants by demonstrating what terms such as "sustainable transportation," "transit oriented development" and "infill development" could look like within the context of Santa Cruz County. Information, materials and lessons learned from the project will be summarized in an outreach toolkit and plan which will be used for future community engagement.

Attachments:

1. Map of Owl Locations
2. Example Images From Other Owl Projects

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MAP OF OWL LOCATIONS

SAMPLE IMAGES OF OWL

Images of Owl Kiosks

Images of Pocket Owls

AGENDA: September 12, 2017

TO: Elderly and Disabled Transportation Advisory Committee

FROM: Grace Blakeslee, Transportation Planner

RE: Santa Cruz Metropolitan Transit District 2016-2017 Santa Cruz County Grand Jury Report

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RECOMMENDATIONS

This item is for information only.

BACKGROUND

As required by State law, the Santa Cruz County Grand Jury is tasked with performing investigations of local public agencies. In 2016-2017, the Santa Cruz County Grand Jury investigated the Santa Cruz Metropolitan Transportation District (Metro).

DISCUSSION

The Santa Cruz Metropolitan Transit District 2016-2017 Grand Jury report entitled *The Bus Stops Here* was released in June 2017 (Attachment 1). The Grand Jury report includes a number of findings and recommendations. The findings and recommendations require a response from the Metro Chief Executive Officer (Attachment 2) and the Metro Board (Attachment 3) by August 28, 2017 and September 27 2017, respectively.

SUMMARY

The Santa Cruz Metropolitan Transit District 2016-2017 Grand Jury report entitled *The Bus Stops Here* was released in June 2017 (Attachment 1).

Attachments:

1. Santa Cruz Metropolitan Transit District 2016-2017 Grand Jury report entitled *The Bus Stops here*
2. CEO response to the 2016-2017 Grand Jury Report
3. Metro Board response to the 2016-2017 Grand Jury Report

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Santa Cruz Metropolitan Transit District

The Bus Stops Here

Summary

The Santa Cruz Metropolitan Transit District's purpose is to provide Santa Cruz County with a reliable transit system, delivering us where we need to be when we need to be there. Despite the efforts of the district's Board, management team, and employees, significant annual budget shortfalls and decreasing ridership jeopardize the sustainability of the system.

The 2016–17 Grand Jury evaluated actions the Santa Cruz Metropolitan Transit District (Metro) could take to reverse its service decline and achieve a balanced budget. Metro should increase efforts to retain and grow ridership, build sustaining partnerships such as those with UCSC and Cabrillo College, and expand funding sources. Combining these activities and marketing under a business development umbrella will align these tasks and focus the entire Metro team on its mission:

> *To provide a public transportation service that enhances personal mobility and creates a sustainable transportation option in Santa Cruz County through a cost-effective, reliable, accessible, safe, clean and courteous transit service.*[1]

Background

In August 2016 Metro undertook extensive public outreach to discuss proposed service cuts resulting from insufficient funding. It also initiated a re-evaluation of existing routes and services. A slow recovery from the recession that began in 2008 contributed to a $26 million reduction in anticipated revenue from 2008 through 2014.[2]

Anticipating a continuing annual shortfall that is currently funded from dwindling reserves, Metro engaged Transportation Management & Design, Inc. to study and report on Metro's delivery of services[3] and to conduct a market assessment of Metro's service area.[4] These reports were used to realign routes to control losses, but not for additional changes they recommended.

Metro lacks a system-wide strategic plan for long-term economic viability and ridership growth, and an action plan for increasing revenues and balancing the budget. Without such plans Metro faces continuing budget shortfalls and depleted reserves. The "FY 2017 & FY 2018 Budget" states that even with anticipated revenue from Measure D the district will return to a structural deficit in FY 2019.[5] [6]

Management Structure

The Metro Board of Directors is comprised of 12 members:

- Five members of the Santa Cruz County Board of Supervisors or their appointed representatives
- Six city council members or their appointed representatives: one from Capitola, one from Scotts Valley, two from Santa Cruz, and two from Watsonville
- One member appointed from UCSC

Reporting to the Metro Board are the CEO/GM (Chief Executive Officer/General Manager) and District Counsel.

The Metro Advisory Committee is made up of citizen volunteers approved by the Metro Board. It meets quarterly and advises the Metro Board on matters of policy and operations with regard to bus transportation services.

Scope

The Grand Jury recognizes the value of a county transit system to the economy, environment, and an enhanced quality of life for the entire community. Exploring the challenges to successful and financially viable transit systems, the Grand Jury met with members of the Metro Board of Directors, management, and union personnel. Grand Jury members rode buses on seven routes, toured the maintenance facilities, visited the new operations facility on River Street, and inspected the transit centers in Watsonville, downtown Santa Cruz, and Scotts Valley. We attended meetings of the Metro Board and the Metro Advisory Committee.

We reviewed publicly available materials, including the recently commissioned reports by Transportation Management & Design, Inc. evaluating Metro's services and markets.

We reviewed proposed modified bus routes, ParaTransit for outlying areas, new alternative services, and management's vision of Metro's evolving role. We examined Metro funding partnerships with Cabrillo College and the University of California at Santa Cruz (UCSC), as well as options for securing future partnerships.

Many of our ideas coalesced from research on Bus Rapid Transit (BRT) systems.[7] [8] BRT is a compilation of adjustments and accommodations made to enhance bus service by reducing obstructions to achieving peak efficiency. The goal of BRT is to enable bus systems to perform more like light rail systems, free of traffic constraints and inefficient loading and unloading of riders. The main features of these systems include one or more of the following:

- Dedicated lanes
- Off-board fare collection
- Traffic light prioritization
- Platform-level boarding
- High-capacity vehicles
- Quality adjunct facilities
- Strong market branding
- Real-time rider data collection

Investigation

Our investigation identified five areas in which Metro could benefit from an increased emphasis on current initiatives and from new management approaches. We agree with management that long-term financial sustainability and service to the community must be Metro's primary goals. We investigated the potential for:

- Expanding funding sources and operational revenue
- Improving facilities and equipment
- Evaluating management best practices
- Introducing a business development unit
- Improving the ridership experience

Funding Sources and Operational Revenue

Fares, tax initiatives, and grants are insufficient to cover operating costs. Current Metro Board actions and guidance to management do not address the need to grow income. Reserves continue to be depleted to cover operating costs and Metro has projected that within two years they will return to running a deficit.[5]

The Grand Jury reviewed ways Metro is attempting to reduce the practice of depleting reserves for operating expenses. Among these were route reductions, fewer stops, and a decrease in frequency of service of as much as 20%.

While Metro is striving to become more efficient, it has many challenges, including reduced fare box revenue, fewer grants, and dwindling state and federal funding

contributions. Although assisted by subsidized funding from UCSC ($4.1 million expected in FY17) and Cabrillo College ($940,000 expected in FY17),[9] [10] inadequate funding remains a problem. Our investigation identified several potential avenues for additional funding:

- Increasing grant writing
- Expanding community partnerships beyond public-sector institutions
- Working with community retail districts to encourage mutual growth
- Exploring financial successes of similar public transit systems

Facilities and Equipment

The central maintenance and operations facilities are new and appear to be well run. The transit centers in Santa Cruz and Watsonville however are deteriorating and are not well maintained. Cleanliness of these centers is discussed below under *Ridership Experience.*

Part of Metro's bus fleet runs on Compressed Natural Gas (CNG), which has proven to be less cost effective than planned. This stems largely from shorter than expected maintenance cycles – the CNG bus engines need repairs more often than anticipated. Metro should evaluate the benefits of converting CNG bus engines to electric, which is estimated to be half the cost of purchasing new electric buses.

Metro currently uses a transit management software system called HASTUS. With this system, ridership data needs to be collected from direct observation on the buses and then manually uploaded. There is also no real-time tracking of timeliness. Automation of these data collection tasks could greatly assist Metro with management decisions. Automatic Vehicle Location (AVL) is a system for keeping track of the bus position in real time. With this and an automatic system to track boardings, considerably more and higher quality data could be gathered and fed into the HASTUS software. This would allow for better route management, reduced schedule delays, and a more appropriate allocation of resources. For riders, AVL is a necessary part of any system that would keep them informed when to expect the next bus.

Transit Management Best Practices

There are a number of transit best practices that would offer Metro new long-term strategies and short-term tactics to improve their operations. These include ideas for improving customer service, creating a positive rider environment, having agile action plans, and providing flexible budget allocations and program alignments. The overall challenge is to grow income – reducing services and using reserves to balance the budget is not sustainable. Growing ridership, increasing community partnerships, and expanding economic vitality are essential to a successful Metro.

