



2018 Santa Cruz County
Regional Transportation Improvement Program

METRO Revenue Vehicle Replacements



PART I: General Project Information

1. **Project Title/Project Name:** METRO Revenue Vehicle Replacements

2. **Project summary:** *(briefly describe the project in 1-2 sentences)* This project will purchase new revenue vehicles to replace buses and paratransit vans which have exceeded their useful life. METRO will purchase one CNG bus and five battery-electric buses to replace six, 1998 diesel buses; four new light-duty paratransit vans will replace four, 14-year old vans.

3. **Describe Project Location and Limits or Service Area:** *(Under Section III attach an 8 1/2" x 11" map and/or photos if available/applicable; include street names)* Replacement buses and vans will be deployed on METRO's transit network throughout Santa Cruz. The attached file, Part IV. Bus Maps Graphics shows METRO's transit network with major route names.
 - **Project Length:** *(in miles or feet, if applicable)* METRO operates over 479 directional route miles in Santa Cruz County.

 - *For projects on local roads, Caltrans Roadway Classification – NA*

4. **Total Funding Requested:** \$ 5,236,550

Total Project Cost: \$ 5,915,000

5. **Project Applicant:** Santa Cruz Metropolitan Transit District
 - a. **Implementing Agency:** Santa Cruz Metropolitan Transit District

 - b. **Sponsoring Public Agency that has Master Agreement with Caltrans:** *(if different from implementing agency)* Same

6. **Project Priority:** **This is priority number #1 of 3 applications submitted.** *(Agencies are encouraged to provide if requesting funds for more than one project and would like project sponsor priorities to be considered.)*

7. **Detailed Project Description/Scope:** *(Prior to developing scope of work, project sponsors should consider the [Complete Streets Guidebook](#) and benefits checklist in Section II of this application and consider incorporating appropriate complete streets components where feasible. Include all capital improvements, program characteristics, and improvements associated with each mode of transportation as applicable. Attach additional information if needed.)*

This project will provide critically needed updates to METRO's fixed-route and paratransit revenue fleets by replacing six, 1998 model diesel buses with five, zero-emission battery-electric buses and one near-zero emission CNG bus; four new ParaCruz vehicles will replace paratransit vans beyond useful life. One hundred percent of the project cost will fund revenue vehicles for fixed-route public

transit and qualified paratransit service. Public transit is essentially a “pedestrian” system, in that passengers must walk to and from their ultimate destination, thereby directly promoting alternative, active transportation. All replacement buses are low-floor and incorporate a kneeling feature to lower the bus floor to curb height for level boarding and alighting. ADA compliant wheelchair ramps enable access using mobility devices, and each bus has two securement “pods” for mobility devices. Fixed-route buses are also equipped with 3-position bike racks to support passengers who chose to actively cover the “first mile, last mile” to and from the bus via bicycle..

Scope of Work

Task	Deliverable
1	Develop specifications for bus and vans
2	Identify consortium and State contract (bid-list) options
3	Request and evaluate proposals
4	Contract with manufacturer
5	Contract in-plant build inspector
6	Receive vehicles
7	Test and Accept vehicles
8	Pay final invoice; close grant

- a. **Projects with pavement preservation – Attach supplemental documents** (Section VI) NA
- Rehabilitation: Attach “Local Road Rehabilitation Project Certification”
 - Preventive Maintenance: Attach “Pavement Management System (PMS) Certification”

8. **What accommodations, if any, are included for bicyclists, pedestrians, and/or transit in the proposed project?**

The revenue vehicle replacement project is entirely invested in public transit and accommodates the pedestrian network, disabled passengers and bicyclists. All buses are low-floor and incorporate a kneeling feature to lower the bus floor to curb height for level boarding and alighting. ADA compliant wheelchair ramps enable access using mobility devices, and each bus has two wheelchair securement positions. Additionally, each bus carries a front-mounted, three-position bicycle rack to support passengers who bicycle the first and last leg of their trip.

9. **If the proposed project does not incorporate both bicycle and pedestrian facilities, or if the proposed project would hinder bicycle or pedestrian travel, list reasons why the project is being proposed as designed.**

- **Cost** (*What would be the cost of the bicycle and/or pedestrian facility and the proportion of the total project cost?*) NA
- **Right-of-way** (*Did an analysis lead to this conclusion?*) NA
- **Other** (*Please explain.*) NA

10. **Project Cost by Mode:** (List the approximate percentage of total project costs related to different transportation modes in the chart below. **Project description** (above) must include explanation of what will be done related to each applicable mode.)

	% of Total Cost by Mode
Pavement Preservation (rehab, overlay, etc)	%pave%
Road –Auto Serving	%road%
Bicycle	%bike%
Pedestrian	%ped%
Transit	100%
TSM*	%TSM%
TDM*	%TDM%
Planning	%plan%
TOTAL	100%

Revenue vehicle replacements accommodate pedestrians and bicyclists as discussed above, and costs are included in the overall project cost. Existing bicycle racks on buses to be replaced will be attached to the new buses, and the cost of pedestrian features (low-floor, kneeling and wheelchair ramp) are included in the cost of the replacement vehicle. Bicycle racks from buses to be replaced can be re-used on the new buses and are an insignificant cost component of the overall project and is not budgeted separately.

11. **Regional Transportation Plan (RTP):**

- a. **Is project included in the 2014 RTP or draft 2040 RTP?** Yes
- b. **If yes, RTP Project Number (ID#):**
 - i. MTD 02, ADA Paratransit Bus Replacements
 - ii. MTD-P04, Metro Bus Replacements (from [RTP Project List](#))
- c. **Project costs are identified as:** “Constrained” and/or “Unconstrained” in the RTP

*TSM=Transportation System Management (ex. ITS, signal synchronization);
 *TDM=Transportation Demand Management (ex. rideshare programs)

12. **Project Schedule** (Enter the proposed schedule or actual completion of various project milestones. Complete either section A. Capital Projects or B. Non-Capital Projects, as appropriate.)

