

## Annual Program Compliance Report Fiscal Year 2021-2022

The City of Monterey's Annual Compliance Report on Measure X spending describes the City's efforts to comply with the polices of Measure X over the reporting period. The project reports, which follow the attachments, chronicle the City's use of Measure X funding for each project listed on the balance sheet.

### CITY OF MONTEREY - FISCAL YEAR 2022 BALANCE SHEET

#### REVENUES

Carryover from previous year	\$ 3,026,960
Measure X Funding	1,280,008
Earnings on Interest	37,813
TOTAL REVENUES:	<hr/> 4,344,780

#### EXPENDITURES

Transportation Safety Projects	119,463
Operational Improvements to Transportation System Projects	6,975
TOTAL EXPENDITURES:	<hr/> 126,438

<b>FUND BALANCE, END OF PERIOD</b>	<hr/> <hr/> <b>4,218,342</b>
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The following attachments support this Annual Program Compliance Report:

Attachment 1: Independent Audit of Financial Statements for Measure X Funds Draft, Fiscal Year 2022

Attachment 2: Five-Year Capital Improvement Program

Attachment 3: Pavement Management Program Report Letter

**CITY OF MONTEREY**

**TRANSPORTATION SAFETY AND INVESTMENT  
PLAN ACCOUNT FUND**

**Monterey, California**

**INDEPENDENT AUDITORS' REPORTS AND FINANCIAL STATEMENTS**

**JUNE 30, 2022**

**DRAFT**

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## Independent Auditor's Report

To the Honorable Mayor and  
Members of the City Council of the  
City of Monterey, California

### Report on the Financial Statements

#### *Opinion*

We have audited the financial statements of the Transportation Safety and Investment Plan Account Fund (the "Fund"), a nonmajor special revenue fund of the City of Monterey, California (the "City") as of and for the year ended June 30, 2022, and the related notes to the financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Transportation Safety and Investment Plan Account Fund of the City, as of June 30, 2022, and the changes in financial position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinion*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States (*Government Auditing Standards*). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the City, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Emphasis of Matter**

As discussed in Notes 1 to the financial statements present only the Transportation Safety and Investment Plan Account Fund, and do not purport to, and do not, present fairly the financial position of the City as of June 30, 2022, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

### ***Responsibilities of Management for the Financial Statements***

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Required Supplementary Information***

Management has omitted management's discussion and analysis and budgetary comparison information that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

### ***Supplementary Information***

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Transportation Safety and Investment Plan Account Fund of the City. The Schedule of Revenues, Expenditures, and Changes in Fund Balance – Budget and Actual on page xx is presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Revenues, Expenditures, and Changes in Fund Balance – Budget and Actual is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

### ***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated Report Date, 2022, on our consideration of the Transportation Safety and Investment Plan Account Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the City's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the City's internal control over financial reporting and compliance.

Menlo Park, California  
Report Date, 2022

**FINANCIAL STATEMENTS**

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City of Monterey  
 Balance Sheet – Transportation Safety and Investment Plan Account Fund  
 June 30, 2022

	Measure X Fund
<b>Assets:</b>	
Cash and investments	\$ 3,921,041
Accounts receivable - net	298,501
	\$ 4,219,542
<b>Liabilities and Fund Balance</b>	
<b>Liabilities:</b>	
Accounts payable and other current liabilities	\$ 1,200
Total liabilities	1,200
<b>Fund Balance:</b>	
Restricted	4,218,342
Total Fund balance	4,218,342
Total Liabilities and fund balance	\$ 4,219,542

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	Measure X Fund
<b>Revenues:</b>	
Intergovernmental	\$ 1,280,006
Use of money and property	<u>37,813</u>
Total revenues	<u>1,317,819</u>
<b>Other financing sources or (uses):</b>	
Transfers out	<u>(126,438)</u>
Net change in fund balances	<u>1,191,381</u>
Fund balance, beginning of year	<u>3,026,961</u>
<b>Fund balance, end of year</b>	<u><u>\$ 4,218,342</u></u>

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## **Note 1 - Summary of Significant Accounting Policies**

The basic financial statements of the Transportation Safety and Investment Plan Account Fund City of Monterey, California ("City") have been prepared in conformity with Generally Accepted Accounting Principles ("GAAP") as applied to governmental agencies. The Governmental Accounting Standards Board ("GASB") is the accepted standard setting body for establishing governmental accounting and financial reporting principles. The more significant of the City's accounting policies are described below.

### **Reporting Entity**

The Transportation Safety and Investment Plan Account Fund from the Transportation Agency for Monterey County ("TAMC") was approved on November 8, 2016. The revenue from the Measure X sales tax measure will be used to fund transportation safety and mobility projects in Monterey County. Expenditures are restricted to road improvements, pothole repairs, street and road maintenance, traffic deduction and regional safety, mobility and walkability.

The Transportation Safety and Investment Plan Fund financial statements and related accounting policies of the City of Monterey, California (the "City") conform with generally accepted accounting principles applicable to governments in the United States of America. The Governmental Accounting Standards Board ("GASB") is the accepted standard-setting body for establishing governmental accounting and financial reporting principles.

The financial statements present only the Transportation Safety and Investment Plan Account Fund (the "Fund") of the City and do not purport to, and do not present, the City's financial position and changes in financial position. The City of Monterey's basic financial statements are available from the Finance Department at City's address and website.

### **Basis of Accounting and Measurement Focus**

The operations of the Transportation Safety and Investment Plan Account Fund are accounted in a non-major special revenue fund, in a separate set of self-balancing accounts that comprise its assets, liabilities, fund balances, revenues, and expenditures. Resources are allocated to and accounted for in the fund based upon the purpose for which they are to be spent and the means by which spending activities are controlled.

#### *Basis of Accounting*

The Transportation Safety and Investment Plan Account funds are accounted for on a spending or "*current financial resources*" measurement focus and the modified accrual basis of accounting. Accordingly, only current assets and current liabilities are included on the Balance Sheet. The Statement of Revenues, Expenditures, and Changes in Fund Balances presents increases (revenues and other financing sources) and decreases (expenditures and other financing uses) in net current resources. Under the modified accrual basis of accounting, revenues are recognized in the accounting period in which they become both measurable and available to finance expenditures of the current period. Generally, revenues are considered available if they are collected within 60 days after fiscal year end. If revenues are not subject to accrual, they are recorded when received in cash. The primary revenue sources, which have been treated as susceptible to accrual by the City,

are property tax, sales tax, intergovernmental revenues, and other taxes. Expenditures are recorded in the accounting period in which the related fund liability is incurred.

### ***Use of Restricted Fund Balance***

#### *Fund Balance Flow Assumptions*

In order to calculate the amounts to report as restricted fund balance in the financial statements, a flow assumption must be made about the order in which the resources are considered to be applied. It is the City's policy to consider restricted fund balance to have been depleted before using any of the components of unrestricted fund balance.