The Federal Transit Administration's Office of Research, Demonstration, and Innovation states BRT "is often considered more reliable, convenient and faster than regular bus services."[11] In line with these conclusions, the Santa Cruz County Regional Transportation Commission continues to study ways to serve a high-density coastside

population along with more sparse rural areas. These areas have widely differing costs to operate and different service expectations.

Industry best practices are in evidence in many transit programs throughout the country. Collectively what stands out in these programs is a focus on innovation, both in systems and in management training. Programs in Seattle, Washington;[12] Eugene and Springfield, Oregon;[13] Fort Collins, Colorado;[14] and Alameda-Contra Costa Counties, California[15] are among several that may offer solutions to Metro's challenges.

The Institute for Transportation and Development Policy[16] is another resource for innovative ideas. It also underwrites a one-year management training for transit board members for regions with populations greater than 200,000, such as Santa Cruz County.

Metro Board members are not required to have any relevant transit experience, qualifications, or training.[17] This may be an impediment to improving Metro's performance, as not all Board members are aware of transit best practices, or have the time and resources to acquire that expertise.

Business Development Unit

In today's financial climate, special districts must be their own advocates in augmenting their budgets. While there are tax dollars allocated, they must proactively seek out additional funding, brand themselves, and actively market their services. The district needs the mindset of an entrepreneur to flourish.

The Metro organization chart has had an unfilled position for a marketing manager for three years. This may be short-sighted. A person in this position, particularly if it were expanded to include business development, could be:

- developing and championing ways to increase revenues,
- exploring new concepts and programs,
- pursuing partnerships similar to those with UCSC and Cabrillo College,
- establishing community outreach programs,
- expanding grant writing oversight, and
- advocating for an improved rider experience.

Currently these activities are disjointed and sporadic, and are constrained by a narrow definition of marketing. A business development manager would also examine the practices of similar and more financially robust transit systems to identify proven strategies.

Ridership Experience

It is a downward spiral to constantly reduce services in the face of a declining number of customers or revenue, yet struggling service providers tend to do so. Reductions and realignments should be done within the context of a growth plan, otherwise they lead an agency towards irrelevance or dissolution.

Metro still has several opportunities for making small investments to increase ridership, build loyalty, and strengthen Metro's relevance to our local economy. There are many

benefits from improving the rider experience: reduced stress for bus operators, lower staff turnover, friendlier driver-rider interaction, higher bus utilization, and greater community support for funding of transit services. Primarily, Metro needs to consider a wider appeal to gain ridership. This challenge includes delivering services to current riders who will invite others to join them.

Any campaign to grow ridership will need to confront real and perceived criticisms. Key among these are dirty stations, parking that falls short of commuters' needs, and buses that are late, outdated, or unclean.

The Grand Jury identified several issues contributing to rider dissatisfaction:

- Traffic congestion contributes to schedule delays and missed connections, which has riders displeased with the bus operators, even though this is beyond Metro's control. Not knowing when the next bus will come is a big concern for riders.
- Metro Buses exceed the national industry average of 500,000 miles. Aging equipment is often in disrepair and makes a negative impression on riders.
- Bus seats are porous fabric and not easily sanitized.
- There is little consistency in the design, construction, or location of bus stops, and they often do not conform to the criteria stated in the Metro Bus Stop Guide.[18]
- District transit centers in downtown Santa Cruz and Watsonville are not maintained to a consistent standard of cleanliness.
- Overnight parking is not available at the park-and-ride lot for Highway 17 Express bus users.

Findings

F1. Metro experienced an anticipated revenue reduction of $26 million from 2008–2014 and had to use its reserves to fill the shortfall. This is not sustainable.

F2. Metro grant writing has been insufficient and ineffective.

F3. Many Metro Board members lack transit management knowledge of best practices or business experience, leaving them ill-equipped to address Metro's declining revenues.

F4. Metro use of Bus Rapid Transit (BRT) industry best practices is limited.

F5. There are no experience qualifications for Metro Board members in its bylaws, and the Board lacks the range of experience or training necessary to improve Metro's performance.

F6. Metro does not have joint meetings that include the Board, Metro management, and the Metro Advisory Committee. Better and more frequent communication and coordination between these bodies could improve decision making.

F7. Manual collection of route performance data does not allow for optimal use of the HASTUS system.

F8. Metro partnerships with UCSC and Cabrillo College have contributed significantly to Metro revenues, and Metro would benefit from additional community partnerships.

F9. Metro marketing functions are handled inefficiently, in significant part due to an unfilled marketing manager position. Marketing must be more than just selling advertising on buses.

F10. Metro lacks a business development manager. Currently, business development responsibilities are distributed across the organization, and are not implemented or effective.

F11. Metro design standards for bus stops and shelters have not been consistently implemented, which may negatively impact ridership.

F12. Metro bus seats are difficult to clean and sanitize, which may negatively impact ridership.

F13. The lack of overnight parking at bus facilities may be a deterrent to potential riders.

F14. Metro's CNG bus engines break down sooner than expected, resulting in accelerated expenses.

F15. Metro transit centers are deteriorating and in disrepair, which may negatively impact ridership.

F16. Metro transit centers are not clean, which may negatively impact ridership.

Recommendations

R1. Metro should conduct a limited study to determine if reduced fares would generate additional revenue through increased ridership. (F1, F4, F7)

R2. Metro should redefine the Marketing Manager position as Director of Business Development and fund it. (F9, F10)

R3. The Metro Board should include members who have marketing, business management, or finance experience. (F3, F5, F6)

R4. The Metro Board, Metro management, and the Metro Advisory Committee should meet jointly on a regular basis. (F5, F6)

R5. Metro should identify and secure additional funding sources. (F2, F8, F9, F10)

R6. Metro should expand their grant writing program. (F2)

R7. Metro should adopt and adhere to a budget that does not deplete reserves for operating expenses. (F1)

R8. Metro should consider pursuing additional private and government partnership programs, such as those with UCSC and Cabrillo College. (F8)

R9. Metro should create a bus stop sponsorship program that underwrites construction of bus stops in accordance with Metro's design standards. (F11)

R10. Metro should improve cleanliness at transit facilities. (F12, F16)

R11. Metro should improve maintenance at transit facilities. (F12, F15, F16)

R12. Metro should establish overnight parking at the Scotts Valley Cavallaro Transit Center for riders. (F13)

R13. Metro should evaluate cost-effective alternatives to the CNG bus powertrain. (F14)

R14. Metro should use easily cleanable materials for bus seats. (F12)

R15. Metro should conduct a limited trial using AVL and HASTUS to explore bus route efficiency. (F7)

R16. Metro should provide WiFi connection on more buses. (F4)

Commendations

C1. Although Metro faces difficult decisions and financial hardship, we found the employees hardworking and dedicated. Without exception they were extremely helpful and treated their customers with kindness and respect. We commend the employees for their outstanding service to the community.

Required Responses

Respondent	***Findings***	***Recommendations***	***Respond Within/ Respond By***
Santa Cruz Metropolitan Transit District Board	F3–F10	R2–R9	90 Days September 27, 2017
Santa Cruz Metropolitan Transit District CEO	F1, F2, F6–F16	R1, R2, R4–R16	60 Days August 28, 2017

Definitions

- **AVL:** Automatic Vehicle Location is a system using GPS to track the real-time location of vehicles.
- **BRT:** is a Bus-based Rapid Transit system designed to improve capacity and reliability relative to a conventional bus system.
- **CNG:** Compressed Natural Gas used as a vehicle fuel.
- **HASTUS:** (*Horaires et Assignments pour Systems de Transport Urban et Semi-Urban*) A software system designed for managing transit systems. Modular in nature, systems can be purchased depending on need and cost.

- **WiFi:** Trademark for facilities which allow computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area.

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Site Visits

Metro Administrative offices and Fleet Maintenance Facilities

Board of Directors Meeting

Metro Advisory Committee Meeting

Transit Stations: Scotts Valley, Santa Cruz, Capitola Mall, and Watsonville

Bus rides: Route 35, Route 20, and Route 75

Websites

Santa Cruz Metropolitan Transit District www.scmtd.com

METRO CEO Response to the Grand Jury Report

Findings

F1. Metro experienced an anticipated revenue reduction of $26 million from 2008–2014 and had to use its reserves to fill the shortfall. This is not sustainable.

___ **AGREE**
_X_ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

Metro agrees with the finding, with the exception of the statement "Metro experienced an anticipated revenue reduction of $26 million from 2008–2014…"

The Grand Jury misunderstood this reference in the Board structural deficit workshop materials. Metro did not experience an anticipated revenue reduction of $26 million from 2008 - 2014. Rather, Metro suffered a decline in sales tax revenues as a result of the 2008 recession.

