



Contra Costa County
Public Works
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2020 TO 2022 INFRASTRUCTURE REPORT

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I. INTRODUCTION/PURPOSE OF REPORT

This infrastructure report provides the data to view the progress in the construction of transportation infrastructure in the County road right of way. In the process of constructing the infrastructure, the County met many of its goals for improving safety, reliability, efficiency, multi-modal access, equity, and sustainability. County-maintained bicycle and pedestrian improvements, pavement preservation, traffic signals, and green stormwater infrastructure are among the items inventoried within this report. The various items were constructed and added to the inventory as a result of capital transportation projects administered by the Public Works Department (PWD), developer improvements, and miscellaneous projects within the County right of way from calendar years 2020 through 2022. Future reports are expected to be produced in March of each year for infrastructure that was constructed the previous calendar year.

II. PROJECTS

Transportation infrastructure improvements are constructed by the PWD's contractors and labor forces and by land development projects. **Table 1** at the end of this report lists all the capital transportation, maintenance, developer, and miscellaneous projects that were constructed during the 2020 through 2022 time period. Each project listed shows its purpose and need, description, and goals achieved in the columns.

The capital transportation projects are typically listed in the biennially adopted Capital Road Improvement and Preservation Program (CRIPP) Report. Types of projects include but are not limited to pavement widenings, sidewalk improvements, bicycle improvements, traffic signal installations, and pavement preservation projects. These projects were funded by various sources, such as local, state, and federal funds.

Maintenance projects include surface treatments that are performed using County labor and equipment. They also include base failure repairs and pothole filling. Note that some pavement preservation projects are performed by a contractor to the PWD, and these fall under capital transportation projects.

Land development projects are typically constructed as a result of Conditions of Approval (COA) that were written to support projects such as subdivisions, land use permits, or development permits, and are constructed by the developers' contractors. These projects are either on-site or off-site improvements depending on the COA, and these projects are only considered for this list if they constructed facilities in the road right of way, as opposed to private facilities. Projects are usually directly funded by developers, but a portion of the projects may be funded by local funds collected from developer fees, such as Areas of Benefit.

Finally, some miscellaneous projects were constructed during the course of the year as a direct result of community input or other programs. These are usually for the purpose of traffic calming,

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which may include speed humps or crosswalk enhancements. Miscellaneous projects are usually funded by local funds such as gas tax and Measure J sales tax.

The projects are funded in a variety of ways including local, state, and federal funds. The funding plan usually includes gas tax, developer mitigation fees, and grants. The PWD determines what infrastructure is needed and scopes projects based on public input and data that gets collected. The PWD will then put together a funding plan and apply for the grants throughout the course of each year. There are many types of projects like bridge replacements and retrofits, storm damage repair projects, pavement preservation projects, complete streets projects, road widenings, etc. For more information on project funding, see the CRIPP report located on PWD's website at www.contracosta.ca.gov/cripp.

III. GOALS

Every project or activity that is constructed or performed within the County's road right of way meets one or more of the six goals from the mission, vision, values statements for the Transportation Engineering Division and the PWD:

- **Safety:** The project improves a road or an intersection such that it either tends to cause people to drive more slowly, provides a separation between motorists and bicyclists and pedestrians, or warns motorists if they may be departing their lane. These projects that promote safety are chosen because they support the County's Vision Zero plan, as adopted by the Board of Supervisors on March 1, 2022. (General Plan Goal 5-A)
- **Reliability:** The project or activity restores a road or other piece of infrastructure to a better condition. One of the most common reasons for a reliability project is to return a road's pavement condition index (PCI) to a higher condition. The PCI is a measure of how much work must be done to return the road to an as-new condition. As a road degrades, surface treatment activities like slurry or chip seals will increase the PCI. If a road degrades too far before such treatment is performed, the road will further degrade and may require a much more expensive treatment, which could include removing the old pavement and replacing it with new pavement. The PCI is a metric that the PWD uses to gauge how much funding should be allocated to reliability projects. As roads age, they get exponentially more expensive to repair. The PWD has typically performed less expensive but more frequent surface treatments that extend the life of the pavement. However, there have been budgetary issues that cause PWD to defer the maintenance to later years. The trouble with that is that the pavement begins to quickly deteriorate to the point where more base failure and pothole repairs are needed. Ultimately, the entire pavement section may need to be replaced in a capital project, which would take funds from other projects that serve other goals.
- **Efficiency:** The project typically adds capacity of efficiency for motor vehicles travelling County roads. These include adding additional travel lanes or turning lanes. They also include signal timing adjustments that require analysis of how each intersection operates.