A. Capital Projects:

Project Milestone – Capital Projects			Month/Year
Begin Environmental (PA&ED) Phase	Document Type (ex. EIR, Cat Ex, Neg Dec, etc)	Cat Ex	Enter estimated start (month/year)
Circulate Draft Environmental Document			NA
End Environmental Phase (PA&ED Milestone)			NA
Begin Design (PS&E) Phase			7/2/2018
End Design Phase (complete PS&E)			9/28/2018
Begin Right of Way Phase			NA
End Right of Way Phase (Right of Way Certification Milestone)			NA
Request Authorization to Proceed with Construction (completion of all prior tasks)			10/26/2018
Advertise/go out to bid			11/9/2018
Award Contract			12/28/2018
End Construction Phase (Construction Contract Acceptance Milestone)			12/27/2019
End Closeout Phase (Closeout Report)			3/27/2020

B. Non- Infrastructure Projects/Programs:

Activity Schedule (For non-capital projects, summarize work/activities to be completed - ex. preliminary planning, project implementation, public outreach project completion and timeline for each. Add additional lines if needed to reflect all tasks. Add additional lines if needed.	Start Activities (month/year)	End Activities (month/year)
List activity	Month/year	Month/year
List activity	Month/year	Month/year
List activity	Month/year	Month/year
List activity	Month/year	Month/year

13. **Contact Person/Project Manager Name:** Eddie Benson, Maintenance Manager

Telephone Number: (831) 426-6080 E-mail: ealvey@scmtd.com

PART II: Project Benefits

Given the large backlog of transportation needs in the region and the extremely limited amount of funding available, it is important to ensure that funds are used cost effectively to maximize benefits to the transportation system. Additionally state and federal rules, as well as RTC policies, require consideration of how projects will contribute towards implementation of the long-range transportation plan (*Regional Transportation Plan*), the achievement of one or more transportation goals, and implementation of state and federal policies including the California Complete Streets Act of 2008, SB375, and the Federal FAST Act.

Information in this section will be used to evaluate projects. Projects are not expected to address all of the following. Please write N/A if something is not applicable to your project.

1. Generally, what are the benefits of this project? (ex. goal/purpose/benefit of project; problem to be addressed; importance to the community)

The benefits of the project are to maintain transit equipment in a state of good repair, to reduce operating costs and to decrease greenhouse gas emissions. Metro needs to replace 61 buses averaging 16 years and 603,300 miles in service; the federal guideline for life of service is 12 years and 500,000 miles. Old buses require continuous maintenance and repair to keep them in service, and, despite the best maintenance, component failures can and do interrupt service delivery, making the system less reliable. Warranties and fewer accumulated service hours reduce operating costs, creating savings which can be passed to the capital improvement budget. For the community in general, six zero- and near-zero emission buses will reduce particulate exhaust emissions, a known health hazard and significantly lower greenhouse gas emissions. Operating reliable, modern buses may attract new riders and increase transit mode share.

METRO has a fleet of 38 paratransit (ParaCruz) vans, which need to be replaced every 5-7 years to maintain a state of good repair. Currently, METRO's ParaCruz fleet averages 7.3 years, with 8 vans over 10 years old, while the federal guideline is 5 years and 100,000 for light-duty vans. This project will replace 4, 6-year old light-duty vans averaging more than 165,000 miles to increase reliability and lower operating costs.

2. How many people will directly use or directly be served by this project per day?

of direct users per day: 1,267

of indirect users: _____

Basis for estimates: A fixed-route daily passenger estimate is based upon the total number of revenue hours per day, per bus, multiplied by the average number of passengers carried per hour multiplied by six buses. An additional 26 persons per day are carried on ParaCruz based upon 85,768 total annual trips (2016) divided by 360 operating days/year, divided by 38 vans, multiplied by 4 replacements.

(provide information about ADT/traffic volumes, avg. number of people directly served/day; number of users of facility/day; current transit riders on facility; Non-infrastructure anticipated direct program participants; see also <http://www.ite.org/tripgeneration/otherresources.asp>)

3. Which groups will be the primary users of this facility/project/program?

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Commuters | <input checked="" type="checkbox"/> Youth | <input checked="" type="checkbox"/> College Students |
| <input checked="" type="checkbox"/> Low income residents | <input checked="" type="checkbox"/> Elementary Schools | <input checked="" type="checkbox"/> Visitors |
| <input checked="" type="checkbox"/> Seniors | <input checked="" type="checkbox"/> Middle Schools | <input type="checkbox"/> Trucks (goods movement) |
| <input checked="" type="checkbox"/> Disabled | <input checked="" type="checkbox"/> High Schools | <input type="checkbox"/> Recreational users |
| <input type="checkbox"/> Other: _____ | | |

a. Briefly describe any indirect or secondary beneficiaries of the project: All residents of Santa Cruz County will benefit from improved air quality and more efficient use of public transit funds. Zero- and near-zero emission replacements for diesel buses eliminate the 2.5 micron size diesel particulate exhaust emission, a known health hazard, and reduce mobile greenhouse gas emissions. New buses and ParaCruz vans have lower operating costs; METRO can provide more service hours or build capital reserves at the same cost of operating older buses and vans.