The intent of the slide in the Board workshop presentation was to provide an example of what sales tax revenues could have been between 2008 and 2014 had there been no prolonged recession and a modest 3% year-over-year growth in sales tax revenues. The data was intended to display that had the recession not hit, and for illustrative purposes only, had Metro's sales tax instead grown at a modest 3% year-over-year growth through FY14, Metro would have received approximately $26 million more in sales tax revenue over the same period of time studied than was actually received.

Finally, no one could have predicted how severe and prolonged the recession would be. In 2008, and for several years thereafter, the Metro Board chose to use its reserves to sustain the level of service provided to its customers. The Board can choose to use its reserves for a rainy day or for capital expenditures. The Board chose to use its reserves to cover the rainy day impacts of the recession on bus operations. Unfortunately, the rainy day was longer than a day.

F2. Metro grant writing has been insufficient and ineffective.

___ **AGREE**
___ **PARTIALLY DISAGREE** – explain the disputed portion
_X_ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

Metro strongly disagrees with this Finding. This Finding was presented to the CEO three days before the release of the Grand Jury report and without an opportunity to respond in writing. The Grand Jury provided no supporting documentation or

information from interviews with staff or others that would substantiate this Finding. At the Grand Jury exit meeting, the CEO verbally provided the Grand Jury members background and examples as to why this Finding is incorrect; unfortunately the Grand Jury chose to disregard this information.

It appears that the Grand Jury members did not properly comprehend the grants process, particularly differences between Capital Grants and Operating Grants and the differences between Formula Grants and Discretionary (Competitive) Grants.

Operating Grants vs. Capital Grants

Think of the operating budget as "running buses" and the capital budget as "buying buses." Metro's structural deficit, as referred to in the Grand Jury report, is in the operating budget. State and federal discretionary (competitive) grants typically do not provide revenue for the operating budget, and local grants that might provide operating funds are few and far between. Nearly all state and federal grant opportunities are for capital improvements and bolster Metro's ability to buy buses. Regardless, METRO applies for all discretionary grant opportunities for which it is eligible.

Formula Grants

State and federal formula grants come to Metro as a result of legislation, usually require an annual application, and always require follow-up information on how Metro used the money. While this is a cumbersome and time-consuming process, which also demands attention from the grants-writing staff, Metro always follows the dictated processes and never risks or jeopardizes its state and federal formula grant allocations. These state and federal formula dollars are typically used for operations, are sometimes flexible for use in both operations or capital, and are often restricted to capital only.

Discretionary (Competitive) Grants

In any given year, there are a number of state and federal discretionary grant programs offered. Metro always submits highly competitive grant applications for programs for which it qualifies. Unfortunately, the Grand Jury report does not reflect Metro's highly successful discretionary capital grant awards in 2016. In 2016, Metro competed successfully at the state, federal and local levels for the following grants:

- State Low Carbon Transit Operations Program (LCTOP) – Awarded $709,292 to purchase one zero emissions electric bus that will run as a circulator in Watsonville.

- Federal Low or No Emission Vehicle Program (LoNo) - $3,810,348 to purchase three zero emissions electric over-the-road coaches to run on the Highway 17 commuter service. The grant includes recharging facilities. Of the 20 nationwide awards, Metro received the 5th highest award in the nation, receiving a larger grant than the Chicago Transit Authority.

- Santa Cruz County Regional Transportation Commission: Surface Transportation Block Grant (STBG) - $500,000 to purchase one Compressed Natural Gas (CNG) bus to run on Metro's fixed-route services.

When grants become available for competition, they are always way oversubscribed. Typically, there are nine to ten times as many applications as actual grant awards, and the amount awarded is a fraction of the amount requested. For example, in 2016 the federal Bus and Bus Facilities grant program received $1.647 billion in applications for a program with only $213 million available for distribution. In the 2016 federal Low and No Emission Bus Program, applicants requested $446 million from a pot of only $55 million.

Again, these grants are for capital improvements only and do not provide operating revenue.

The Changing Landscape of Grants Availability

Finally, the grant funding landscape has changed dramatically over the past five years, which the CEO explained to the Grand Jury members. Here are just a few examples:

- Up until 2012, the federal transportation authorization included a Bus and Bus Facilities Program, a discretionary capital grant program. Up until then, Metro had competed successfully for some of this funding. With the enactment of Map21 in 2012, the Bus and Bus Facilities discretionary grant program was eliminated It was not until the FAST Act reauthorization last year that the Bus and Bus Facilities program was reestablished, albeit at a substantially reduced funding level.

- In 2006, the California voters created a capital funding source through Proposition 1B. This ten-year capital program, which expired last year, funded numerous Metro security, facilities and bus procurements, which were all capital projects. Fortunately, the Governor signed the Road Repair and Accountability Act this past April to partially replace Proposition 1B and to provide additional State Transit Assistance (STA) to Metro. Again, this legislation favors capital projects for the use of this money, although some of it can be used for operating assistance if METRO meets specific performance criteria.

- The American Recovery and Reinvestment Act of 2009 (ARRA), signed into law by President Barack Obama on February 17, 2009, was an economic stimulus package that provided Metro valuable capital dollars. ARRA was a one-time program and did not provide recurring resources.

- In 2012, the US Congress eliminated federal "earmarks," a process that provided legislative appropriations to specific projects in a congressperson's district.

Metro had frequently secured federal earmarks to fund multiple capital projects. Each year federal subsidies for public transit are threatened. The result of this constant threat is often flat or nominal growth in federal transportation funding, and in an environment where operational costs typically grow at a rate equal to or greater than the Consumer Price Index (CPI).

With the loss of several substantial capital funding programs since 2012, Metro's challenge in the coming years will be one of trying to find the resources with which to replace 61 buses that are currently obsolete and in need of replacement at an estimated cost of $38 million to $60 million, depending on whether Metro purchases CNG or electric buses.

F6. Metro does not have joint meetings that include the Board, Metro management, and the Metro Advisory Committee. Better and more frequent communication and coordination between these bodies could improve decision making.

___ **AGREE**
_X_ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

Metro is unclear as to what the Grand Jury members intended with the following statement: "…joint meetings that include the Board, Metro management, and the Metro Advisory Committee." This statement appears out of place when attempting to reconcile it against the text of the report. Metro would appreciate any clarification the Grand Jury members could provide.

In the way of background, Metro staff does regularly attend and provide staff support to the Metro Advisory Committee (MAC) and the MAC Chair attends two Metro Board meetings a year, providing the Board with an update of the MAC activities and MAC recommendations on various transportation topics.

Additionally, Metro questions the wisdom and value of joint staff and Board meetings. All staff report to the CEO. The joint meetings suggested in the report would have the potential to blur the lines of reporting relationships or create an opportunity for the Board (policy makers) to interfere with the administrative functions they have contractually delegated to the CEO. Nevertheless, Metro Board members do regularly interface with staff at Committee and full Board meetings and the CEO provides an interactive working environment in which staff members are responsible for presenting their department's Board reports to the full Board and answering Board member questions.

F7. Manual collection of route performance data does not allow for optimal use of the HASTUS system.

_X_ **AGREE**
___ **PARTIALLY DISAGREE** – explain the disputed portion

___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

F8. Metro partnerships with UCSC and Cabrillo College have contributed significantly to Metro revenues, and Metro would benefit from additional community partnerships.

_X_ **AGREE**

___ **PARTIALLY DISAGREE** – explain the disputed portion

___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

F9. Metro marketing functions are handled inefficiently, in significant part due to an unfilled marketing manager position. Marketing must be more than just selling advertising on buses.

_X_ **AGREE**

___ **PARTIALLY DISAGREE** – explain the disputed portion

___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

F10. Metro lacks a business development manager. Currently, business development responsibilities are distributed across the organization, and are not implemented or effective.

___ **AGREE**

_X_ **PARTIALLY DISAGREE** – explain the disputed portion

___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

The CEO agrees that the business development duties and responsibilities described in the Grand Jury report should be encompassed within one position, irrespective of the position being called a "Marketing Manager" or "Business Development Manager." Although currently implicit in the Marketing Manager Job Description, the job description will be strengthened in the future to provide additional business development functions.

Finally, business development will always be a shared responsibility between a Marketing Manager and the Planning and Development Manager. The Planning and Development Manager is responsible for obtaining and monitoring data relative to new and existing transit nodes, transit catchment areas, transit friendly developments and employment centers, and for making recommendations for service adjustments that will maximize the potential of retaining and attracting new ridership.