### ***Cash, Cash Equivalents, and Investments***

For purposes of the Balance Sheet, cash and cash equivalents include currency on hand and deposits in the City's cash and investment pool. These deposits have the same characteristics for the participating funds as demand deposit accounts, in that the funds may deposit additional cash at any time and also effectively withdraw cash at any time without prior notice or penalty. The City's cash and investments are stated at fair value, which is based on a quoted market price. This includes all investments except the City's investment in the California Local Agency Investment Fund ("LAIF"). The balance is available for withdrawal on demand, and is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis. The City valued its investments in LAIF at June 30, 2022, by multiplying its balance by a fair value factor determined by LAIF. This fair value factor was calculated by dividing the total fair value for all participants by the total amortized cost.

### ***Fund Balances***

*Restricted*— This category consists of amounts that have constraints placed on them either externally by third-parties (creditors, grantors, contributors, or laws or regulations of other governments) or by law through constitutional provisions or enabling legislation. Enabling legislation authorizes the City to assess, levy, charge, or otherwise mandate payment of resources (from external resource providers) and includes a legally enforceable requirement (compelled by external parties) that those resources be used only for the specific purposes stipulated in the legislation.

**Note 2 - Cash Deposits and Investments**

Cash and investments held by the Transportation Safety and Investment Plan Account Fund at June 30, 2022, consisted of \$3,921,041 in cash pooled with the City's Cash and Investments.

Investments authorized by the California Government Code and the City of Monterey's investment policy:

Allowable investment instruments are defined in the California Government Code Section 53600, et. seq., as amended. If the Code is further revised to allow additional investments or is changed regarding the limits on certain categories of investments, the City is authorized to conform to these changes, excluding those changes that may be prohibited by this policy. Where the Government Code specifies a percentage limitation for a particular category of investments, that percentage is applicable only at the date of purchase. The City's pool is not rated and is not registered with the SEC. The City's average maturity of its investments is less than one year.

**Note 3 - Maintenance of Effort**

The Measure X Master Programs Funding Agreement between the City of Monterey and the TAMC as amended, requires that the City must expend each fiscal year from its general fund for street and highway purposes an amount not less than the annual average of its expenditures from its general fund during the 2009-10, 2010-11, and 2011-12 fiscal years, but not less than what was expended in 2016-17 (when Measure X passed), as reported to the Controller pursuant to Streets and Highways Code section 2151 ("Maintenance of Effort"). This baseline amount will be indexed annually to the Engineering News Record construction index.

Maintenance of Effort:     \$ 3,058,030

Total expenditures from the general fund for street and highway purposes for the fiscal year ended June 30, 2022 was \$3,712,163. The City was in compliance with the Maintenance of Effort requirement of the Measure X Master Programs Funding Agreement between the City of Monterey and the TAMC.

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**SUPPLEMENTARY INFORMATION**

Schedule of Revenues, Expenditures, and Changes in Fund Balance – Budget and Actual  
Year Ended June 30, 2022

	Budgeted Amounts		Actual Amounts (Budgetary)	Final Budget
	Original	Final		Positive (Negative)
<b>Revenues:</b>				
Intergovernmental	\$ 900,000	\$ 900,000	\$ 1,280,006	\$ 380,006
Use of money and property	21,424	21,424	37,813	16,389
Total revenues	921,424	921,424	1,317,819	396,395
<b>Other financing sources (uses):</b>				
Transfers out	-	-	(126,438)	-
Net change in fund balances	921,424	921,424	1,191,381	269,957
Fund balance, beginning of the year	3,026,961	3,026,961	3,026,961	-
<b>Fund balance, end of year</b>	<b>\$ 3,948,385</b>	<b>\$ 3,948,385</b>	<b>\$ 4,218,342</b>	<b>\$ 269,957</b>

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**Independent Auditor's Report on Internal Control over Financial Reporting and  
on Compliance and Other Matters Based on an Audit of Financial Statements Performed  
in Accordance with Government Auditing Standards**

To the Honorable Mayor and Members of City Council  
of the City of Monterey, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the Transportation Safety and Investment Plan Account Fund (Fund) of the City of Monterey, California (City), as of and for the year ended June 30, 2022, and have issued our report thereon dated Report Date, 2022. Our opinion included an emphasis of matter as discussed that the financial statements present only the Fund specific to Transportation Safety and Investment Plan Account Fund, and are not intended to present fairly the financial position and results of operations of the City in conformity with accounting principles generally accepted in the United States of America.

***Report on Internal Control Over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Fund's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control. Accordingly, we do not express an opinion on the effectiveness of the Fund's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be, significant deficiencies or material weaknesses. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

### ***Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Transportation Safety and Investment Plan Account Fund's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements including the applicable compliance requirements specified in the Transportation Safety and Investment Plan Account agreement between the City and Monterey Regional Transportation Commission, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* or the Transportation Safety and Investment Plan Account agreement.

### ***Purpose of this Report***

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Menlo Park, California  
Report date, 2022



**Independent Auditor's Report on Internal Control over Financial Reporting and  
on Compliance and Other Matters Based on an Audit of Financial Statements Performed  
in Accordance with *Government Auditing Standards* and TAMC Ordinance No. 2019-01  
Transportation Safety and Investment Plan Fund**

To the Honorable Mayor and Members of City Council  
of the City of Monterey, California

**Report on Compliance**

***Opinion on State Compliance***

We have audited the City of Monterey's, California (City) compliance with the requirements specified in the Transportation Agency's for Monterey County's (TAMC) Ordinance No. 2019-01 and the Measure X Master Programs Funding Agreement between TAMC and the City (Agreement) for the year ended June 30, 2022.

In our opinion, the City complied, in all material respects, with the compliance requirements referred to above that are applicable to the Agreement for the year ended June 30, 2022.

***Basis for Opinion***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS), the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the City and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion. Our audit does not provide a legal determination of the City's compliance with the compliance requirements referred to above.

### ***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules, and provisions of contracts or grant agreements applicable to the City Measure X program.

### ***Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the City's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material noncompliance when it exists. The risk of not detecting a material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the City's compliance with the requirements of the Measure X program as a whole.

In performing an audit in accordance with GAAS and *Government Auditing Standards* we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the City's compliance with the compliance requirements referred to above and performing such other procedures as we consider necessary in the circumstances.
- Obtain an understanding of the City's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with *Government Auditing Standards*, but not for the purpose of expressing an opinion on the effectiveness of the City's internal controls over compliance. Accordingly, we express no such opinion; and:
- Select and test transactions and records to determine the City's compliance with the Agreement.

### **Report on Internal Control over Compliance**

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that a material

noncompliance with a compliance requirement will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention from those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the compliance requirements stipulated in the Agreement. Accordingly, this report is not suitable for any other purpose.