4. What are the key destinations served by this project and distance from project/facility?

(including on a map is encouraged, but not required)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Employment centers < ½ mile | <input checked="" type="checkbox"/> Senior centers < ½ mile |
| <input checked="" type="checkbox"/> Senior housing < ½ mile | <input checked="" type="checkbox"/> K-12 Schools < ½ mile |
| <input checked="" type="checkbox"/> Groceries/Services < ½ mile | <input checked="" type="checkbox"/> Retail/Commercial cent < ½ mile |
| <input checked="" type="checkbox"/> Transit centers Final Destination | <input checked="" type="checkbox"/> Visitor destination various |
| <input checked="" type="checkbox"/> Parks/recreational area < ½ mile | <input checked="" type="checkbox"/> Civic/public facilities < ½ mile |
| <input checked="" type="checkbox"/> Other destinations: Various: see system map _____ | |

a. **Are planned (future) land use projects anticipated to increase travel through project area?**

- Yes – significant growth in travel
 Yes – mild growth in travel
 No – No growth in travel

List planned transportation and/or land use projects that could affect circulation in the project area in the future – if any: UCSC growth will increase transit demand, especially in Santa Cruz.

5. Existing Roadway Conditions – Projects on Roadways only – N/A for other projects

a. **Provide information on existing and projected conditions/context for projects on roadways**

	Existing	With project (write "N/C" if no change)
Functional classification of this road*		
# of automobile lanes (2, 4, 3, etc)	NB/EB: SB/WB:	NB/EB: SB/WB:
2-Way Center Turn Lane (Yes/No)		
Sidewalks (none, one side or both?)		
Sidewalk width (in feet)		
Landscaping (Yes/No)		
On-Street Parking (Yes/No)		
Bike lane width		
Intersections (Signalized/unsignalized)		
Pavement condition (PCI if available - or poor, fair, good)		

Posted speed limit		
Traffic Volumes		(projected, what year)
Transit Route/Stops (Yes/No)		
Truck Route (Yes/No)		

*Note: STIP and STBG funds cannot be used on roads functionally classified as "local" or "rural minor collectors". See: http://dot.ca.gov/hq/tsip/hseb/crs_maps/index.php for classification information.

6. What travel condition(s) are improved or impacted as a result of the proposed project?

Check all that apply and describe how if the nexus is not obvious in project description. Note- several of these items are from the [Complete Streets Guidebook](#) and include treatments or facilities that make up a complete street.

Safety: Improves transportation safety

How will project improve safety? New vehicles employ the latest technology to operate safely and protect passengers.

- There is a history of collisions in the project area
- Number of severe injury or fatal incidents in project area in past 10 years: _____
- Reduces potential for conflict between cyclists and/or pedestrians and vehicles
- Safety improved for youth, vulnerable users (pedestrians/bicyclist), and/or transportation disadvantaged (low income, seniors, disabled, minority status)
- Provides access to/for emergency services
- There are currently perceived safety issues in the project area
- Reduces automobile speeds (e.g. traffic calming, speed limit, etc)

System Preservation: Preserves existing transportation infrastructure/facilities or services

- Improves Pavement Condition
- Extends useful life of a facility
- Maintains service
- Maintains state of good repair
- Repair/replace existing infrastructure/facility
- Other: METRO has 61 buses and 9 ParaCruz vans which have exceeded their useful life. Without critically needed replacements, especially of 22, 19-year old buses, METRO will be unable to meet scheduled service within three years due to a lack of operable equipment.

Why is this location/facility a priority over other facilities? (e.g. is project part of a pavement management plan?)

Reduces Vehicle Miles Traveled (VMT)

Shifts automobile travel to alternative modes.

Number of **trips per day** expected to shift from automobile to alternative mode as a result of this project: _____

- Decreases the number of people traveling in single occupancy vehicles
- Improves access to alternative modes (walk, bike, bus, carpool, etc)

- Increases the percentage of people that could walk, bike, or take transit to key destinations within 30-minutes or less
- New bike or pedestrian path
- Increases ridesharing
- Increases telework options
- Expands Transportation Demand Management (TDM) Programs
- Reduces the need for travel

- Increases walking
 - There are currently lacking/insufficient pedestrian facilities
 - There are currently NO safe parallel pedestrian facilities
 - Improves connectivity, fills gap in sidewalk/pedestrian path network
 - Reduces distance to walk trip between locations by _____miles
 - Adds new sidewalks or paths on: one or both sides of the street
 - Widens sidewalk path of travel for current and projected pedestrian volumes
 - Adds missing curb ramps
 - Upgrades facility to meet ADA accessibility requirements, implement ADA Implementation Plan
 - Reduces pedestrian crossing distance
 - Adds pedestrian signal heads
 - Adds pedestrian-actuated traffic signals or automatic pedestrian cycles
 - Adds audible countdown at intersection
 - Adds pedestrian-level lighting
 - Adds high visibility crosswalks
 - Adds illumination at crosswalks
 - Other crosswalk enhancements
 - Adds median safety islands
 - Minimizes driveways
 - Adds wayfinding signage
 - Adds shade trees (street trees)
 - Adds planter or buffer strips
 - Adds benches or other types of seating

- Increases bicycling
 - There are currently lacking/insufficient bicycle facilities
 - There are currently NO safe parallel bicycle facilities
 - Improves connectivity, fills gap in bicycle network
 - Reduces distance to bike (on bike lane or path) between locations by **miles** miles
 - New Class I bicycle path
 - New Class II bicycle path
 - New Class IV bikeway (e.g. “protected bikeway” or a “cycle track”)
 - Shared-Lane Marking (Sharrow)
 - New bicycle boulevard
 - Widens bicycle lanes from ____ feet to ____feet wide
 - Widens outside lanes or improve shoulders
 - Adds bicycle actuation at signals (i.e., loop detectors and stencil or other means to make signals responsive to bicycles)

- Adds bicycle box at intersection
- Adds color-treated bicycle lane
- Adds floating bicycle lane
- Adds signs, signals and pavement markings specifically related to bicycle operation on roadways or shared-use facilities
- Adds route/wayfinding signage
- Adds long-term bicycle parking (e.g., for commuters and residents)
- Adds short-term bicycle parking