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The idea is that more motor vehicles can use the road more efficiently. As local, state, and federal policies toward complete streets have been implemented, the County has performed fewer efficiency projects, with more focus on achieving other goals. Efficiency projects are designed to improve the level of service (LOS) of roadway corridors and intersections. With the State of California's new emphasis on Vehicle Miles Traveled with the passage of SB 743 (Steinberg, 2013), which is a metric of how many new cars are put on the roads as a result of new development, LOS analysis for the automobile is no longer evaluated under the California Environmental Quality Act. Efficiency projects are often in opposition to the other goals. (General Plan Goals 5-A and 5-E)

- Multi-Modal Road Access: The project includes improving bicycle, pedestrian, and transit uses within the right of way. Pedestrian and bicycle infrastructure is built where feasible in accordance with the County's complete streets policy adopted by the Board of Supervisors on July 12, 2016. Also, infrastructure that promotes connectivity of all roadway users, especially pedestrian, bicycle, and transit have been scoped based on the Active Transportation Plan adopted by the Board of Supervisors on April 26, 2022. (General Plan Goal 5-A)
- Equity: Every area is unique and provides different levels of challenge. Some communities are considered "impacted" if their median income falls below a certain level, and there has been a push in recent years to apply more resources to these areas. Another form of equity is the Americans with Disabilities Act and the requirements to make the road right of way accessible to all users, regardless of disability. Today, most grant opportunities that exist rate equity as a high criteria for project selection. This means that given all things equal as far as improving safety and multi-modal access, projects within impacted communities are usually selected to boost this demographic. (General Plan Goal 5-C and 5-K)
- Sustainability: Today there is more focus on the longevity of projects than previously considered. This is especially true in the face of climate change and the problems it has caused. Sustainability projects may consider sea level rise or greenhouse gas emissions as criteria that they are attempting to correct for. (Will be a goal in the new General Plan.)

IV. INFRASTRUCTURE REPORT

The projects listed in **Table 1** constructed various types of public infrastructure. The types of facilities that were constructed are listed in **Table 2**. The quantity of each type of public infrastructure facility constructed (e.g., linear feet (LF) of Class II Bike lane and number ("Each" or "EA") of Americans with Disabilities Act (ADA)-compliant ramps) within a given year is summarized in each column. The right-most column cross-references the projects listed in **Table 1** to the Public Infrastructure Items listed in **Table 2**.

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The Public Infrastructure items are sorted into several headings, such as bicycle improvements and pedestrian enhancements. The list includes the following:

- Bicycle improvements and pedestrian enhancements, which support the County's complete streets and County's Active Transportation Plan programs.
- Pavement preservation, such as surface treatments that are planned annually to cycle through all roads within the County over time, and repairs such as base failure repairs and pothole fillings.
- Bridges and guardrails.
- Traffic signal improvements.
- Other traffic safety improvements and miscellaneous items.
- Green stormwater infrastructure, as is required to be built by section C.3 of the Regional Water Quality Control Board Municipal Regional Permit (MRP), that was constructed both by capital projects and by development projects.