Menlo Park, California  
Report date, 2022

# Measure X Report

## 5-Year Capital Improvement Program

Measure X Funding	Measure X Amount	Total Cost	
<b>YEAR 1 FY 22/23</b>			
35c1850 Measure X Transportation Safety Critical Maintenance	\$50,000	\$50,000	
35c1851 Measure X Transportation Safety Projects Grant Match and Preliminary Engineering	\$50,000	\$50,000	*ATP Cycle 7 Grant Application
37c2050 Measure X Citywide Adaptive	\$250,000	\$1,000,000	
CIP2012 Measure X Operational Improvement to Transportation System	\$100,000	\$100,000	
<b>YEAR 2 FY 23/24</b>			
35c1850 Measure X Transportation Safety Critical Maintenance	\$50,000	\$50,000	
35c1851 Measure X Transportation Safety Projects Grant Match and Preliminary Engineering	\$800,000	\$3,000,000	*ATP Cycle 8 / HSIP Cycle 12
37c2050 Measure X Citywide Adaptive	\$400,000	\$800,000	
CIP2012 Measure X Operational Improvement to Transportation System	\$100,000	\$100,000	
<b>YEAR 3 FY 24/25</b>			
35c1850 Measure X Transportation Safety Critical Maintenance	\$50,000	\$50,000	
35c1851 Measure X Transportation Safety Projects Grant Match and Preliminary Engineering	\$100,000	\$250,000	*ATP Cycle 9
37c2050 Measure X Citywide Adaptive	\$200,000	\$500,000	
CIP2012 Measure X Operational Improvement to Transportation System	\$200,000	\$200,000	
<b>YEAR 4 FY 25/26</b>			
35c1850 Measure X Transportation Safety Critical Maintenance	\$50,000	\$50,000	
35c1851 Measure X Transportation Safety Projects Grant Match and Preliminary Engineering	\$200,000	\$2,000,000	*ATP Cycle 10 / HSIP Cycle 13
37c2050 Measure X Citywide Adaptive	\$100,000	\$200,000	
CIP2012 Measure X Operational Improvement to Transportation System	\$200,000	\$200,000	
<b>YEAR 5 FY 26/27</b>			
35c1850 Measure X Transportation Safety Critical Maintenance	\$50,000	\$50,000	
35c1851 Measure X Transportation Safety Projects Grant Match and Preliminary Engineering	\$200,000	\$2,000,000	*ATP Cycle 11
37c2050 Measure X Citywide Adaptive	\$100,000	\$200,000	
CIP2012 Measure X Operational Improvement to Transportation System	\$200,000	\$200,000	



December 2, 2022

Mr. Todd Muck  
Deputy Executive Director  
Transportation Agency for Monterey County  
55-B Plaza Circle  
Salinas, CA 93901

**Subject: Pavement Management Program Annual Report Letter**

Dear Mr. Muck,

The City of Monterey confirms that it has a Pavement Management Program that conforms to the criteria established by the Transportation Agency for Monterey County and included in the Measure X Agreement with the Local Agency. An approved Pavement Management Program must be in place to be eligible for Measure X funds.

The Pavement Management Program utilizes a software system developed by:

Metropolitan Transportation Commission StreetSaver  
 Other \_\_\_\_\_

The system was updated by the City of Monterey and contains, at a minimum, the following elements:

- Inventory of all existing pavements under the local agency jurisdiction:

Centerline miles: **102.93**

Total lane miles (or equivalent units): **222.63**

The last update of the inventory was completed on: **November 30, 2022**

- Pavement Condition Index (PCI): **68**

- Identification of sections of pavement needing maintenance, rehabilitation, or replacement:

Total lane miles (or equivalent units) **118.03** (PCI < 90)

- Estimated budget needs to rehabilitate or replace deficient sections for the current year and the next three years: **\$36,826,516 (Unconstrained Needs)**

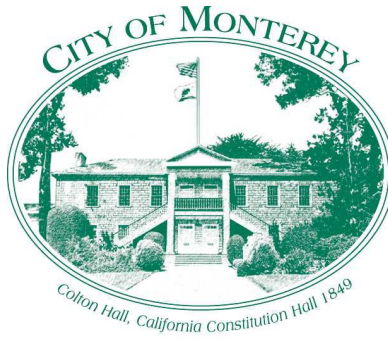
You may direct any questions regarding the system to Thomas Harty, P.E., Acting City Engineer, at (831) 242-8748.

Sincerely,

DocuSigned by:

*Andrea Renny*

Andrea Renny, PE, PTOE  
Public Works Director



# Measure X Project Report

## December, 2022

### Measure X Transportation Safety Projects

#### 2022 Update:

The City received the final close out paperwork from Caltrans, the project was officially concluded on October 18, 2022 with Caltrans and Federal Highway Administration approval.

#### 2021 Update:

The City experienced delays during the close out phase of the project due to Covid and is working with our construction management firm, Harris and Associates and Caltrans on closing out this project.

#### 2020 Update:

Fiber Optic was placed into the conduits and pull boxes that were installed in 2019. Fiber Optics enabled the City to install a traffic signal adaptive on North Fremont (please see related Measure X Report on Adaptive). The traffic signal infrastructure on N Fremont was old and failing. The conduits were reaching a failing point. Installing an adaptive system would not have been possible without this comprehensive infrastructure upgrade.

This project faced many challenges such as sink holes caused by years of failing storm drain pipes, extensive underground utility conflicts and failing existing equipment.

The constant flooding on N Fremont was addressed by placing storm chambers under the sidewalks. The sink holes were addressed and repaired. New ADA curb ramps and push

buttons were installed. An important update on 2020 is that N Fremont is receiving the first touchless Audible Pedestrian Push Buttons in the City of Monterey. This is part of a new technology that not only benefits individuals with disabilities but also reduces the surfaces that are touched by multiple people.



### NEW SMART TRAFFIC SIGNALS

After 50 years of no major infrastructure work, resulting in failing equipment, North Fremont now has traffic signals that adapt to real-time conditions, saving commuters time and improving safety. Improvements include all new safety lighting, poles, wiring, and controllers.



### NEW STORM DRAIN SYSTEM

New storm drain systems include chambers under sidewalks that hold 41,000 gallons of water, helping prevent flooding and reducing the risk of vehicles hydroplaning during heavy storms.



### SIGNIFICANTLY IMPROVED SAFETY FOR ALL PEDESTRIANS & BICYCLISTS

These improvements include important and state-required Americans with Disabilities Act (ADA) ramps at intersections, increasing safety for users of all abilities.