- Increases public transit usage
 - There are currently lacking/insufficient transit facilities
 - There is currently lacking/insufficient transit service
 - Improves connectivity of transit, fills gap in transit network
 - Improves transit service
 - reliability, frequency and/or efficiency
 - ITS/signal priority
 - Priority bus lane
 - Bus bulbs/pull outs
 - Increases transit service, reduces headways
 - Increases access to transit
 - Adds sidewalks to bus stops
 - Adds bicycle racks on buses
 - Improves access for people with disabilities
 - Adds bus stop(s)
 - Improves bus stop/station (adds/upgrades seating, lighting, shade/shelter, trash can, route information/maps, etc)
 - Provides real time bus arrival information
 - Adds Wi-Fi on bus

- Reduces air pollution
 - Reduces greenhouse gas emissions (GHG)
 - Reduces fuel consumption
 - Cold in-place recycling or other lower emission paving process
 - Other: _____

- Change in travel times and travel time reliability for what modes: _____
 - Makes travel times more reliable/predictable (consistency or dependability in travel times)
 - Reduces travel times
 - Reduces total traffic congestion
 - Reduces peak period traffic congestion ___AM peak ___PM peak
 - Shifts peak travel to off-peak periods
 - Reduces freight traffic congestion

- Improves efficiency of the transportation system. Which modes? Public Transit
 - Implements Transportation System Management (TSM) programs/projects
 - Increases miles facility/service can carry passengers and/or freight/goods

- Reduces disparities in safety and access for people who are transportation disadvantaged due to age, income, disability, minority status, or limited English proficiency

How does project reduce disparities?

- Provides access to low income housing
 Improves access to jobs
 Provides access to senior life services (e.g. hospital, doctors office, senior center, etc.)
 Other: Provides comparable equipment for more passengers.

-
- Increases ecological function (such as: increases tree canopy; improves habitat; improves water quality; reduces storm water runoff; enhances sensitive areas)

- Other benefit(s). Please explain, if not addressed in prior questions:

Reduces greenhouse gas emissions

7. **Will project result in the elimination or reduction of an existing bike path or sidewalk? Will the proposed project sever or remove all or part of an existing pedestrian or bicycle facility or block or hinder pedestrian or bicycle movement?** Yes No. *If yes, please explain why this condition is unavoidable and if bicycle and pedestrian accommodations are provided on an adjacent/parallel street.*

8. **Has RTC previously funded a project in this area, what project and what year?** *(e.g. facility being upgraded, removed, modified, or replaced was previously funded by RTC)* In 2014, the RTC funded one 40' CNG replacement bus.

9. **For ROADWAY Projects - Complete Streets Implementation/Design. Given the street design and existing and future conditions, please complete the following** *(for projects on roadways). (See the [Monterey Bay Area Complete Street Guidebook](#) for more information, definitions.)*

a. Describe how this project is consistent with recommendations for street type in guidebook:

b. Is the project area a candidate for the following?

- Road Diet (3 or more lanes, but ADT <20,000, history of bicycle collisions) Yes No
- Traffic Calming: Yes No
- Roundabout: Yes No
- Transit/Bike/Ped Prioritization at Intersection: Yes No
- Transit-Oriented Development/Transit Corridor (15 min. headways): Yes No
- Neighborhood Shared Street (e.g. "greenway" that reduces vehicle speeds, partial street closures, public spaces and amenities that encourage biking or walking): Yes No

- Pedestrian place/universal street (ex. roadway or alley with restricted vehicle access which often is serves as a plaza for assorted businesses): Yes No
- c. Is the complete streets cross section/design for this type of street (as recommended in the Guidebook) supportable for this project? Yes No
- If not, explain why:
- | | |
|--|---|
| <input type="checkbox"/> Lack of ROW width | <input type="checkbox"/> Insufficient Funding |
| <input type="checkbox"/> Trees/environmental constraints | <input type="checkbox"/> Existing Structures |
| <input type="checkbox"/> Other: _____ | |
- d. What alternative designs were considered, if any?
- _____
- e. What refinements of the cross section/design were needed?
- Removed/partial zones (Guidebook Ch. 5) for:
 - Pedestrians Bicyclists Landscaping Vehicles Parking
 - Considered alternative routes/locations for:
 - Pedestrians Bicyclists Landscaping Vehicles Parking
- f. Exemptions to Complete Streets (refer to Ch. 6 of the Guidebook)
- Is the project exempt from accommodating certain users? Yes No
 - Is the cost excessively disproportionate to the need or probable use? Yes No
 - There is a documented absence of current and future need? Yes No
 - Other: _____

10. Describe the public input plan for this project. *Has public input been sought on this project? What is the public engagement plan for implementing this project? Is it identified in an adopted plan or other document? What has been/will be done to maximize participation for diverse members of the public in project planning and implementation?* Bus and paratransit vehicle replacement projects are included in the RTC’s 2014 RTP and in the Monterey Bay 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy, both of which have an extensive public participation process. Santa Cruz METRO conducts a public hearing prior to adopting its annual budget each year; unfunded capital improvement needs, including replacement of 61 buses and paratransit van replacements have been included in each step of the planning and programming of federal and state funds. METRO participates in the public Unmet Needs Process, and in each year, bus and paratransit van replacements remain a high priority.

11. Stakeholder Outreach: Which stakeholder groups have already provided input, or will be asked to provide input in future, on project scope and design?