F11. Metro design standards for bus stops and shelters have not been consistently implemented, which may negatively impact ridership.

___ **AGREE**
__X__ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why
Response explanation (required for a response other than **Agree**):

This challenge has been on Metro's radar screen for some time. As acknowledged in the Grand Jury report, Metro does have a Bus Stop Guide. This guide was adopted by the Metro Board on August 28, 2015 and has been followed since then. The text of the Grand Jury report states - "There is little consistency in the design, construction, or location of bus stops, and they often do not conform to the criteria stated in the Metro Bus Stop Guide." While this statement is somewhat true, it does not acknowledge that Metro has been operating for nearly 50 years and the Bus Stop Guide was only recently adopted.

The challenge for Metro in the coming years will be identifying funding with which to modify and update all **847** active bus stops in the Metro system to achieve the goals set forth in the Bus Stop Guide. Ideally, these dollars will come from capital grants in which the funding source is unique and won't compete with the higher priority capital dollars needed to purchase new buses. Also, on the operating side of the business, an overly aggressive use of operating dollars to upgrade bus stops may not be wise when operating dollars are needed to fund improved service frequency.

Notably missing from the Grand Jury report is the fiscally creative accomplishment this past year in which the Metro bus stop customer experience has been vastly improved by the rollout of the Schedule By Stop program. This in-house developed program provides the opportunity for customers standing at a bus stop to quickly retrieve scheduled bus information for their stop via their cell or Smartphone. This new program is seen as an interim step in the journey toward real-time bus arrival information, or a Predictive Arrival and Departure System (PADS). At some point in the future, Metro staff envisions being able to remove the confusing and aesthetically displeasing bus stop maps and schedules currently posted at bus stops.

All capital expenditures related to bus stops will be reviewed by the Board Capital Projects Standing Committee.

F12. Metro bus seats are difficult to clean and sanitize, which may negatively impact ridership.
___ **AGREE**
__X__ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why
Response explanation (required for a response other than **Agree**):

Over the past two years, Metro staff has discussed the sanitary and maintenance challenges of padded seats and are considering that future bus procurements should be ordered without padded seats. Metro will purchase all future fixed-route buses without padded seats. However, Metro staff believes that all future Highway 17 commuter bus

procurements will continue to include padded seats.

F13. The lack of overnight parking at bus facilities may be a deterrent to potential riders.

__X__ **AGREE**
___ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

F14. Metro's CNG bus engines break down sooner than expected, resulting in accelerated expenses.

___ **AGREE**
__X__ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

The statement is somewhat correct. Diesel engines typically run 225K – 250K miles before experiencing a major failure. Compressed Natural Gas (CNG) engines run about 125K – 150K miles before experiencing a major failure, and in some cases, less than 100K miles. CNG engines run very hot and one of the most common failures is a dropped valve that then breaks the piston head. CNG engines also require more frequent maintenance than do diesel engines.

Current developments in CNG engine technology have resulted in engineering design changes that are being implemented to try and improve engine longevity. Additionally, CNG engine technology has evolved into the design of a "Near Zero Emission" engine that significantly reduces NoX emissions for future bus purchases.

All capital expenditures related to bus purchases will be reviewed by the Board Capital Projects Standing Committee.

F15. Metro transit centers are deteriorating and in disrepair, which may negatively impact ridership.

___ **AGREE**
__X__ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

If METRO continues to properly maintain these facilities, they should provide benefit to Metro and its customers for many years to come. The facilities are not "deteriorating." While in need of some upgrades, both structures are sound.

Nearly three years ago, soon after the arrival of the new CEO, a complete assessment of both facilities was performed and a list of needed investments was identified. Over the past three years, as the budget would allow, tens of thousands of dollars have been invested in these facilities, as described below:

Watsonville Transit Center

- Santa Cruz Metro signs installed on exterior
- Restrooms rehabilitation
- Exterior repainting - All buildings, clock tower and other exterior structures
- New bus loop signage
- Full exterior lighting upgrades
- Design and construction of Customer Service Information Booth
- New staffed customer service center
- Added stop sign inside the bus loop
- Installed two new bus benches outside
- Removal of several kiosks to improve visibility, safety, and customer Experience
- Refinishing of all wooden interior benches

Next series of upgrades being considered or in work

- Possible main building floor replacement
- New community mural
- Public spaces art
- Vegetation upgrades
- Conversion of one out-building to another leasable space

Pacific Station

- All new carpet throughout second floor
- Complete interior repainting
- Refinishing of all the interior wood benches
- Rebuild the upstairs customer service area (currently in design)
- Targeted exterior repainting of various ironworks and Metro logo
- Major tree trimming
- Power washing of all concrete areas
- A/C cooling unit for server room
- Major repairs to the public restrooms
- Interior floor stripping and deep cleaning
- Clean overhead lamp shades

Next series of upgrades being considered or in work

- Emergency generator replacement
- Replacement of curved plexi-glass windows that leak
- Lease remaining leasable space

There is no question that Metro can and should do more frequent **custodial** work at these two facilities. Metro's fiscal challenges limit the operations resources with which to hire the additional custodian or two that are needed if Metro wants to increase the

frequency of cleanings. Metro agrees that doing so would improve the customer experience at these two locations. Additionally, vandalism of the public restrooms is a recurring and costly challenge to keep up with. That said, Metro has and will continue to make every attempt possible to keep up with and remediate vandalism.

All major capital expenditures related to Metro facilities and transit centers will be reviewed by the Board Capital Projects Standing Committee.

F16. Metro transit centers are not clean, which may negatively impact ridership.
___ **AGREE**
_X_ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why
Response explanation (required for a response other than **Agree**):

Response included in answer to Finding 15

Recommendations

R1. Metro should conduct a limited study to determine if reduced fares would generate additional revenue through increased ridership. (F1, F4, F7)
___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
_X_ **WILL NOT BE IMPLEMENTED** – explain why
Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. Metro fares are already reduced given that the public subsidizes the service by about 77%. Additionally, the Metro Board Adopted Fare Policy includes provisions for further discounts if Metro passes are purchased in bulk by qualified entities. There are also inter-agency agreements that allow riders to ride services in Santa Clara County and Monterey County.

Metro has recently resolved the structural deficit and gambling with public resources and risking a drop in farebox revenues seems inconsistent with the Board's goal of fiscal responsibility.

Today, METRO's farebox recovery is about 23%, one of the highest in the state. Farebox recovery represents the percentage of total operating costs recovered through the farebox. However, approximately 77% of the costs of running the system are subsidized by the taxpayers via local sales tax initiatives and state and federal subsidies. Reducing bus fares risks dropping overall fare revenue. Doing so could also

negatively impact bus routes that are running at capacity in the peak hour today. Further impacting a full bus in the peak hours could result in a need to add additional buses. Since only twenty-three cents on an operating dollar for additional buses is recovered through the farebox, the operating budget would be negatively impacted by an increase of seventy-seven cents on a dollar of the cost to run the additional buses.

Metro has, and will continue to emphasize and work towards ridership growth. In reality, increasing ridership must be an outcome of a more surgical and strategic exercise as opposed to a conceptual thought that reduced fares will grow ridership. Target marketing seeks to identify existing excess capacity, both in the peak and off-peak hours, and to attract new customers to fill the empty seats. Doing so successfully will result in increased revenues and no new operating costs.

Finally, Metro's Transportation Development Act (TDA) funding requires that Metro achieve certain performance standards, including a minimum farebox recovery. Metro should not place this formula funding source ($6.7 million/year) at risk by experimenting with such a hypothesis.

R2. Metro should redefine the Marketing Manager position as Director of Business Development and fund it. (F9, F10)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
__X__ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. At the CEO's request, the Board created the Marketing, Communications and Customer Service Manager position on February 13, 2015. Since 2014, the Board has been working to resolve the $6.3 million fiscal structural deficit. The fiscal structural deficit was not resolved until July 2016. During this fiscally challenged period of time, Metro was proposing to reduce service as much as 33% and layoff as many as 1/3 of the bus operators to resolve the structural deficit. Given these difficult times, it would not have been prudent policy to fund a new manager position. The CEO will revisit asking the Metro Board to fund the Marketing, Communications and Customer Service Manager position sometime in the next year or two.

Finally, at the current time, the CEO sees no tangible value in renaming the Marketing, Communications and Customer Service Manager position to the Director of Business Development. The Recommendation is not a documented industry-wide common practice.

Also, see response to Finding 10.