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Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
Bridge Projects					
B22-1	2022	Marsh Drive Bridge Replacement	To replace a structurally, geometrically, and hydraulically deficient bridge and improve multi-modal connectivity.	Replaced bridge to be higher and wider than the old one and to have a pedestrian path and bicycle lanes.	Reliability, Sustainability, Multi-Modal
Capital Projects					
C20-1	2020	2019 Full Trash Capture	To meet State Water Board requirements to reduce trash flowing to streams and creeks.	Installed trash capture devices at various inlets throughout the County.	Sustainability
C20-2	2020	2020 Surface Treatment	To preserve the existing pavement for another period of time in lieu of a full depth replacement or overlay.	Performed various surface treatments at various locations throughout the County.	Reliability, Sustainability
C20-3	2020	Countywide Guardrail	To replace deficient guardrails throughout the County and to upgrade them to the latest standards.	Replaced or upgraded sections of guardrails throughout the County.	Safety
C20-4	2020	Rodeo Downtown Infrastructure	To improve pedestrian and bicycle circulation in downtown Rodeo.	Constructed sidewalk improvements and improved multi-modal infrastructure.	Safety, Multi-modal
C20-5	2020	San Pablo Dam Road Traffic Safety	To improve safety by installing a mitigation to reduce incidents where motorists cross into the opposing traffic lane.	Constructed rumble strips on the centerline and some plastic delineators.	Safety
C20-6	2020	Walnut Creek Crosswalk Improvements	To improve pedestrian and bicycle circulation in the unincorporated Walnut Creek area.	Constructed two crosswalk improvements at Olympic Blvd and at Iron Horse Trail including addition of rapidly repeating flashing beacons (RRFBs).	Safety, Multi-modal

B = Bridge Project, C = Capital Project, D = Developer, M = Maintenance Project, T = Traffic Improvement

Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
C21-1	2021	2021 Countywide Curb Ramps	To install ADA-compliant curb ramps at various intersections throughout the County, often in advance of a road preservation project.	Constructed new ADA-compliant curb ramps at various locations in the County.	Multi-modal, Equity
C21-2	2021	2021 Countywide Surface Treatment	To preserve the existing pavement for another period of time in lieu of a full depth replacement or overlay.	Performed various surface treatments such as double chip seals and cape seals at locations throughout the County.	Reliability, Sustainability
C21-3	2021	Alhambra Valley Road Realignment	To realign a curve on Alhambra Valley Road to reopen two through lanes of traffic in the location of a bank failure of Alhambra Creek	Realigned the road and repair the embankment from a storm damage bank failure.	Safety, Reliability
C21-4	2021	Bailey Road / SR4 Pedestrian and Bike Improvements	To improve pedestrian and bicycle circulation at the interchange zone under the State Route 4 overpass of Bailey Road in Bay Point.	Constructed pedestrian and bike safety enhancements at the SR4 freeway ramps including traffic signal modifications and removal of the underutilized pedestrian tunnel.	Safety, Multi-modal
C21-5	2021	Bel Air Trail Crossing	To improve pedestrian circulation and to improve safety for pedestrians on various streets along the Bel Air Trail in Bay Point.	Constructed crossing improvement of Delta de Anza Trail including a rapidly repeating flashing beacon (RRFB).	Safety, Multi-modal
C21-6	2021	Fred Jackson First Mile Last Mile Connection	To improve pedestrian and bicycle circulation on Fred Jackson Street in North Richmond.	Constructed new pedestrian and bicycle facilities including wider sidewalk, ADA-compliant curb ramps and a new wearing surface for the road.	Safety, Multi-modal, Equity
C21-7	2021	Happy Valley Embankment Repair	To repair the embankment adjacent to Happy Valley Road.	Repaired the embankment with a new retaining wall and install new guardrail.	Reliability

Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
C21-8	2021	Kirker Pass Road Safety Improvements	To improve safety along Kirker Pass Road between Concord and Pittsburg.	Constructed roadway safety improvements including new guardrail and roadside delineators.	Safety
C21-9	2021	Pinehurst Road Sinkhole Culvert Repair	To repair a deficient culvert that became a sinkhole on Pinehurst Road.	Repaired deficient culvert and road surface.	Reliability, Sustainability
C21-10	2021	Rodeo Pedestrian Enhancements	To improve pedestrian circulation and to improve safety at two pedestrian crossings in Rodeo.	Constructed new ADA-compliant curb ramps, improved pedestrian crossings, enhanced bicycle facilities, and landscaping.	Safety, Multi-modal
C21-11	2021	Oak Road Bikeway	To improve bicycle circulation and safety on Oak Road.	Constructed Class II and Class III bike lanes.	Multi-modal, Safety
C22-1	2022	2022 Countywide Curb Ramp	To install ADA-compliant curb ramps at various intersections throughout the County, often in advance of a road preservation project.	Constructed new ADA-compliant curb ramps at various locations in the County.	Multi-modal, Equity
C22-2	2022	2022 Surface Treatment	To preserve the existing pavement for another period of time in lieu of a full depth replacement or overlay.	Performed various surface treatments such as double chip seals and cape seals at locations throughout the County.	Reliability, Sustainability
C22-3	2022	Alves Lane Trail Crossing	To improve pedestrian circulation and safety on the Delta de Anza Trail in Bay Point.	Constructed bicycle and pedestrian safety enhancements at a trail crossing.	Safety, Multi-modal
C22-4	2022	Byron Highway at Byer Road Safety Improvements	To improve safety on Byron Highway at the intersection with Byer Road.	Widened pavement and constructed roadway safety improvements.	Safety
C22-5	2022	Crockett Area Guardrail Upgrades	To replace deficient guardrails throughout the Crockett area and to upgrade them to the latest standards.	Replaced and upgraded guardrails in the Crockett area.	Safety

Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
C22-6	2022	Mayhew Way and Cherry Lane Trail Crossing	To improve pedestrian and bicycle safety on the Contra Costa Canal Trail and the Iron Horse Trail.	Constructed bike/pedestrian safety enhancements.	Safety, Multi-modal
C22-7	2022	Tara Hills Trash Capture Installation	To meet State Water Board requirements to reduce trash flowing to streams and creeks.	Installed large-scale underground trash capture devices.	Sustainability
Development Projects					
D20-1	2020	SD15-09314, Alamo Creek Phase 4	To meet condition of approval for the project.	Constructed sidewalk along Drysdale Street, Kerry Hill Street, Damara Ct, Corriedale Ct, Gritstone St.	Safety, Multi-modal, Equity
D21-1	2021	SD14-09389, Laurel Place II	To meet condition of approval for the project.	Constructed sidewalk improvements along Bailey Road.	Safety, Multi-modal, Equity
D21-2	2021	SD15-09423, 2200 Central Street	To meet condition of approval for the project.	Constructed sidewalk improvements along Pittsburg Avenue and Central Street.	Safety, Multi-modal, Equity
D22-1	2022	DP14-3041, 500 Pittsburg Ave	To meet condition of approval for the project.	Constructed sidewalk improvements along Pittsburg Avenue.	Safety, Multi-modal, Equity
Maintenance Projects					
M20-1	2020	2020 Chip Seal Project	Fulfills periodic maintenance in order to prevent and slow pavement deterioration.	Performed a chip seal on various roads throughout the County.	Reliability, Sustainability
M20-2	2020	2020 Base Failure Repairs	Repairs road failures that have occurred that do not require repaving the full road.	Performed base failure repairs by cutting out existing pavement, repairing the base and repaving throughout the County.	Reliability

Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
M20-3	2020	2020 Pothole Repair	Repairs and fills potholes that develop, especially during the rainy season.	Repaired and filled potholes throughout the County.	Reliability
M21-1	2021	2021 Chip Seal Project	Fulfills periodic maintenance in order to prevent and slow pavement deterioration.	Performed a chip seal on various roads throughout the County.	Reliability
M21-2	2021	2021 Base Failure Repairs	Repairs road failures that have occurred that do not require repaving the full road.	Performed base failure repairs by cutting out existing pavement, repairing the base and repaving throughout the County.	Reliability
M21-3	2021	2021 Pothole Repair	Repairs and fills potholes that develop, especially during the rainy season.	Repaired and filled potholes throughout the County.	Reliability
M22-1	2022	2022 Chip Seal Project	Fulfills periodic maintenance in order to prevent and slow pavement deterioration.	Performed a chip seal on various roads throughout the County.	Reliability, Sustainability
M22-2	2022	2022 Base Failure Repairs	Repairs road failures that have occurred that do not require repaving the full road.	Performed base failure repairs by cutting out existing pavement, repairing the base and repaving throughout the County.	Reliability
M22-3	2022	2022 Pothole Repair	Repairs and fills potholes that develop, especially during the rainy season.	Repaired and filled potholes throughout the County.	Reliability