Group	Provided input	Will seek input	Group	Provided input	Will seek input
Neighborhood Group	No	No	Transit Agency	Yes	Yes
Business Association	No	No	Adjacent jurisdictions	No	No
School	No	No	Environmental Groups	Yes	Yes
Property Owners	No	No	Transportation Disadvantaged	Yes	Yes
Bicycle Committees	No	No	Senior Group	Yes	Yes
Pedestrian Committee	No	No	Other (define)	NA	NA

Have specific changes to the project/program been requested by stakeholders? Yes No
Please explain:

12. Describe project readiness/deliverability and potential risks to project schedule: *Include additional information on the project schedule and if there are potential delays to the schedule. (For example: What tasks have already been completed? What potential delays might be experienced during project development, if any? What is the status of right-of-way acquisition (if applicable)? Have the property owners been contacted? If so, are they willing to sell the property? What permits may be needed for this project? Are there any adjacent jurisdictions, agencies, property owners, etc., who would be impacted by the proposed project? Are there potential challenges to the environmental analysis? If yes, please list and describe outreach efforts, dates, participants and any results/issues that could impact the project’s schedule.)*

This project carries little risk to implementation according to the schedule. Replacement buses are categorically exempt from environmental review which otherwise could delay procurement if negative impacts were to be revealed. METRO has significant experience purchasing CNG buses and paratransit vans from the California state bid list or by joining a consortium of transit agencies contracting for the same models in order to eliminate two or more months in developing specifications for the bid process. METRO will apply the same strategy to this project.

The greatest risk to project delivery would lie with the bus manufacturer. METRO typically allows up to 12 months for bus manufacture; however, due to the relatively short history in battery-electric bus manufacture, a backlog of orders for 40’ battery-electric buses combined with known production problems at one transit vehicle manufacturer could delay delivery of new buses. Paratransit production schedules are typically more consistent and van production would likely be of shorter duration than bus manufacture. METRO has added six months to the schedule for this project to accommodate potential delay.

PART III
Project Budget & Funding Plan
CAPITAL PROJECTS

Complete both sections A. "Cost/Funding Summary" and B. "Detailed Cost Estimate"

A. Cost/Funding Summary

Enter the amount to be expended for each project phase in each fiscal year by funding source.

Totals should calculate automatically if electronic file is used.

Project Title: METRO Revenue Vehicle Replacements

Round figures to the nearest thousand dollars

Sources (Specify fund source type - ex. STBG, RSTP, STIP, AB2766, Local, TDA, etc)	Source Total	Committed or Uncommitted?	Phase of Work			
			Environmental (PA/ED)	Design (PS&E)	Right-of-Way (ROW)	Construction
New Funds Requested from RTC:	\$5,236,550	Uncommitted	\$0	\$0	\$0	\$5,236,550
STA; Reserves	\$678,450	Uncommitted	\$0	\$0	\$0	\$678,450
Source 3:	\$0		\$0	\$0	\$0	\$0
Source 4:	\$0		\$0	\$0	\$0	\$0
Source 5:	\$0		\$0	\$0	\$0	\$0
Source 6:	\$0		\$0	\$0	\$0	\$0
Source 7:	\$0		\$0	\$0	\$0	\$0
Total	\$5,915,000		\$0	\$0	\$0	\$5,915,000

Fiscal Year each component to begin

(e.g. FY17/18, FY18/19, FY19/20, FY20/21, FY21/22, FY22/23)

Environmental (PA/ED)	Design (PS&E)	Right-of-Way (ROW)	Construction

B. "Detailed Cost Estimate"

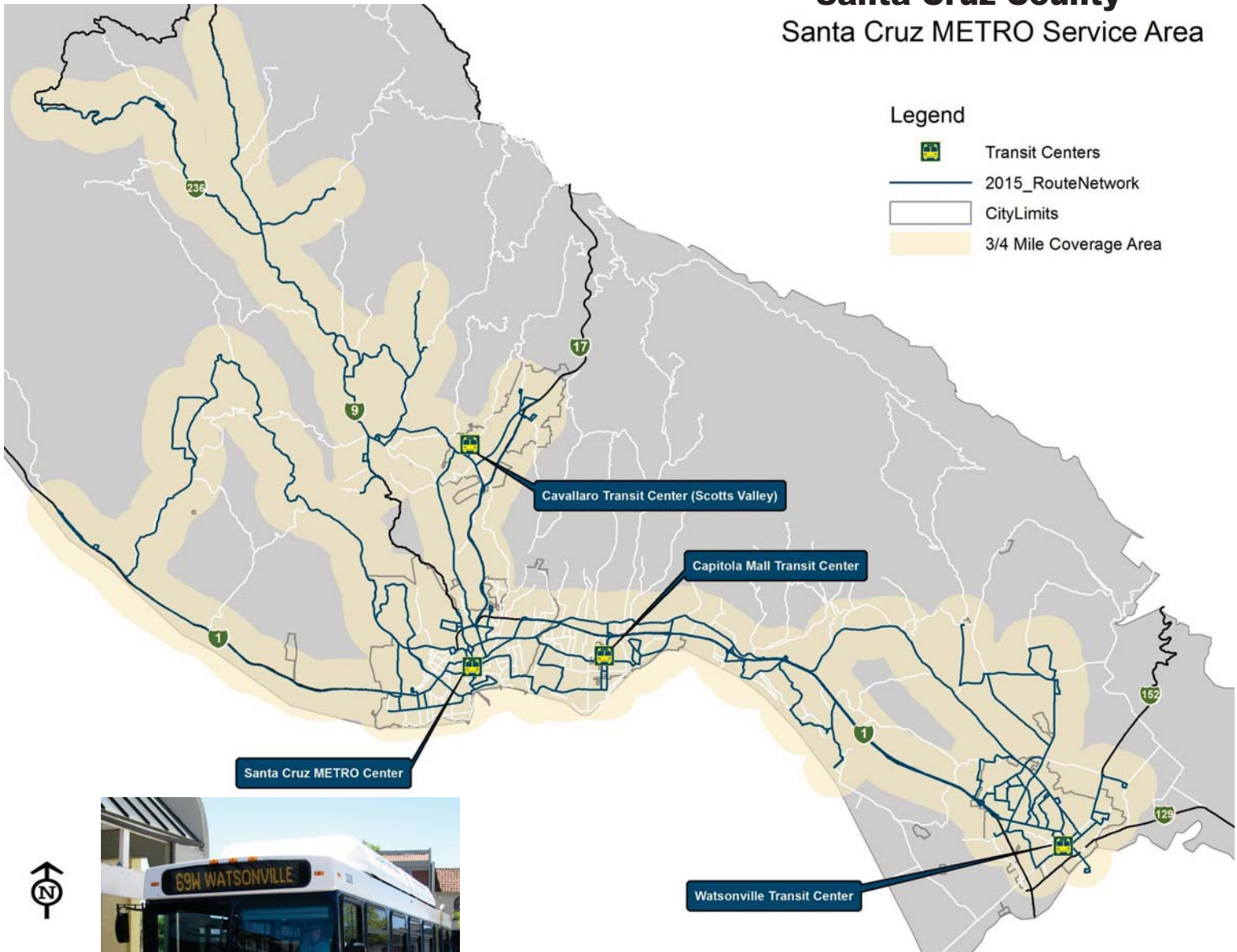
Project Title:	METRO Revenue Vehicle Replacements
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Item No.	Engineer's Estimate				
1	Environmental Studies and Permits				\$0
2	Plans, Specifications, and Estimate				\$0
<u>RIGHT OF WAY</u>					
3	Right of Way Acquisition				\$0
4	Right of Way Support				\$0
5	Utility Relocation (exclude if included in construction)				\$0
TOTAL RIGHT OF WAY COMPONENT COST					\$0
<u>CONSTRUCTION (update items to match actual items for project)</u>					
	Item Description	Quantity	Units	Unit Cost	Total
6	Battery-Electric Bus Replacements	5	Each	\$1,000,000.00	\$5,000,000
7	CNG Replacements	1	Each	\$615,000.00	\$615,000
8	Paratransit Van Replacements	4	Each	\$75,000.00	\$300,000
9					\$0
10					\$0
11					\$0
12					\$0
13					\$0
14					\$0
15					\$0
16					\$0
17					\$0
18					\$0
19					\$0
20					\$0
21					\$0
22					\$0
23					\$0
24					\$0
25					\$0
26					\$0
SUBTOTAL CONSTRUCTION ITEMS					\$5,915,000
<u>CONTINGENCY</u>					\$0
TOTAL CONSTRUCTION COST					\$5,915,000
Total Cost					5,915,000