**North Fremont went over 50 yrs without major infrastructure work**



**26,000 square feet of bike path, about half the size of a football field**



**Over 30 miles of electrical wiring for traffic signals & lighting**



**Almost 5,000 ft of bike rail - over 12 mi of 1/4 in stainless steel tubing**



**Smart traffic signal technology adapts to real-time conditions**



**First of its kind in CA, median bike lane - upstages Penn Ave in Washington DC**



**Increased safety lighting, new traffic signal poles, wiring & controllers**



**A new storm chamber under the sidewalk holds 41,000 gallons of water**



**Significant improvements to pedestrian & bike safety**



**Over 5,000 ft of concrete poured using a machine similar to a Play doh Fun Factory**

Funding - Combining funding to increase project savings and address many improvements under one contract, minimizing impacts to residents and businesses



## ALL OF THIS ON BUDGET AND PAID FOR BY 5 MAJOR FUNDING SOURCES

- Active Transportation Grant (CalTrans) **(1)**
- Regional Surface Transportation Program (TAMC) **(2)**
- Measure P/S **(3)**
- Measure X **(4)**
- Neighborhood Community Improvement Program (NCIP) **(5)**



**MEASURE X**  
EXCELLENT  
TRANSPORTATION



**MEASURE S**  
FIXING MONTEREY  
Streets  
Sidewalks  
Stormdrains  
**THANK YOU!**  
APPROVED BY OVER 82% OF VOTERS



**ATP**  
Transportation Program



**Neighborhood Improvement Project**  
monterey.org/atp 6502 648-3007



# North Fremont Project

This project is the perfect example of using Measure X funding in addition to Active Transportation Program and Regional Surface Transportation grant funding to enhance transportation safety.

North Fremont has a very high number of commercial driveways, on street parking and a high volume of right turns. North Fremont carries an Average Daily Traffic of 30,000 and the speed limit is 35 mph. Crossing distances across North Fremont at each existing intersection are excessively long due to skewed side streets and crosswalks. These long crosswalks substantially increase pedestrian exposure and generate excessive pedestrian timing delay.

When determining options for bike improvements for North Fremont, a class II bicycle lane was also reviewed. A Class II facility at this location would have attracted adults with a higher confidence and higher “traffic-tolerance” and would not be as attractive to all potential users (of different ages and abilities).



To improve pedestrian access, crosswalk lengths crossing North Fremont Street was reduced by straightening out the angle of the crosswalk. Audible pedestrian signals and countdown pedestrian heads were added to all signalized intersections to dramatically increase ADA accessibility. New curb ramps were installed at all intersections.



The benefits and positive impacts of this project occur between Casa Verde and Casanova where there is the potential to increase biking through the construction of Class IV bike lanes and the ADA improvements that link employment centers, residents, shopping areas and recreational facilities.

The Class IV lanes were built received great support from the Bike and Pedestrian Committee as well as residents and the business community. Groups such as Families of Color of Monterey County also strongly supported the Class IV bike lanes which enhanced safety, mobility choices and promoted social equity.

Roger Geller's "Four types of Transportation Cyclists" survey results, showed that up to 71% of the population would be attracted to bicycling if the bicycle network was designed to reduce the stress associated with potential motor vehicle conflicts. This is in addition to the 8% to 19% who are confident to use any bike facility. A San Francisco survey showed that 7 in 10 people cite safety concerns as a major impact on their decision to bike and 55% don't feel safe riding a bike adjacent to traffic (Class III or II).

The proposed Class IV facility offers a much higher degree of safety and comfort and the ability to attract users of all ages and abilities. The Class IV is the alternative that best fulfills the Active Transportation Program goals of increasing walking and biking trips, increasing safety for all users, increasing mobility, supporting GHG reduction and enhancing public health. Class IV bike lanes have shown to have 89% fewer injuries among bike riders. Class IV bike lanes also minimize conflicts between pedestrians and bicyclists riding on the sidewalk (who are not comfortable riding near traffic).

Other jurisdictions that have installed Class IV bike lanes have seen an increase of upwards of 300% in ridership. The City expects to see an increase in bicyclists of 200% which amounts to 140 new daily riders in the Class IV bike lanes from Casa Verde to Casanova. The City expects an increase in 50% of pedestrians, which amounts to 330 new pedestrian trips due to improved ADA access and shortened crossings.

The project broke ground in June of 2018 and was completed in October 2019.

In September 2019 a ribbon cutting ceremony was held at the intersection of North Fremont and Airport Road to celebrate the completion of the median bicycle lanes. The bicycle lanes were fully open to the public



**Completed improvements include:**

Intersection Improvements at North Fremont (Casa Verde Way, Casanova Avenue, Airport Road, and Ramona Avenue)

- Work consisted of rebuilding new concrete sidewalks, curb ramps, electrical & underground improvements
- Installation of traffic signal poles and bicycle signals

Median Bicycle Lanes

- Re-opened all lanes and Parking along North Fremont

- Installation of railing on median bicycle lanes

The City has conducted extensive outreach to businesses and residents and created a project specific website at:

<https://monterey.org/City-Hall/Featured-Projects/The-NFremont-Bike-and-Pedestrian-Access-and-Safety-Improvements-Project>

As construction progressed, the Frequently Asked Questions webpage was updated to address new concerns:

<https://monterey.org/Portals/0/MajorProjects/NorFremontBikPed/North-Fremont-FAQs-and-Memos-FINAL.pdf>

With the opening of the project, to educate users on how to utilize the bicycle lanes:

<https://monterey.org/Portals/0/MajorProjects/NorFremontBikPed/NFremont-Instructions.pdf>



*Striping crosswalks and "Crossbikes"*

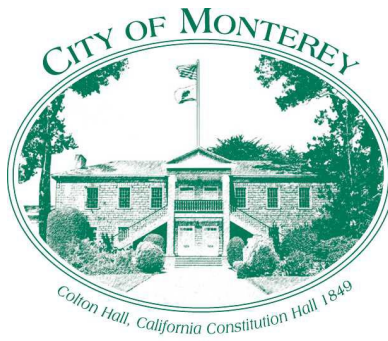


*Intersection of North Fremont and Casa Verde Way, After Improvements*



*Intersection of North Fremont and Airport Rd, After Improvements*





## Measure X Project Report

December, 2022

North Fremont Bike and Pedestrian Improvement from Casanova to Canyon Del Rey (North Side) Project

a.k.a. the N Fremont “Gap Closure” Project

2022 update

Design progressed throughout the year and is now considered substantially complete. New elements including a decorative guard rail adjacent to N Fremont and reconfigured connection from Casanova Ave to the N Fremont median bike lanes were incorporated. The Casanova Ave reconfiguration will create the shortest path of travel for bicyclists to enter the median:

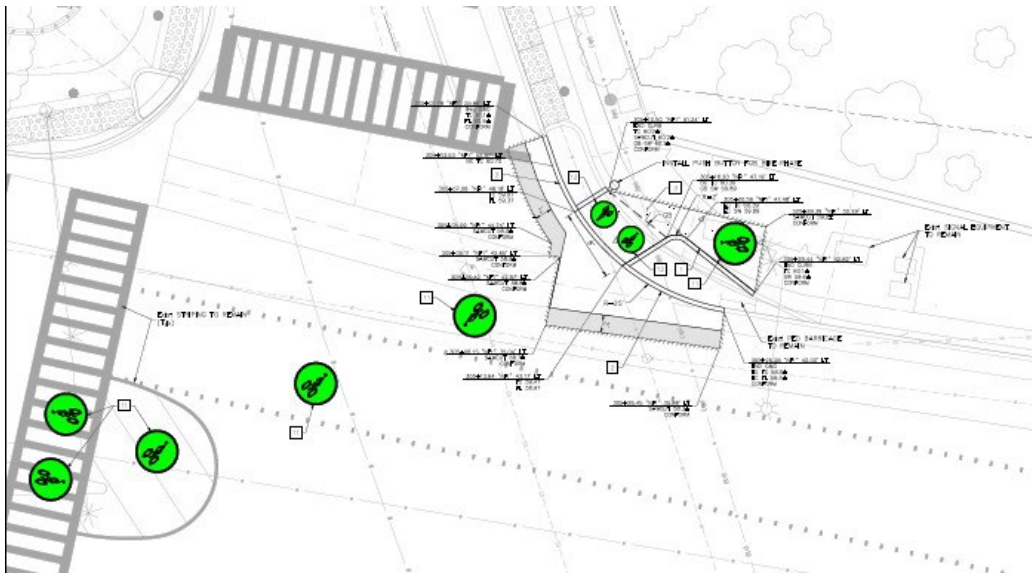


Figure: Casanova Ave Connection

All structural design elements including the pedestrian bridge and foundations and retaining walls were completed. The project construction cost estimate is now approximately \$2.3-2.8 million.

The project was unsuccessful in acquiring construction funding in the first round of Clean California local grant program and is ineligible for the upcoming cycle due to not meeting revised underserved community requirements. The City will continue to look for future funding opportunities.

## 2021 Update

This project is the perfect example of using Measure X funding to support transportation safety and operations improvements to enhance the quality of Transportation in Monterey and Monterey County.

The award-winning N Fremont Bike and Pedestrian Access Project was a great addition to the network of bike paths or trails that people can use to safely walk or bike throughout town. However, that project was grant funding dependent and unable to incorporate (as intended) the segment of Casanova to Canyon Del Rey. This has left a temporary connection “gap” where no sidewalk nor bike lane exist on the north side.



Figure 1: Project Location. “Connection Gap”





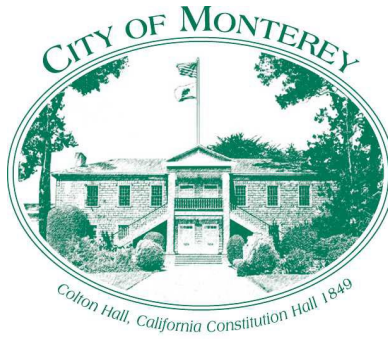
*Figure 2: Existing Condition*

The block presents several challenges such as environmentally sensitive areas, steep slope/ elevation changes, right-of-way width constraints, utility conflicts, as well as being a multi-jurisdictional area (Monterey, Seaside and Caltrans). City staff and consultants have analyzed the challenge and determined the most cost effective solution to be a pedestrian bridge.



*Figure 3: Concept Rendering*

The bridge will provide a Class I mixed-use path that will connect users from the N Fremont corridor to the much larger future FORTAG network. The bridge will be a pre-fabricated, Pratt truss style structure, with ADA-compliant concrete decking. We anticipate steel cables to match the aesthetics of the constructed N Fremont bike lanes as well as pedestrian-level lighting, but the design is ongoing (and input is welcome). The construction cost estimate is \$1.5-2M. The current project is funded for the project design only, not construction. The goal is to have a completed design, "shovel ready" project by the end of the year, which will put the project in a position to apply for grant funding to close the gap.



# Measure X Project Report

## December, 2022

### Measure X Transportation Projects

#### Citywide Wayfinding Sign Program, Phase 1, Project

This project is the perfect example of using Measure X funding in addition to Local funds to enhance the quality of Transportation in Monterey and Monterey County.

The City of Monterey is a major tourism destination on the peninsula. The City has many popular destinations such as Cannery Row, Monterey Bay Aquarium, Fisherman's Wharf and Customs House Plaza. The Monterey Bay Aquarium alone experiences over 1.9 million visitors in a typical year.

The City is improving its wayfinding experience by updating and creating a comprehensive wayfinding sign program which also includes bicycle and pedestrian wayfinding. The first phase is the Parking Phase which directs vehicles to the City's public parking Lots and garages. This first step is also in line with the City's "Park Once" program which encourages visitors to park once and use the free MST Trolley or walk between Cannery Row and Downtown to reduce congestion between Downtown and Cannery Row.



Phase 1 of the project commenced in April 2020 and was completed in June 2020.

**Completed improvements include:**

61 new wayfinding signs, including 39 vehicular signs and 22 pedestrian signs

- Work consisted of installing new foundations for sign poles, fabricating wayfinding signs and installation of wayfinding signs.

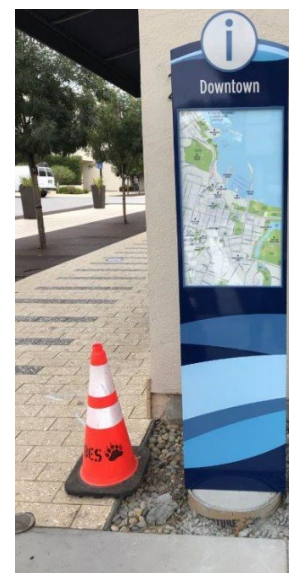
As part of the project the City has created an article on the Traffic Engineering City Webpage, which shows sign types and sign locations for current and future phases. [https://monterey.org/city\\_hall/departments/traffic\\_engineering/index.php](https://monterey.org/city_hall/departments/traffic_engineering/index.php) (link updated to reflect new City website)