Table 1 Projects

<u>No.</u>	<u>Year Built</u>	<u>Project Name</u>	<u>Purpose and Need</u>	<u>Description</u>	<u>Goals Achieved</u>
Traffic Improvements					
T21-1	2021	TR4503, Grove Avenue at 5th Street	Improves intersection safety after study by the Traffic Engineer.	Added stop signs to the intersection.	Safety
T22-1	2022	TR4518, Silver Avenue at Giarmita Street	Improves intersection safety after study by the Traffic Engineer.	Added stop signs to the intersection.	Safety
T22-2	2022	TR4517, Grove Avenue at Giarmita Street	Improves intersection safety after study by the Traffic Engineer.	Added stop signs to the intersection.	Safety

Table 2 Constructed Infrastructure

ID	Public Infrastructure Items	UNITS	Construction Year			Project Source (See Table 1)	Goals Achieved
			2020	2021	2022		
1 Bicycle Improvements							
1A	Class I bicycle paths	LF	-	-	-		Multi-Modal
1B	Class II bicycle lanes (LF of individual lanes since some roads may be dual Class II/Class III)	LF	-	7588	-	C21-4, C21-6, C21-11	Multi-Modal
1C	Class III bicycle routes (LF of individual lanes)	LF	-	1350	-	C21-11	Multi-Modal
1D	Class IV bikeways	LF	-	-	-		Multi-Modal, Safety
1E	Bicycle Parking	EA	-	-	-		Multi-Modal
1F	Painted Conflict Zones (e.g. at right turn lanes or other conflict points)	EA	6	-	-	C20-4, C20-5	Multi-Modal, Safety
2 Pedestrian Enhancements							
2A	ADA-compliant ramps (New/Reconstructed curb ramps)	EA	25	222	270	C20-4, C20-6, C21-1, C21-4, C21-5, C21-6, C21-10, C22-1, C22-3, C22-4, C22-6, D20-1, D21-2, D21-1	Multi-Modal, Equity
2B	Midblock Crosswalks	EA	-	-	-		Multi-Modal, Safety
2C	Crosswalks at Uncontrolled Intersections (e.i. no traffic signal, no stop signs)	EA	-	-	1	C22-6	Multi-Modal

Table 2 Constructed Infrastructure

ID	Public Infrastructure Items	UNITS	Construction Year			Project Source (See Table 1)	Goals Achieved
			2020	2021	2022		
2D	Crosswalks at Signalized Intersection	EA	-	-	-		Multi-Modal
2E	Crossings with Refuge islands	EA	-	1	1	C21-4, C22-4	Multi-Modal, Safety
2F	Speed Tables w/ crosswalks	EA	-	1	1	C21-10, C22-3	Multi-Modal, Safety
2G	Sidewalk Gaps (# of gaps filled)	EA	-	1	-	C21-5	Multi-Modal
2H	Sidewalk ONLY	LF	5,541	4,739	900	C20-4, C21-4, C21-5, C21-6, D20-1, D21-1, D21-2, D22-1	Multi-Modal
2I	Miscellaneous Pathways (asphalt, concrete, porous concrete)	LF	-	-	-		Multi-Modal
2J	Pedestrian-level lighting	EA Area (not total number)	-	-	-		Multi-Modal, Safety, Equity
2k	Street Furniture	EA Area (not total number)	-	1	-	C21-6	Multi-Modal, Equity
2K	Bulb-outs at crosswalks	EA	1	12	4	C20-4, C21-4, C21-5, C21-6, C21-10, C22-3, C22-6	Multi-Modal, Safety
2L	Street trees	EA	-	39	-	C21-6	Equity, Sustainability
2M	Wayfinding or directional signage	EA Area (not total number)	5	-	-	C20-4	Multi-Modal, Equity
2N	Street Lights	EA	17	1	32	D20-1, D21-1, D22-1	Safety