METRO Revenue Vehicle Replacements Transit Network Map

Santa Cruz County Santa Cruz METRO Service Area



Clean Air Bus, Metro Center

Part IV: Project Graphics

Santa Cruz METRO
Fixed-Route Bus Inventory

2017 RTIP Replacements: 6	Avg. Age= 19	748,394 =Avg. Miles
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* FTA Useful Lifespan is 12 years and 500,000 miles

Fleet #	Make	Model	Fuel	Age	Miles	Condition	Seats	W/C
9804	NEW FLYER	1998	DIESEL	19	786,198	Poor	30	2
9818	NEW FLYER	1998	DIESEL	19	777,086	Poor	30	2
9813	NEW FLYER	1998	DIESEL	19	775,796	Poor	30	2
9824	NEW FLYER	1998	DIESEL	19	771,374	Poor	39	2
9815	NEW FLYER	1998	DIESEL	19	761,649	Poor	30	2
9811	NEW FLYER	1998	DIESEL	19	758,977	Poor	30	2
9805	NEW FLYER	1998	DIESEL	19	754,014	Poor	30	2
9816	NEW FLYER	1998	DIESEL	19	734,416	Poor	30	2
9817	NEW FLYER	1998	DIESEL	19	732,915	Poor	30	2
9819	NEW FLYER	1998	DIESEL	19	731,750	Poor	39	2
9801	NEW FLYER	1998	DIESEL	19	724,105	Poor	30	2
9825	NEW FLYER	1998	DIESEL	19	718,131	Poor	39	2
9810	NEW FLYER	1998	DIESEL	19	708,254	Poor	30	2
9828	NEW FLYER	1998	DIESEL	19	699,777	Poor	39	2
9806	NEW FLYER	1998	DIESEL	19	694,076	Poor	30	2
9830	NEW FLYER	1998	DIESEL	19	687,419	Poor	39	2
9829	NEW FLYER	1998	DIESEL	19	687,202	Poor	39	2
9827	NEW FLYER	1998	DIESEL	19	661,429	Poor	39	2
9821	NEW FLYER	1998	DIESEL	19	658,691	Poor	39	2
9823	NEW FLYER	1998	DIESEL	19	641,919	Poor	39	2
9826	NEW FLYER	1998	DIESEL	19	624,639	Poor	39	2
9820	NEW FLYER	1998	DIESEL	19	621,409	Poor	39	2
		22	Avg. Age:	19	714,147	=Avg. Miles		
2214	NEW FLYER	2003	CNG (JD)	14	695,760	Poor	30	2
2211	NEW FLYER	2003	CNG (JD)	14	677,285	Poor	30	2
2218	NEW FLYER	2003	CNG (JD)	14	654,986	Poor	30	2
2219	NEW FLYER	2003	CNG (JD)	14	641,864	Poor	30	2
2212	NEW FLYER	2003	CNG (JD)	14	640,019	Poor	30	2
2223	NEW FLYER	2003	CNG (JD)	14	639,898	Poor	30	2
2225	NEW FLYER	2003	CNG (JD)	14	616,555	Poor	39	2
2221	NEW FLYER	2003	CNG (JD)	14	609,075	Poor	30	2
2216	NEW FLYER	2003	CNG (JD)	14	606,942	Poor	30	2
2215	NEW FLYER	2003	CNG (JD)	14	605,664	Poor	30	2
2222	NEW FLYER	2003	CNG (JD)	14	593,064	Poor	30	2
2224	NEW FLYER	2003	CNG (JD)	14	586,397	Poor	30	2
2230	NEW FLYER	2003	CNG (JD)	14	572,199	Poor	39	2
2229	NEW FLYER	2003	CNG (JD)	14	555,154	Poor	39	2
2233	NEW FLYER	2003	CNG (JD)	14	535,642	Poor	39	2
2217	NEW FLYER	2003	CNG (JD)	14	534,821	Poor	30	2
2238	NEW FLYER	2003	CNG (JD)	14	529,849	Poor	39	2
2231	NEW FLYER	2003	CNG (JD)	14	522,538	Poor	39	2
2228	NEW FLYER	2003	CNG (JD)	14	520,160	Poor	39	2
2232	NEW FLYER	2003	CNG (JD)	14	512,397	Poor	39	2
2213	NEW FLYER	2003	CNG (JD)	14	508,633	Poor	30	2
2220	NEW FLYER	2003	CNG (JD)	14	507,812	Poor	30	2
2227	NEW FLYER	2003	CNG (JD)	14	503,223	Poor	39	2
2210	NEW FLYER	2003	CNG (JD)	14	496,327	Poor	30	2
2226	NEW FLYER	2003	CNG (JD)	14	480,441	Poor	39	2
2234	NEW FLYER	2003	CNG (JD)	14	474,690	Poor	39	2
2236	NEW FLYER	2003	CNG (JD)	14	451,283	Poor	39	2
2235	NEW FLYER	2003	CNG (JD)	14	446,487	Poor	39	2
2237	NEW FLYER	2003	CNG (JD)	14	428,072	Poor	39	2
		29	Avg. Age:	14	556,801	=Avg. Miles		