*Wayfinding sign foundation construction*



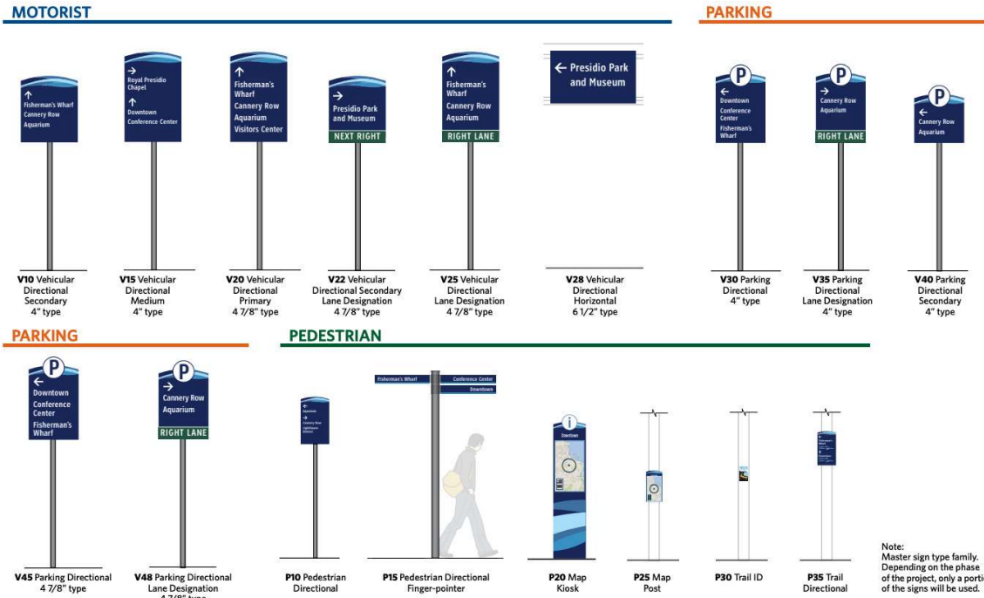
*Example of signs installed during Phase 1*



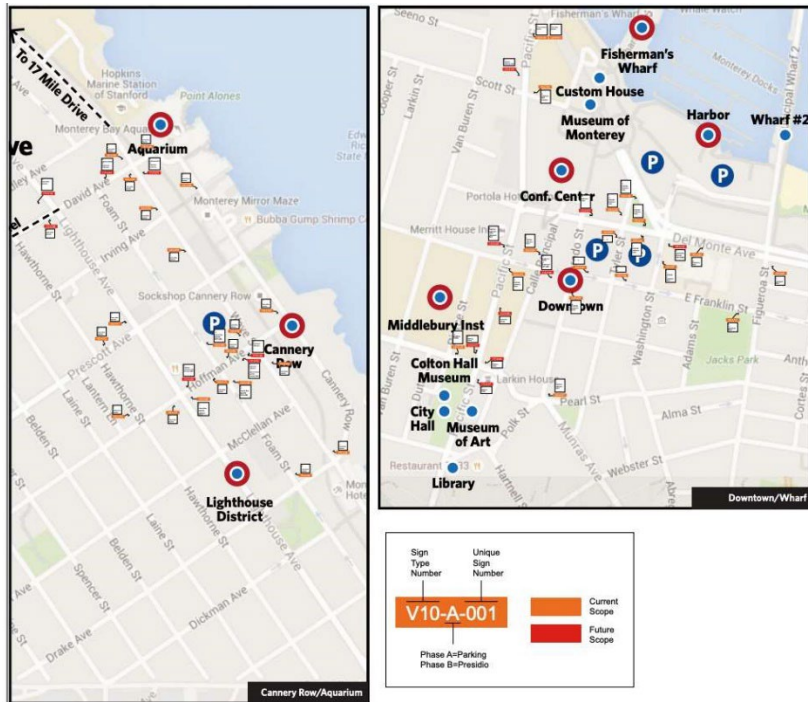
**In progress improvements include:**

Phase 2 of Wayfinding signs which is new wayfinding signs, including 39 vehicular signs and 22 pedestrian signs

- Work consisted of installing new foundations for sign poles, fabricating wayfinding signs and installation of wayfinding signs.

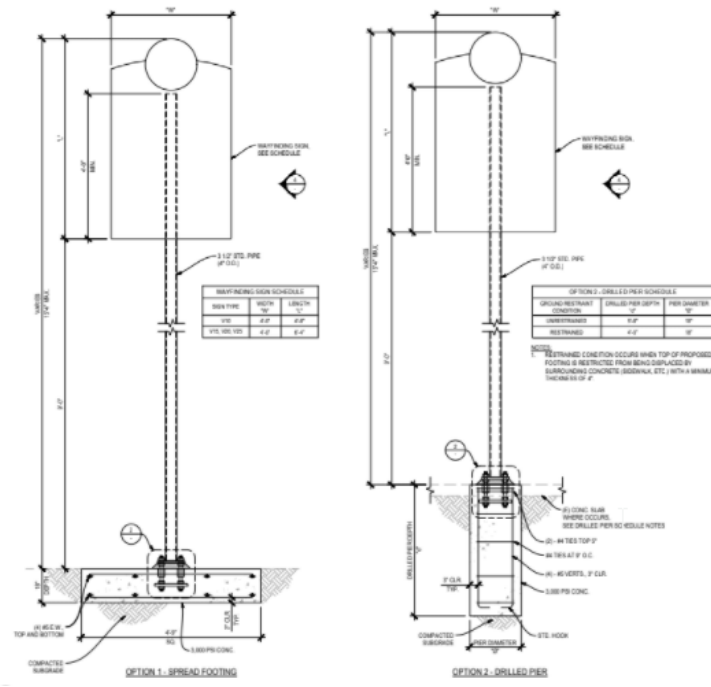


Examples of Wayfinding Sign Types for All Phases



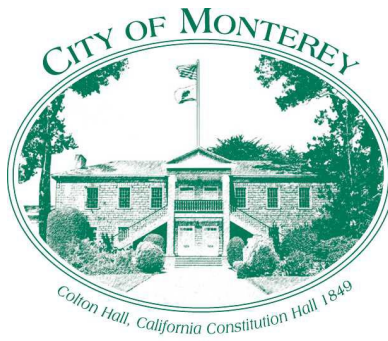
Map of Existing and Future Phase Sign Locations

Contract executed with on-call contractor to furnish and install poles, structural drawing submitted and approved for sign types which were not included in Phase 1 to ensure that signs will sustain high wind events. A set of standard details was developed for Phase 2 signs, an example of options is shown below. The majority of the new poles were installed in May 2022, a remaining five poles require a Caltrans Encroachment permit which Staff is working on.



Wayfinding Standard Details for Phase II signs

In April 2022, the City released an invitation to bid for the Wayfinding Sign Fabrication, Phase 2 project and the contract was awarded to Ampersand Signs on June 21, 2022. The contractor mobilized and has begun fabrication on the Phase 2 signs, which are anticipated to be installed in 2023. No funds were expended in this fiscal year; however, City Staff continued to work on the project.



## Measure X Project Report

December, 2022

### Measure X Transportation Projects

#### Monterey PD Speed Radar Trailer

This project is the perfect example of using Measure X funding to support transportation safety and operations improvements to enhance the quality of Transportation in Monterey and Monterey County.

The City of Monterey Public Works (Traffic Engineering) and Police Department (Traffic Enforcement) work together collaboratively to address community concerns using tools from the Education, Enforcement, and Engineering toolkits. The City has previously used speed radar trailers to address community concerns about speeding in neighborhoods and near schools. The speed radar trailers provide data analytics regarding when people speed most often, and the proportion of people who fall in the worst offender category. This data is a key community engagement tool. Radar speed trailers provide real time feedback to drivers and capture speed data without the need for Traffic Enforcement to be physically present in the community.