R4. The Metro Board, Metro management, and the Metro Advisory Committee should meet jointly on a regular basis. (F5, F6)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See response to Finding 6.

R5. Metro should identify and secure additional funding sources. (F2, F8, F9, F10)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

Metro has been and plans to continue to seek additional funding sources. In addition, Metro must continue to allocate substantial time and resources to protecting existing state and federal funding streams.

Recent Increased Funding Sources Outcomes

- The voters of Santa Cruz County supported Measure D, in which 16% of net revenues come to Metro
- Metro strongly supported SB-1, which has been signed into law by the Governor
- Metro worked with UCSC to increase UCSC's financial support to sustain service on important lines serving the college
- Metro worked with the Cabrillo College student Senate to encourage the Senate to place a measure on the student ballot for a student program similar to UCSC. That Measure passed which produces a funding source that helps to sustain service levels on lines serving the college.
- Metro initiated a discussion with the San Lorenzo Valley School District about shared transportation interests and partnerships
- Annual Washington, DC trips with Board members to advocate for Metro funding of various capital grants programs

Ongoing and Potential Future Funding Growth Strategies

- Advocating at the federal level for the increase of the Small Transit Intensive Cities (STIC) program to be increased from 1.5% to 3%
- Advocating at the federal level for the Alternative Fuels Credit to be made a permanent annual credit instead of an annual renewal with the annual Extenders process.
- Continue annual Washington, DC trips with Board members to advocate for funding of various Metro capital grants
- Once the Marketing Manager is hired, improve the bus advertising program and develop a bus stop and transit terminal advertising program.
- Continue evaluating strategic surgical approaches to increasing ridership that will fill excess capacity, both peak and off-peak hours of service
- Increase service frequency on key lines, which will result in an increase in ridership
- Seek funding for a Predictive Arrival And Departure System (PADS) that will provide customers with real-time bus arrival information and result in an increase in ridership
- Analyze and present to the Board a fare restructuring proposal in CY2018
- Continue working with the City of Santa Cruz on a Transportation Demand Management (TDM) partnership that will reduce the parking needs of the downtown and increase ridership for Metro
- Continue to develop strategies to encourage students to ride the bus to school
- Develop a target marking strategy for growing Highway 17 commuter service ridership
- Grow ridership on the Highway 17 commuter service by purchasing over-the-road coaches
- Grow systemwide ridership by appealing to the environmental, sustainability and Green House Gas (GHG) oriented potential customers by purchasing zero emissions electric buses

R6. Metro should expand their grant writing program. (F2)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See response to Finding 2

R7. Metro should adopt and adhere to a budget that does not deplete reserves for operating expenses. (F1)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

The Grand Jury was provided very positive information about the Board's attention to and the resolution of the fiscal structural deficit; the elimination of the use of Reserves in the operating fund; and the positive outlook for budgetary stability over the next five years.

The Board actions of June 2016, over a year ago, resolved the most immediate challenge, which was the $6.3 million fiscal structural deficit. Also, thanks to the voters of Santa Cruz County for Measure D and the state legislators for SB-1. As a result of the aforementioned actions, Metro does not anticipate the return of the structural deficit in the five-year budget look-ahead.

In the June 2017 budget adoption, the Board also adopted a strategy to replenish key Reserves by 6/30/22 and to provide $15 million over the next five years to be leveraged for state and federal capital grants.

R8. Metro should consider pursuing additional private and government partnership programs, such as those with UCSC and Cabrillo College. (F8)

_X_ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

Metro is and will continue to implement this recommendation. Recently, Metro staff met with San Lorenzo Valley School District officials to explore potential partnerships. Last year, Metro accomplished the two new and improved partnerships referenced by the Grand Jury, and Metro plans to continue to seek other funding partnerships in the future.

R9. Metro should create a bus stop sponsorship program that underwrites construction of bus stops in accordance with Metro's design standards. (F11)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
_X_ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe

(not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation requires further analysis.

Metro is and has been considering the creation of a bus bench and bus shelter advertising program in the future, much like many transit properties around the country do today. One approach might be to secure a contract with an advertising company that includes the provision of new bus shelters in the deal.

The ability to sell advertising space and the valuation of that space is most often driven by the number of potential visual impressions. Impressions are the number of people who actually see the advertisement, based on the size of the advertisement, visibility, and the speed at which people are passing by. While some may characterize the Santa Cruz County roadway corridors as heavily congested, from a marketing advertisement space perspective, the corridors don't have the kinds of car counts most high-dollar perspective advertisers seek and who are willing to pay high rental rates.

Nonetheless, Metro believes there is a new revenue stream and/or new bus shelters that can be obtained by the addition of bus bench and bus shelter advertising. However, cities sensitive to the escalation of outdoor advertising, sometimes called visual pollution, may have concerns about the addition of potentially 847 new public advertising spaces along Santa Cruz County roadway corridors. Metro will need to work with the County and the four cities within Metro's service area to attempt to find common ground in the creation of aesthetically pleasing advertising spaces. Two years ago the Board gave the CEO such direction. Now that Metro's fiscal structural deficit has been resolved, the CEO plans to turn his attention to this matter.

All capital expenditures related to bus stops will be reviewed by the Board Capital Projects Standing Committee.

R10. Metro should improve cleanliness at transit facilities. (F12, F16)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
_X_ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See responses to Findings F15 and F16.

R11. Metro should improve maintenance at transit facilities. (F12, F15, F16)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
_X_ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See responses to Findings F15 and F16.

R12. Metro should establish overnight parking at the Scotts Valley Cavallaro Transit Center for riders. (F13)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
_X_ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

The CEO concurs with this recommendation; however, establishing overnight parking at the Scotts Valley Cavallaro Transit Center will require further analysis to mitigate some operational challenges.

About a year ago, Metro posted "No Overnight Parking" signs at the transit center. At that time, the parking lot was surveyed and found to have only a small handful of vacant parking spaces (excess capacity) at the end of the weekday peak hour. A lack of parking was identified as being an impediment to marketing efforts to grow Highway 17 commuter service ridership.

Upon further analysis, it was discovered that several spaces were being taken up nightly by some homeowners residing at the Blue Bonnet condominium complex, adjacent to the parking facility. Unfortunately, the owners of these cars typically do not move them prior to the start and end of Metro's peak hour transit need. Complicating matters further, Metro discovered that Apple, among other tech firms, was using the facility for their tech bus riders without Metro authorization.

In order to deter the Blue Bonnet condominium homeowners from their unauthorized overnight parking, Metro installed the no overnight parking signs and Metro plans to enforce the no overnight parking ban in the near-future. Metro has also been working with the City of Scotts Valley to identify alternate tech bus parking spaces. At Metro's urging, Google recently negotiated a lease with the Scotts Valley Boys and Girls Club to utilize their excess daily parking. Also, the City is currently negotiating with Apple for Apple to lease off-site spaces on City-owned property.

Metro does acknowledge the need for legitimate transit overnight parking. For example, it might be common for someone to park at the transit center and take the Highway 17 commuter service to San Jose Diridon Station and catch CALTRAIN to San Francisco for an overnight business or pleasure stay, or, to take Amtrak from San Jose Diridon Station to a vacation destination.

As time and resources permit, Metro staff has been, and will continue, to investigate possible solutions to the overnight parking, permitting and enforcement challenges and the unauthorized tech bus and Blue Bonnet homeowners' usage of the transit center parking lot. While tech buses provide a similar service as the Highway 17 commuter service, that is, taking cars off the highway, it is not prudent to use public resources to provide tech companies with free parking. At some point in the near future, Metro will start citing and towing those who park at this facility and board tech buses and the cars of the Blue Bonnet homeowners. Metro staff will also investigate opportunities to permit transit-oriented overnight parking. Such a program might involve the purchase of one or two parking ticket machines that would dispense overnight permits for a cost.

Metro will continue to study, analyze and evaluate solutions to these challenges.

R13. Metro should evaluate cost-effective alternatives to the CNG bus powertrain. (F14)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

As per the fleet plan adopted by the Metro Board on May 19, 2017, Metro will continue to purchase CNG powered buses through about 2030, and then phase-out CNG buses from the fleet by about 2040, at which time Metro aspires to have a 100% zero emissions fleet.

Metro is well informed on the evolving electric bus technology and participates regularly in various forums, briefings and seminars on the topic. Metro's CEO represents Metro on the Zero Emission Bus Resource Alliance (ZEBRA) and Metro has a contract with the Center for Transportation and the Environment (CTE) to assist with Zero Emission Bus (ZEB) analysis, procurement and the deployment of electric buses at Metro. As the California Air Resources Board (CARB) continues to progress towards mandating zero emissions bus fleets in the future, METRO must continue to perform due diligence in reviewing new and evolving low or no emissions technologies.