Part IV: Project Graphics

Santa Cruz METRO
Fixed-Route Bus Inventory

2017 RTIP Replacements: 6	Avg. Age= 19	748,394 =Avg. Miles
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* FTA Useful Lifespan is 12 years and 500,000 miles

Fleet #	Make	Model	Fuel	Age	Miles	Condition	Seats	W/C
2301	ORION	2003	CNG (JD)	14	629,829	Poor	43	2
2308	ORION	2003	CNG (JD)	14	460,009	Poor	43	2
2311	ORION	2003	CNG (JD)	14	461,185	Poor	43	2
2303	ORION	2003	CNG (JD)	14	510,272	Poor	43	2
2310	ORION	2003	CNG (JD)	14	511,617	Poor	43	2
2307	ORION	2003	CNG (JD)	14	540,534	Poor	43	2
2306	ORION	2003	CNG (JD)	14	565,487	Poor	43	2
2305	ORION	2003	CNG (JD)	14	570,428	Poor	43	2
2304	ORION	2003	CNG (JD)	14	573,828	Poor	43	2
		9	Avg. Age:	14	535,910	=Avg. Miles		
2406	FORD/GOSHEN	2003	GAS	14	122,650	Poor	15	1
		1	Avg. Age:	14	122,650	=Avg. Miles		
Overdue for Replacement: 61			Avg. Age=	15.8	603,349	=Avg. Miles		
2601	NEW FLYER	2006	CNG (C)	11	298,254	Fair	39	2
2602	NEW FLYER	2006	CNG (C)	11	308,871	Fair	39	2
2801	NEW FLYER	2008	CNG (C)	9	336,760	Fair	36	2
2802	NEW FLYER	2008	CNG (C)	9	365,310	Fair	36	2
2803	NEW FLYER	2008	CNG (C)	9	367,475	Fair	36	2
2804	NEW FLYER	2008	CNG (C)	9	361,168	Fair	36	2
2805	NEW FLYER	2008	CNG (C)	9	390,552	Fair	36	2
2806	NEW FLYER	2008	CNG (C)	9	316,598	Fair	39	2
2807	NEW FLYER	2008	CNG (C)	9	262,768	Fair	39	2
2808	NEW FLYER	2008	CNG (C)	9	351,736	Fair	39	2
2809	NEW FLYER	2008	CNG (C)	9	311,230	Fair	39	2
2810	NEW FLYER	2008	CNG (C)	9	361,576	Fair	39	2
2811	NEW FLYER	2008	CNG (C)	9	285,990	Fair	39	2
2812	NEW FLYER	2008	CNG (C)	9	326,338	Fair	39	2
2813	NEW FLYER	2008	CNG (C)	9	299,205	Fair	39	2
1001	NEW FLYER	2010	CNG (C)	7	343,183	Excellent	39	2
1002	NEW FLYER	2010	CNG (C)	7	359,360	Excellent	39	2
1003	NEW FLYER	2010	CNG (C)	7	316,049	Excellent	39	2
1004	NEW FLYER	2010	CNG (C)	7	335,250	Excellent	39	2
1005	NEW FLYER	2010	CNG (C)	7	335,486	Excellent	39	2
1201	NEW FLYER	2011	CNG (C)	6	264,597	Excellent	39	2
1202	NEW FLYER	2011	CNG (C)	6	232,350	Excellent	39	2
1203	NEW FLYER	2011	CNG (C)	6	231,226	Excellent	39	2
1204	NEW FLYER	2011	CNG (C)	6	218,963	Excellent	39	2
1205	NEW FLYER	2011	CNG (C)	6	246,362	Excellent	39	2
1206	NEW FLYER	2011	CNG (C)	6	230,670	Excellent	39	2
1207	NEW FLYER	2011	CNG (C)	6	241,129	Excellent	39	2
1208	NEW FLYER	2011	CNG (C)	6	216,832	Excellent	39	2
1209	NEW FLYER	2011	CNG (C)	6	250,227	Excellent	39	2
1210	NEW FLYER	2011	CNG (C)	6	212,448	Excellent	39	2
1211	NEW FLYER	2011	CNG (C)	6	227,999	Excellent	39	2
1301	NEW FLYER	2013	CNG (C)	4	89,746	Excellent	28	2
1302	NEW FLYER	2013	CNG (C)	4	101,829	Excellent	28	2
1303	NEW FLYER	2013	CNG (C)	4	102,648	Excellent	28	2
1304	NEW FLYER	2013	CNG (C)	4	91,675	Excellent	28	2
1305	NEW FLYER	2013	CNG (C)	4	97,058	Excellent	28	2
1306	NEW FLYER	2013	CNG (C)	4	95,994	Excellent	28	2
98 Total Fleet			Avg. Age:	12.7	476,913	=Avg. Miles		