Speed trailers are considered a short-term traffic calming measure to remind drivers to drive the appropriate speed limit. This also gives Traffic Engineering and Traffic Enforcement the mobility to place the trailer in various locations throughout the City, focusing specifically in areas in which a permanent radar sign cannot be placed for logistical reasons. The data analytics include time of day, so it is easier for targeted enforcement to make the most efficient use of enforcement resources. The trailer is typically placed for two-week periods to capture potential repeat patterns, but not so long so that drivers are desensitized to its presence.

In late 2020, Traffic Engineering Staff and Police Department Traffic Enforcement officers assessed the remaining useful life of the speed radar trailer and determined that it could be

used for traffic calming, but not education as it no longer had reporting capabilities. Nationwide, Enforcement and Engineering representatives have seen an increase in excessive speeding due to pandemic-related decreased traffic. Staff researched new speed radar trailer technologies and selected the MPH Industries Street Scout for size, ease of mobility, reporting functionality and lack of required subscription services.

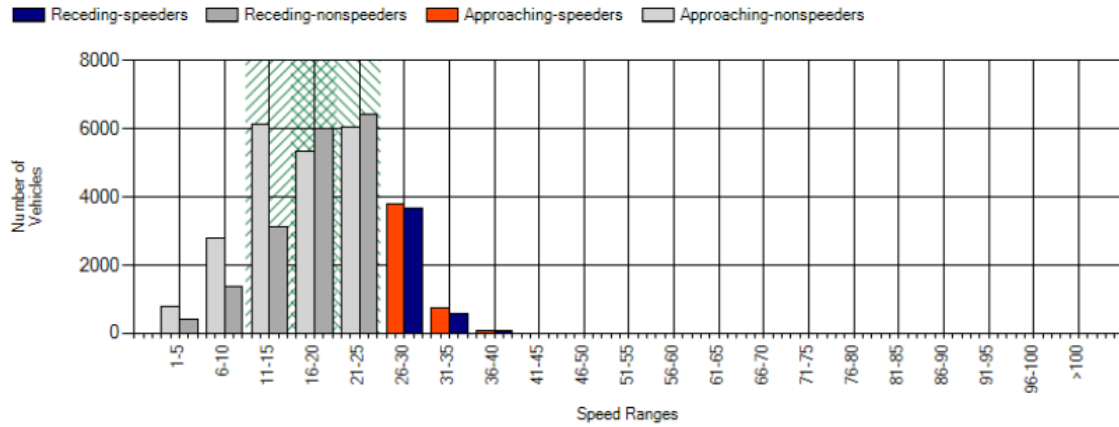
The radar trailer was delivered March 2022 and Traffic Enforcement officers received training from the manufacturer on the use of the new equipment.

A prime example of the educational usefulness of the radar trailer occurred just last month. One of our Traffic Officers was able to demonstrate that the average speed on a street was 12 mph in a 25-mph zone and educate a community member that overall speeding is quite low with very few drivers above 25 miles per hour. The road geometry and the location that the resident was observing traffic gave the illusion that traffic was always at a much higher speed. In the past, our enforcement officers have demonstrated the “relative reference frame” physics concept: when people are standing in their front yards or walking in the opposite direction, traffic seems much faster than it is.

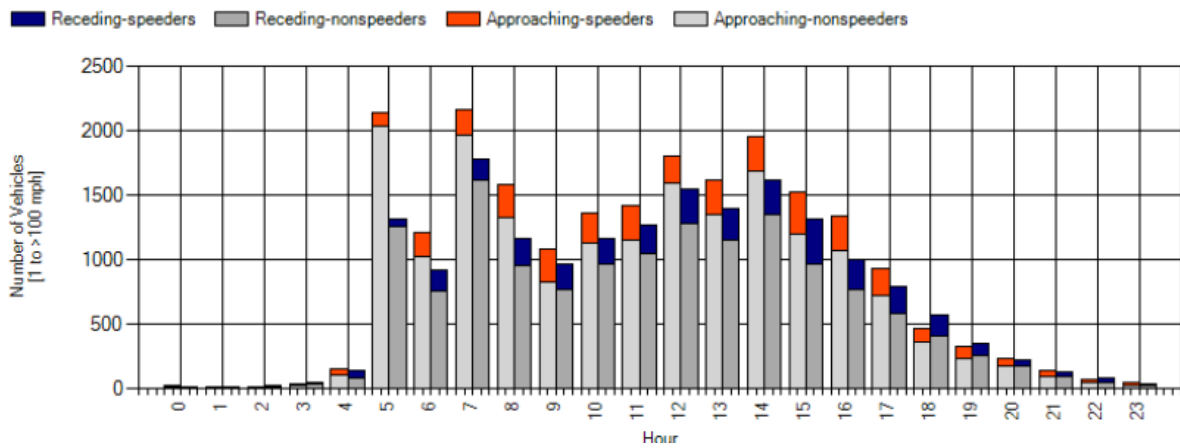


*Scout Trailer on Mar Vista (R) and Via Gayuba (L), 2022*





Speed [mph]	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-80	81-85	86-90	91-95	96-100	>100
<b>Approaching Total Volume</b>	785	2786	6125	5354	6045	3775	747	67	5	3	0										
<b>% of Total Approaching</b>	3.06%	10.84%	23.84%	20.84%	23.53%	14.69%	2.91%	0.26%	0.02%	0.01%	0.00%										
<b>Receding Total Volume</b>	432	1389	3112	6001	6438	3674	592	78	12	8	1										
<b>% of Total Receding</b>	1.99%	6.39%	14.32%	27.61%	29.62%	16.90%	2.72%	0.36%	0.06%	0.04%	0.00%										
<b>Total Volume</b>	1217	4175	9237	11355	12483	7449	1339	145	17	11	1										
<b>% of Total Volume</b>	2.57%	8.80%	19.48%	23.94%	26.32%	15.71%	2.82%	0.31%	0.04%	0.02%	0.00%										