Table 2 Constructed Infrastructure

ID	Public Infrastructure Items	UNITS	Construction Year			Project Source (See Table 1)	Goals Achieved
			2020	2021	2022		
3 Pavement Preservation							
3A	Surface Treatment (Slurry seal, cape seal, chip seal, double chip seal, fog seal, etc.)	centerline miles	57.66	109.13	47.598	C20-2, C21-2, C22-2, C22-4, M20-1, M21-1, M22-1	Reliability, Sustainability
3B	HMA Replacement/Overlay	LF	-	6,072	2,112	C21-2, C21-3, C21-7, C22-2	Reliability, Sustainability
3C	Base Failures	LF	7,346	90,674	72,260	M20-2, M21-2, M22-2	Reliability, Sustainability
3D	Potholes Filled	EA	1,134	1,245	2,150	M20-3, M21-3, M22-3	Reliability, Sustainability
4 Bridges							
4A	Wearing Surface Pavement Rehabilitation	EA	-	-	-		Reliability, Sustainability
4B	Retrofit/Major Repair	EA	-	-	-		Reliability, Sustainability
4C	Bridge Replacements	EA	-	1	-	B22-1	Reliability, Multi-Modal, Equity, Sustainability
4D	New Bridge	EA	-	-	-		Reliability, Multi-Modal, Equity, Sustainability
5 Guardrail							
5A	New Guardrails	LF	-	86	-	C21-7	Safety
5B	Upgraded Guardrails	LF	6,975	5,047	10,715	C20-3, C21-8, C22-5	Safety

Table 2 Constructed Infrastructure

ID	Public Infrastructure Items	UNITS	Construction Year			Project Source (See Table 1)	Goals Achieved
			2020	2021	2022		
6 Traffic signals							
6A	Traffic Signal/Lighting System	EA Intersection	-	2	-	C21-4, C21-8	Efficiency, Safety
6B	Bicycle-actuated traffic signals	EA Intersection	-	-	-		Multi-modal, efficiency, safety
6C	Pedestrian countdown signals	EA Intersection	-	-	-		Multi-modal, safety
6D	Improve Signal Timing	EA Intersection	-	-	1	D22-1	Efficiency
6E	Roundabout Intersection	EA Intersection	-	-	-		Multi-modal, efficiency, safety
6F	Rectangular Rapid Flash Beacon (RRFB) - Pedestrian Actuated	EA Crossing	2	3	4	C20-6, C21-5, C21-10, C22-3, C22-4, C22-6	Multi-modal, safety
6G	Pedestrian Hybrid Beacon (PHB) Crossing	EA Crossing	-	-	-		Multi-modal, safety
7 Other Traffic Safety Improvements							
7A	Road diet (typically four lanes to two lanes with a center turn lane.)	LF	-	-	-		Safety, Multi-modal, Equity
7B	Two Way Stop Controlled Intersection	EA	-	-	-		N/A
7C	All Way Stop Controlled Intersection	EA	-	1	2	T21-1, T22-1, T22-2	Safety, Efficiency
7D	Speed Feedback Sign	EA	1	-	1	C20-5, C22-4	Safety
7E	Flashers (school zone, curve ahead, etc.)	EA	2	-	-	C20-5	Safety

Table 2 Constructed Infrastructure

<u>ID</u>	<u>Public Infrastructure Items</u>	<u>UNITS</u>	<u>Construction Year</u>			<u>Project Source (See Table 1)</u>	<u>Goals Achieved</u>
			<u>2020</u>	<u>2021</u>	<u>2022</u>		
7F	Railroad Crossing Improvements	EA	-	-	-		Safety
7G	Trail Crossings	EA	1	2	3	C20-6, C21-5, C21-6, C22-3, C22-6	Multi-Modal, Safety
7H	Protected Intersections	EA	-	-	-		Multi-Modal, Safety
7I	Rumble Strips	LF	24,300	-	-	C20-5	Safety
8 Green Stormwater Infrastructure							
8A	Bio-Retention Basin	EA	1	1	2	C20-4, C21-6, D22-1	Sustainability
8B	Grass Swale	LF	-	-	-		Sustainability
8C	Other (Infiltration column, dry well, etc.)	EA	-	-	-		Sustainability
9 Miscellaneous Improvements							
9A	Regional Trash Capture	EA	4	-	1	C20-1, C22-7	Sustainability
9B	Slide Repair	EA	-	-	-		Reliability