2017 RTIP Replacements 4			Avg. Age: 6		165,429 =Avg. Miles			
<i>* FTA Useful Lifespan is 5 years and 100,000 miles</i>								
Fleet#	Make	Model	Fuel	Age	Miles	Condition	Seats	W/C
2401	GCII	2003	GASOLINE	14	153,232	Poor	15	2
2402	GCII	2003	GASOLINE	14	196,466	Poor	4-6	2-4
2403	GCII	2003	GASOLINE	14	191,991	Poor	3-6	3-4
2404	GCII	2003	GASOLINE	14	126,141	Poor	15	2
2405	GCII	2003	GASOLINE	14	96,418	Poor	15	2
2603	AEROTECH 220	2006	GASOLINE	11	171,311	Poor	7-11	2-4
2604	TRANSPORTER	2006	GASOLINE	11	118,936	Poor	2-7	0-2
2701	TRANSPORTER	2007	GASOLINE	10	138,860	Poor	2-7	0-2
2800	TYPE VII	2008	GASOLINE	9	91,856	Poor	5-21	0-5
Cost (ea.)	\$ 115,000	9	Avg. Age:	12.3	142,801	=Avg. Miles	Cost (tot):	\$ 1,035,000
1115	E350 -Versa Shuttle	2011	GASOLINE	6	168,355	Fair	0-5	0-3
1111	E350 -Versa Shuttle	2011	GASOLINE	6	165,394	Fair	0-5	0-3
1116	E350 -Versa Shuttle	2011	GASOLINE	6	164,133	Fair	0-5	0-3
1114	E350 -Versa Shuttle	2011	GASOLINE	6	163,834	Fair	0-5	0-3
1118	E350 -Versa Shuttle	2011	GASOLINE	6	163,167	Fair	0-5	0-3
1119	E350 -Versa Shuttle	2011	GASOLINE	6	163,142	Fair	0-5	0-3
1101	E350 -Versa Shuttle	2011	GASOLINE	6	162,305	Fair	0-3	1-3
1107	E350 -Versa Shuttle	2011	GASOLINE	6	161,443	Fair	0-3	1-3
1117	E350 -Versa Shuttle	2011	GASOLINE	6	158,662	Fair	0-5	0-3
1121	E350 -Versa Shuttle	2011	GASOLINE	6	157,729	Fair	0-5	0-3
1113	E350 -Versa Shuttle	2011	GASOLINE	6	156,243	Fair	0-5	0-3
1112	E350 -Versa Shuttle	2011	GASOLINE	6	155,023	Fair	0-5	0-3
1102	E350 -Versa Shuttle	2011	GASOLINE	6	154,653	Fair	0-3	1-3
1105	E350 -Versa Shuttle	2011	GASOLINE	6	154,060	Fair	0-3	1-3
1120	E350 -Versa Shuttle	2011	GASOLINE	6	153,793	Fair	0-5	0-3
1109	E350 -Versa Shuttle	2011	GASOLINE	6	152,988	Fair	0-3	1-3
1110	E350 -Versa Shuttle	2011	GASOLINE	6	151,884	Fair	0-5	0-3
1108	E350 -Versa Shuttle	2011	GASOLINE	6	148,650	Fair	0-3	1-3
1103	E350 -Versa Shuttle	2011	GASOLINE	6	144,654	Fair	0-3	1-3
1106	E350 -Versa Shuttle	2011	GASOLINE	6	142,412	Fair	0-3	1-3
1104	E350 -Versa Shuttle	2011	GASOLINE	6	139,558	Fair	0-3	1-3
1122	E350 -Versa Shuttle	2011	GASOLINE	6	128,979	Fair	0-5	0-3
Cost (ea.)	\$ 75,000	22	Avg. Age:	6.0	155,048	=Avg. Miles	Cost (tot):	\$ 1,650,000
1123	Amerivans	2011	GASOLINE	6	74,237	Fair	0-2	0-2
1124	Amerivans	2011	GASOLINE	6	103,333	Fair	0-4	0-2
1125	Amerivans	2011	GASOLINE	6	109,433	Fair	0-4	0-2
1126	Amerivans	2011	GASOLINE	6	86,061	Fair	0-2	0-2
1127	Amerivans	2011	GASOLINE	6	101,009	Fair	0-4	0-2
Cost (ea.)	\$ 75,000	5	Avg. Age:	6.0	94,815	=Avg. Miles	Cost (tot):	\$ 375,000
1501	Amerivans	2015	GASOLINE	2	23,160	Excellent	0-4	0-2
1502	Amerivans	2015	GASOLINE	2	843	Excellent	0-4	0-2
Cost (ea.)	\$ 75,000	2	Avg. Age:	2.0	12,002	=Avg. Miles	Cost (tot):	\$ 150,000
38	Total Paratransit		Avg. Age:	7	136,693			



METRO Revenue Vehicle Replacements Beyond Useful Life



61 Buses: \$37.5 - \$61 million



CNG Bus Failures



1998 Diesels (22): \$13.5-\$22 million



31 ParaCruz Vans: \$2.7 million



Dead List: 23 Daily Average



METRO Revenue Vehicle Replacements **Typical Replacements**



CNG Replacement Bus (1): \$615,000



Battery-Electric Bus (5) \$5 million



Paratransit Van (4) \$300,000