Currently, there are three types of cleaner emissions buses being produced: All electric, hydrogen fuel cell and hybrid electric. In addition, Cummins has been

communicating that they will be producing near zero emissions diesel engines in the near future. As these newer technologies evolve, one must be mindful that there is virtually no life cycle experienced with any of these technologies. Aggressive early adopters may suffer the consequences of high costs and service disruptions associated with helping the industry perfect the technology.

The most significant challenge for electric buses today is one of range. If a bus charged overnight cannot run the entire day on one charge, the result will be significant additional costs for in-route recharging (opportunity charging). Battery charging capacity and bus range has been slowly improving over the last few years and is expected to continue to improve in the coming years.

The suggestion that Metro convert CNG buses to electric buses would result in far fewer batteries being installed than a factory electric bus, a very low overall range and the need to install very expensive in-route recharging facilities. In contrast, buses built at the factory as electric buses are constructed in such a way as to accommodate far more batteries and greater range. Also, it would not be a prudent expenditure of public resources to invest in an electric battery retrofit of a bus body and frame that may have over 500K miles and twelve years of life.

As stated above, on May 19, 2017, the Metro Board adopted Metro's goal to attain a fully zero-emission fleet by 2040 and phasing out CNG bus purchases by 2030. With this strategy, Metro will continue to buy a mix of CNG and electric buses through 2030, and then all electric buses thereafter. The last CNG bus would then be retired in 2040. This strategy will allow Metro to achieve the full life expectancy and fully depreciated value of the multi-million investment made in 2002 in the liquefied natural gas fueling station. However, the challenge in fulfilling this goal is one of capital resources. CNG buses today cost about $580K/each and electric buses with associated infrastructure cost nearly $1 million/each.

All capital expenditures related to bus purchases will be reviewed by the Board Capital Projects Standing Committee.

R14. Metro should use easily cleanable materials for bus seats. (F12)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done

_X_ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See Metro's response to Finding 12

R15. Metro should conduct a limited trial using AVL and HASTUS to explore bus route efficiency. (F7)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

_X_ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. Implementing a "trial" of an Automatic Vehicle Location (AVL) system would be a costly and time-consuming undertaking and would yield no new information. Metro staff and the Board understand the value and benefits of AVL, which is widely used today at transit properties across the nation.

Metro has been working on the development of an AVL project for nearly three years, which unfortunately was not acknowledged by the Grand Jury. Over the past three years, Metro staff have received numerous presentations from vendors in the Predictive Arrival and Departure Systems (PADS) technology space. Over this same period of time, Metro staff have developed a scope of work for a future procurement that reflects the PADS needs of Metro. At the same time, Metro has been actively seeking funding for such a project. Once the capital funding is identified, staff will propose to the Board that it authorize a procurement for such a system.

All capital expenditures related to AVL and PADS will be reviewed by the Board Capital Projects Standing Committee.

R16. Metro should provide WiFi connection on more buses. (F4)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

_X_ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. We note that Finding 4, as referenced in R16 above, is an opinion about Bus Rapid Transit (BRT) and not Wi-Fi. The text of the Grand Jury report does not address a Wi-Fi observation or an industry practice. Please provide a clarification with regard to this recommendation.

Currently, the Highway 17 commuter bus fleet is outfitted with Wi-Fi. This is a dedicated

fleet in which these buses run only on the Highway 17 commuter service.

In the future, as funding resources are identified, Metro may add Wi-Fi to the routes that run between Watsonville and Santa Cruz, and possibly the routes that run between downtown Santa Cruz and UCSC. The challenge of doing so is not limited to the capital required to purchase the on-board Wi-Fi equipment, and the recurring operations cost of maintenance and cellular service, but also the operational challenges created when the bus fleet is further segregated in dedicated fleets, that is, buses that are limited to running on certain routes.

Metro's experience with installing Wi-Fi on Highway 17 buses goes back to a period of time between 2007 and 2013 in which Wi-Fi was installed on some buses, then expanded and then upgraded. Over that period of time it appears that Metro expended over $165,000 in capital dollars for the installation, monitoring, maintenance and upgrades required for the 21 buses. Since then, ongoing operational expenses (recurring) amount to about $26K/year for a monitoring and maintenance contract and $23K/year for the AT&T and Verizon cellular service providers (dual providers are necessary due to topographical challenges encountered in signalization is weak or lost while traversing Highway 17). Expansion of Wi-Fi could be expensive if the cost model does not change. In the future, Metro hopes to explore expanded Wi-Fi service business models in which most, if not all, of the costs are absorbed by a vendor who would profit from advertisements viewers are required to see when using the Wi-Fi system.

All capital expenditures related to WIFi will be reviewed by the Board Capital Projects Standing Committee.

METRO Board Response to the Grand Jury Report

Findings

F3. Many Metro Board members lack transit management knowledge of best practices or business experience, leaving them ill-equipped to address Metro's declining revenues.

___ **AGREE**

___ **PARTIALLY DISAGREE** – explain the disputed portion

_X_ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

The makeup of the Metro Board is dictated by Metro's enabling legislation (see Public Utilities Code section 98000 et seq.), and is a common model utilized by transit districts across the state of California (see Public Utilities Code Division 10). Thus, Metro does not control appointments to the Metro Board.

However, Metro understands the importance of having an engaged and educated Board. To that end, each new Metro Board member is provided several hours of orientation soon after appointment. The thorough and comprehensive orientation includes transit terminology; history of Metro; introduction to all department managers; an overview of each department's responsibilities; financial overview; legal and ethical requirements applicable to Board members; providing a 300+-page "Board Member Orientation Packet"; and other ancillaries.

As time goes on, Board members can take advantage of other training opportunities. Some Board members, current and past, have taken advantage of the American Public Transportation Association (APTA) Board Member and Board Support Conference. This multi-day training event occurs annually. Additionally, because Board members take the initiative to learn about Metro's business and specific challenges, Board members often request special briefings from staff on topics where they wish to increase their knowledge. Moreover, there are significant benefits to having a Board comprised of members from diverse backgrounds and experiences. Finally, the CEO regularly provides the full Board with transit and transportation related articles about a multitude of transit topics involving numerous transit properties across the nation.

We note that the Grand Jury report emphasizes perceived benefits of Bus Rapid Transit (BRT) and a board member education program offered by the Institute for Transportation & Development Policy (ITDP). A high-level review of the apparent mission of the ITDP seems to reflect a strong leaning towards the promotion of BRT concepts and sustainability. In the Board's response to Finding 4, we will address the BRT Finding.

It is not clear to Metro how this Finding can be resolved by sending Board members through the ITDP program. Board members are already well-versed in issues related to

sustainability and the potential benefits of BRTs.

F4. Metro use of Bus Rapid Transit (BRT) industry best practices is limited.

___ **AGREE**
___ **PARTIALLY DISAGREE** – explain the disputed portion
_X_ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

The Grand Jury report contends that Bus Rapid Transit (BRT) systems are a "best practice" in the transit industry. However, this contention appears to misconstrue the sources relied upon by the Grand Jury members for this conclusion. In fact, the reports found under the links contained in the Grand Jury report offer ideas, concepts, successes and "best practices" for BRTs, should an agency be inclined to implement a BRT. BRT does not always make sense for every transit environment. Indeed, the following is a quote taken from the FTA's Executive Summary in one of the links referenced in the Grand Jury report, which focuses on the benefits of BRT in "large cities":

FTA Research
Peer-to-Peer Information Exchange on Bus Rapid Transit (BRT) and Bus Priority Best Practices May 2012
"The results of the Peer-to-Peer Information Exchange on BRT and Bus Priority Best Practices program make clear that better public transportation in general and BRT in particular can be cost-effective, useful tools for improving transportation and the environment and restoring the livability of America's large cities."

We agree that BRT should be evaluated by transit entities. Therefore, Metro is not and has not been opposed to reviewing the potential of a BRT in Santa Cruz County. Metro's current and past history demonstrates that Metro has and continues to evaluate BRTs. The following reflects Metro's experience on this topic

Santa Cruz BRT history (2005-10)
Together, Monterey-Salinas Transit (MST) and METRO won an Air District grant in 2007 to study BRT in the Monterey Bay area. MST developed its portion of the analysis for the purpose of an FTA Very Small Starts Grants application. The initial Santa Cruz portion of the effort was to consider the general opportunities and applicability for BRT features between Santa Cruz and Watsonville. This analysis is reflected in the 2008 METRO SRTP with general references to BRT and that there may be opportunities in the Soquel/Freedom, Highway 1, and/or rail corridor. These are the same corridors currently being studied in the RTC Unified Corridor Study.

Later, UCSC contributed funding to develop an additional analysis of the BRT corridor between Pacific Station and the campus, as continuation of previous work the University had developed. The improvements suggested in this analysis, (additional vehicles, station modifications, queue jumps, and transit signal priority) were expensive (over $2 million), did not create sufficient additional benefits to justify the expense, and did not have political support to pursue. Travel time analysis suggested that only 1.2 minutes per 6.7 mile round-trip (currently 45-55 minutes) could be saved due to these

improvements. Until recently, this had been the last effort in this County on this topic.

Santa Cruz BRT history (2016)
In 2016, Metro and MST were jointly awarded a grant from Association of Monterey Bay Governments (AMBAG) to study the feasibility of "Bus on Shoulder" on portions of Highway 1 in Santa Cruz County and in Monterey County. This study, which is currently underway, envisions a BRT that would run between Watsonville and Santa Cruz, providing BRT or BRT-like service operating on the inner or outer shoulder of the highway. Bus-on-Shoulder is a concept increasingly being used in some cities today across the nation, not as a “best practice” but as a “common practice” in operating environments in which buses operate on very congested highways.

Metro will continue to evaluate, and potentially implement, both BRT and Bus on Shoulder concepts, should one or more of those concepts be determined to be in Metro’s best interest.

All capital expenditures related to BRTs will be reviewed by the Board Capital Projects Standing Committee.

F5. There are no experience qualifications for Metro Board members in its bylaws, and the Board lacks the range of experience or training necessary to improve Metro’s performance.

___ **AGREE**
___ **PARTIALLY DISAGREE** – explain the disputed portion
_X_ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

Covered in the answer to Finding 3.

F6. Metro does not have joint meetings that include the Board, Metro management, and the Metro Advisory Committee. Better and more frequent communication and coordination between these bodies could improve decision making.

___ **AGREE**
_X_ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

Metro is unclear as to what the Grand Jury members intended with the following statement: “…joint meetings that include the Board, Metro management, and the Metro Advisory Committee.” This statement appears out of place when attempting to reconcile it against the substantive text of the report. Metro would appreciate any clarification the Grand Jury members could provide.

In the way of background, Metro staff does regularly attend and provide staff support to the Metro Advisory Committee (MAC) and the MAC Chair attends two Metro Board meetings a year, providing the Board with an update of the MAC activities and MAC recommendations on various transportation topics.

Additionally, Metro questions the wisdom and value of joint staff and Board meetings. All staff report to the CEO. The joint meetings suggested in the report would have the potential to blur the lines of reporting relationships or create an opportunity for the Board (policy makers) to interfere with the administrative functions they have contractually delegated to the CEO. Nevertheless, Metro Board members do regularly interface with staff at Committee and full Board meetings and the CEO provides an interactive working environment in which staff members are responsible for presenting their department's Board reports to the full Board and answering Board member questions.

F7. Manual collection of route performance data does not allow for optimal use of the HASTUS system.

_X_ AGREE
___ PARTIALLY DISAGREE – explain the disputed portion
___ DISAGREE – explain why

Response explanation (required for a response other than **Agree**):

F8. Metro partnerships with UCSC and Cabrillo College have contributed significantly to Metro revenues, and Metro would benefit from additional community partnerships.

_X_ AGREE
___ PARTIALLY DISAGREE – explain the disputed portion
___ DISAGREE – explain why

Response explanation (required for a response other than **Agree**):

F9. Metro marketing functions are handled inefficiently, in significant part due to an unfilled marketing manager position. Marketing must be more than just selling advertising on buses.

_X_ AGREE
___ PARTIALLY DISAGREE – explain the disputed portion
___ DISAGREE – explain why

Response explanation (required for a response other than **Agree**):

F10. Metro lacks a business development manager. Currently, business development responsibilities are distributed across the organization, and are not implemented or effective.

___ AGREE

__X__ **PARTIALLY DISAGREE** – explain the disputed portion
___ **DISAGREE** – explain why

Response explanation (required for a response other than **Agree**):

The CEO agrees that the business development duties and responsibilities described in the Grand Jury report should be encompassed within one position, irrespective of the position being called a "Marketing Manager" or "Business Development Manager." Although currently implicit in the Marketing Manager Job Description, the job description will be strengthened in the future to provide additional business development functions.

Finally, business development will always be a shared responsibility between a Marketing Manager and the Planning and Development Manager. The Planning and Development Manager is responsible for obtaining and monitoring data relative to new and existing transit nodes (transit concentrations or intersections), transit catchment areas (typically ¾ mile on each side of a transit route), transit friendly developments and employment centers, and for making recommendations for service adjustments that will maximize the potential of retaining and attracting new ridership.

This matter will be further evaluated in the Management Classification and Compensation study, currently underway.

Recommendations

R2. Metro should redefine the Marketing Manager position as Director of Business Development and fund it. (F9, F10)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
__X__ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. At the CEO's request, the Board created the Marketing, Communications and Customer Service Manager position on February 13, 2015. Since 2014 the Board has been working to resolve the $6.3 million fiscal structural deficit. The fiscal structural deficit was not resolved until July 2016. During this fiscally challenged period of time, Metro was proposing to reduce service as much as 33% and layoff as many as 1/3 of the bus operators to resolve the structural deficit. Given these difficult times, it would not have been prudent policy to fund a new manager position. The CEO will revisit asking the Metro Board to fund the Marketing, Communications and Customer Service Manager position sometime in the next year or two.

Finally, at the current time, the Board sees no tangible value in renaming the Marketing, Communications and Customer Service Manager position to the Director of Business Development. The Recommendation is not a documented industry-wide common practice.

This matter will be further evaluated in the Management Classification and Compensation study, currently underway.

Also, see response to Finding 10.

R3. The Metro Board should include members who have marketing, business management, or finance experience. (F3, F5, F6)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
_X_ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. Neither the Board Bylaws nor the Metro's enabling legislation requires such expertise. Moreover, as a result of Metro's enabling legislation, Metro does not control appointments to the Metro Board (see Public Utilities Code section 98000 et seq.).

The Board does agree that business experience can lend value to Board policy discussions and the Metro Board has numerous examples of business experience. In addition, and in accordance with Metro's enabling legislation, many Board members serve (and in some cases have served for many years) in similar capacities for other governing bodies. That experience, which includes policy making in the marketing, business management and finance areas, is directly transferrable to the Board members' service on behalf of Metro.

R4. The Metro Board, Metro management, and the Metro Advisory Committee should meet jointly on a regular basis. (F5, F6)

_X_ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

See response to Finding 6.

R5. Metro should identify and secure additional funding sources. (F2, F8, F9, F10)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

Metro has been and plans to continue to seek additional funding sources. In addition, Metro must continue to allocate substantial time and resources to protecting existing state and federal funding streams.

Recent Increased Funding Sources Outcomes

- The voters of Santa Cruz County supported Measure D, in which 16% of net revenues come to Metro
- Metro strongly expressed support for SB-1, which has been signed into law by the Governor
- Metro worked with UCSC to increase UCSC's financial support to sustain service on important lines serving the college
- Metro worked with the Cabrillo College student Senate to encourage the Senate to place a measure on the student ballot for a student program similar to UCSC. That Measure passed which produces a funding source that helps to sustain service levels on lines serving the college.
- Metro initiated a discussion with the San Lorenzo Valley School District about shared transportation interests and partnerships
- Annual Washington, DC trips with Board members to advocate for Metro funding of various capital grants programs

Ongoing and Potential Future Funding Growth Strategies

- Advocating at the federal level for the increase of the Small Transit Intensive Cities (STIC) program to be increased from 1.5% to 3%
- Advocating at the federal level for the Alternative Fuels Credit to be made a permanent annual credit instead of an annual renewal with the annual Extenders process.
- Continue annual Washington, DC trips with Board members to advocate for funding of various Metro capital grants
- Once the Marketing Manager is hired, improve the bus advertising program and develop a bus stop and transit terminal advertising program.
- Continue evaluating strategic surgical approaches to increasing ridership that will fill excess capacity, both peak and off-peak hours of service

- Increase service frequency on key lines, which will result in an increase in ridership
- Seek funding for a Predictive Arrival And Departure System (PADS) that will provide customers with real-time bus arrival information and result in an increase in ridership
- Analyze and present to the Board a fare restructuring proposal in CY2018
- Continue working with the City of Santa Cruz on a Transportation Demand Management (TDM) partnership that will reduce the parking needs of the downtown and increase ridership for Metro
- Continue to develop strategies to encourage students to ride the bus to school
- Develop a target marking strategy for growing Highway 17 commuter service ridership
- Grow ridership on the Highway 17 commuter service by purchasing over-the-road coaches
- Grow systemwide ridership by appealing to the environmental, sustainability and Green House Gas (GHG) oriented potential customers by purchasing zero emissions electric buses

R6. Metro should expand their grant writing program. (F2)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done

___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

Metro <u>strongly</u> disagrees with this Finding. This Finding was presented to the CEO three days before the release of the Grand Jury report and without an opportunity to respond in writing. The Grand Jury provided no supporting documentation or information from interviews with staff or others that would substantiate this Finding. At the Grand Jury exit meeting, the CEO verbally provided the Grand Jury members background and examples as to why this Finding is incorrect; unfortunately the Grand Jury chose to disregard this information.

It appears that the Grand Jury members did not properly comprehend the grants process, particularly the differences between Capital Grants and Operating Grants and the differences between Formula Grants and Discretionary (Competitive) Grants.

<u>Operating Grants vs. Capital Grants</u>

Think of the operating budget as “running buses” and the capital budget as “buying buses.” Metro’s structural deficit, as referred to in the Grand Jury report, is in the operating budget. State and federal discretionary (competitive) grants typically do not provide revenue for the operating budget, and local grants that might provide operating funds are few and far between. Nearly all state and federal grant opportunities are for

capital improvements and bolster Metro's ability to buy buses. Regardless, METRO applies for all discretionary grant opportunities for which it is eligible.

Formula Grants

State and federal formula grants come to Metro as a result of legislation, usually require an annual application, and always require follow-up information on how Metro used the money. While this is a cumbersome and time-consuming process which also demands attention from the grants-writing staff, Metro always follows the dictated processes and never risks or jeopardizes its state and federal formula grant allocations. These state and federal formula dollars are typically used for operations, are sometimes flexible for use in both operations or capital, and are often restricted to capital only.

Discretionary (Competitive) Grants

In any given year, there are a number of state and federal discretionary grant programs offered. Metro always submits highly competitive grant applications for programs for which it qualifies. Unfortunately, the Grand Jury report does not reflect Metro's highly successful discretionary capital grant awards in 2016. In 2016, Metro competed successfully at the state, federal and local levels for the following grants:

- State Low Carbon Transit Operations Program (LCTOP) – Awarded $709,292 to purchase one zero emissions electric bus that will run as a circulator in Watsonville.

- Federal Low or No Emission Vehicle Program (LoNo) - $3,810,348 to purchase three zero emissions electric over-the-road coaches to run on the Highway 17 commuter service. The grant includes recharging facilities. Of the 20 nationwide awards, Metro received the 5th highest award in the nation, receiving a larger grant than the Chicago Transit Authority.

- Santa Cruz County Regional Transportation Commission: Surface Transportation Block Grant (STBG) - $500,000 to purchase one Compressed Natural Gas (CNG) bus to run on Metro's fixed-route services.

When grants become available for competition, they are always way oversubscribed. Typically, there are nine to ten times as many applications as actual grant awards, and the amount awarded is a fraction of the amount requested. For example, in 2016 the federal Bus and Bus Facilities grant program received $1.647 billion in applications for a program with only $213 million available for distribution. In the 2016 federal Low and No Emission Bus Program, applicants requested $446 million from a pot of only $55 million.

Again, these grants are for capital improvements only and do not provide operating revenue.

The Changing Landscape of Grants Availability

Finally, the grant funding landscape has changed dramatically over the past five years,

which the CEO explained to the Grand Jury members. Here are just a few examples:

- Up until 2012, the federal transportation authorization included a Bus and Bus Facilities Program, a discretionary capital grant program. Up until then, Metro had competed successfully for some of this funding. With the enactment of MAP-21 in 2012, the Bus and Bus Facilities discretionary grant program was eliminated It was not until the FAST Act reauthorization last year that the Bus and Bus Facilities program was reestablished, albeit at a substantially reduced funding level .

- In 2006, the California voters created a capital funding source through Proposition 1B. This ten-year capital program, which expired last year, funded numerous Metro security, facilities and bus procurements, which were all capital projects. Fortunately, the Governor signed the Road Repair and Accountability Act this past April to partially replace Proposition 1B and to provide additional State Transit Assistance (STA) to Metro. Again, this legislation favors capital projects for the use of this money, although some of it can be used for operating assistance if METRO meets specific performance criteria.

- The American Recovery and Reinvestment Act of 2009 (ARRA), signed into law by President Barack Obama on February 17, 2009 was an economic stimulus package which provided Metro valuable capital dollars. ARRA was a one-time program and did not provide recurring resources.

- In 2012, the US Congress eliminated federal "earmarks," a process that provided legislative appropriations to specific projects in a congressperson's district. Metro had frequently secured federal earmarks to fund multiple capital projects.

Each year federal subsidies for public transit are threatened. The result of this constant threat is often flat or nominal growth in federal transportation funding, and in an environment where operational costs typically grow at a rate equal to or greater than the Consumer Price Index (CPI).

With the loss of several substantial capital funding programs since 2012, Metro's challenge in the coming years will be one of trying to find the resources with which to replace 61 buses that are currently obsolete and in need of replacement at an estimated cost of $38 million to $60 million, depending on whether Metro purchases CNG or electric buses.

R7. Metro should adopt and adhere to a budget that does not deplete reserves for operating expenses. (F1)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

The Grand Jury was provided very positive information about the Board's attention to and the resolution of the fiscal structural deficit; the elimination of the use of Reserves in the operating fund; and the positive outlook for budgetary stability over the next five years.

The Board actions of June 2016, over a year ago, resolved the most immediate challenge, which was the $6.3 million fiscal structural deficit. Also, thanks to the voters of Santa Cruz County for Measure D and the state legislators for SB-1. As a result of the aforementioned actions, Metro does not anticipate the return of the structural deficit in the five-year budget look-ahead.

In the June 2017 budget adoption, the Board also adopted a strategy to replenish key Reserves by 6/30/22 and to provide $15 million over the next five years to be leveraged for state and federal capital grants.

R8. Metro should consider pursuing additional private and government partnership programs, such as those with UCSC and Cabrillo College. (F8)

__X__ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe
___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)
___ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

Metro is and will continue to implement this Recommendation. Recently, Metro staff met with San Lorenzo Valley School District officials to explore potential partnerships. Last year, Metro accomplished the two new and improved partnerships referenced by the Grand Jury, and Metro plans to continue to seek other funding partnerships in the future.

R9. Metro should create a bus stop sponsorship program that underwrites construction of bus stops in accordance with Metro's design standards. (F11)

___ **HAS BEEN IMPLEMENTED** – summarize what has been done
___ **HAS NOT BEEN IMPLEMENTED BUT WILL BE IMPLEMENTED IN THE FUTURE** – summarize what will be done and the timeframe

___ **REQUIRES FURTHER ANALYSIS** – explain scope and timeframe (not to exceed six months)

__X__ **WILL NOT BE IMPLEMENTED** – explain why

Response explanation, summary, and timeframe:

This Recommendation will not be implemented because it is not warranted or is unreasonable. This Recommendation is unclear, and the Grand Jury report provides no examples of common practice or support for this Recommendation.

Metro is and has been considering the creation of a bus bench and bus shelter advertising program in the future, much like many transit properties around the country do today.

The ability to sell advertising space and the valuation of that space is most often driven by the number of potential visual impressions. Impressions are the number of people who actually see the advertisement, based on the size of the advertisement, visibility, and the speed at which people are passing by. While some may characterize the Santa Cruz County roadway corridors as heavily congested, from a marketing advertisement space perspective, the corridors don't have the kinds of car counts most high-dollar perspective advertisers seek and who are willing to pay high rental rates.

Nonetheless, Metro believes there is a new revenue stream that can be obtained by the addition of bus bench and bus shelter advertising. However, cities sensitive to the escalation of outdoor advertising, sometimes called visual pollution, may have concerns about the addition of potentially 847 new public advertising spaces along Santa Cruz County roadway corridors. Metro will need to work with the County and the four cities within Metro's service area to attempt to find common ground in the creation of aesthetically pleasing advertising spaces. Two years ago the Board gave the CEO such direction. Now that Metro's fiscal structural deficit has been resolved, the CEO plans to turn his attention to this matter. Metro will also explore possible contacts with advertisers that could provide Metro with new bus shelters and bus benches.

All major capital expenditures related to bus stops will be reviewed by the Board Capital Projects Standing Committee.