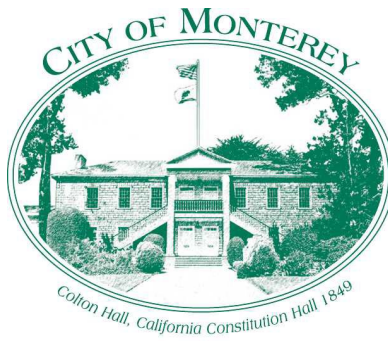


Example Report Excerpts from Via Gayuba, September 2022

## Traffic Analysis Report

Result Description		
File:	06360011.csv	
Study Title:	Deer Forest	
Study Run Dates:	2022/04/28 16:08:21 to 2022/05/08 09:40:00	
Total Study Time:	9 Days 17 Hours 31 Minutes	
Study Download Time:	2022/05/23 12:56:18	
Study Location:	Deer Forest and Antler Plc.	
Study GPS Location:	Unknown	
Study Timing Interval:	5 minute blocks	
Study Total # of Vehicles:	4806	
Study Posted Speed Limit:	25 mph	
Study Total # of Speeders:	1318	
Approaching Traffic	# of Vehicles:	2150
	# of Speeders:	487
	Maximum Speed:	41 mph
	Average Speed:	19 mph
	Median Speed:	19 mph
	85th Percentile Speed:	23 mph
	10 MPH Pace:	16 to 25 mph
Receding Traffic	# of Vehicles:	2656
	# of Speeders:	831
	Maximum Speed:	40 mph
	Average Speed:	20 mph
	Median Speed:	20 mph
	85th Percentile Speed:	26 mph
	10 MPH Pace:	21 to 30 mph

*Example Report Excerpts from Deer Forest, April-May 2022*



## Measure X Project Report

December, 2022

### Measure X Transportation Projects

#### Currux Camera Installation Project

This project utilizes Measure X funding to enhance grant application competitiveness by using a data driven approach to better demonstrate the benefits of proposed transportation safety improvements. The City of Monterey was given the opportunity to have a demonstration of the Currux Vision, an artificial intelligence software which utilizes a data processor and CCTV cameras to observe and process vehicle counts, vehicle classification, speed, enforcement violations and near misses. The City expended \$8,500 of Measure X funding for the labor and installation of the borrowed equipment and coordination of the Currux Vision demonstration.

The City took this demonstration opportunity as it felt it would provide an excellent opportunity to learn more about specific intersections in the City. The timing of the demonstration aligned with the grant writing efforts for the Active Transportation Program (ATP) Grant Application. Staff determined that placing the Currux Vision Data Collection Equipment and CCTV could further support ATP Grant Application writing efforts for the intersections of Del Monte/Washington/Lighthouse Tunnel and Del Monte/Camino El Estero.

The City, with its industry partners, worked to install the cameras two months before the Grant Application was due to collect as much data as possible for the grant application. Due to the limited number of Currux Vision Data Collection Equipment in the United States, equipment had to be sent from the European Union. The equipment did not arrive until less than a month before the grant application was due as it was delayed by customs, in addition to the general shipping delays worldwide as a result of the COVID 19 pandemic.

Staff decided proceed with the installation of the Currux equipment knowing that the data would not be available for this cycle of the Active Transportation Program, but could be used in the next cycle. Our industry partners graciously extended the demonstration through October 2022, increasing the demonstration to a total of four months. The longer installation allowed for additional data gathering during the peak summer season and off-peak fall season, and to explore any change in trends between the peak and off-season.

Staff anticipates a full reporting break down of the Currux analytics in January 2023 prior to the next cycle of the ATP Grant Application.

**Automatically detects and reports:**

- Car stopped on shoulder
- Car stopped in lane
- Slow traffic
- Stopped traffic
- Wrong Direction
- Stop Sign Violation
- Crosswalk Violation
- Double Yellow Line Crossing
- Commercial Vehicle Alert
- Speeding
- Near Miss
- Red Light Violation

**Counting and classification**

Legend for vehicle types:

- Car
- Light truck
- Bus
- Heavy truck
- Motorcycle
- Bicycle
- Pedestrian

**Volume vs Time**

The line graph shows volume (Y-axis, 0-50) over time (X-axis, 10PM-4PM). The blue line (Cars) shows the highest volume, peaking around 3PM. Other vehicle types show much lower volumes.

Examples of Data Capture and Types of Data Collection

Download Report | 2022-02-17 12:00 - 2022-02-17 12:59 [PDF](#) [CSV](#)

Camera: **gilbert**

#	Lane	Average Queue Length (count)	Average Speed (mph)	85th Percentile Speed (mph)	Average Wait Time (sec)	MWT	Vehicle Counts (cars)	Vehicle Stop Counts (cars)	Passing Time (sec)	Free Flow Time (sec)	FF/PT	Gap Time (sec)	AG (%)	LOS	Total Delay (sec)
1	Through	7.6	21	4	18.75	1.5	663	302	66	51	77%	5.1	51	B	12464
2	Left Turn	7	38	37	32.12	1.5	350	238	27	21	75%	9.9	31	C	11245
3	Right Turn	1	25	31	1.59	6.2	134	8	449	442	98%	30.4	92	A	136

**Speed Distribution**

Example of Report by Turn Movement, 2022

Camera: gilbert

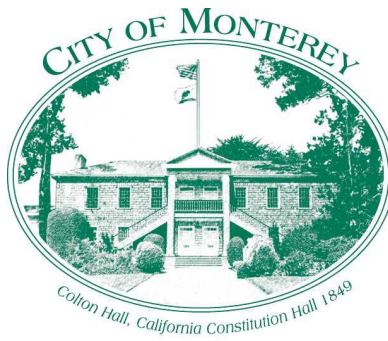


#	Lane	Number of Vehicles	Crosswalk Violations	Car Stopped at Intersection	HWT	Red Light Crossing	Near Misses	Lane Stopped	85th Percentile Speed(mph)	Speeding	% of Cars Speeding
1	Through	693	0	0	1.5	0	0	0	4	0	0%
2	Left Turn	350	0	0	1.5	0	0	0	37	0	0%
3	Right Turn	114	0	0	6.2	0	0	0	31	0	0%
4	Crosswalk	8	0	0	0	0	0	0	3	0	0%

Example of Safety Analytics by Turn Movement, 2022



Example of Safety Analytics with Roadway Geometry, 2022



## Measure X Project Report

December, 2022

### Measure X Transportation Projects

#### Casanova Avenue and Melway Circle Rectangular Rapid Flashing Beacon (RRFB) Installation Project

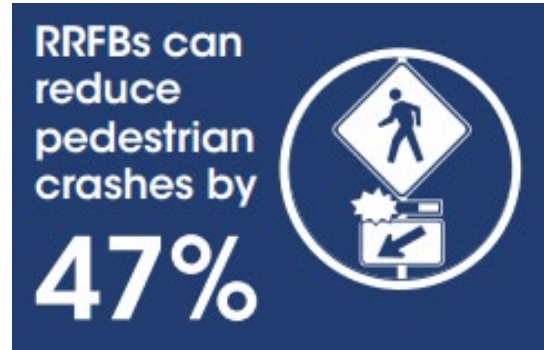
This project is the prime example of using Measure X funding to support transportation safety and operations improvements to enhance the quality of Transportation in Monterey and Monterey County.

Due to the high use of this intersection, particularly with higher volumes of pedestrians using this crosswalk for access between residents to groceries and other businesses. This is also an uncontrolled crossing, meaning a crossing where no traffic control (i.e. traffic signal or stop sign) is present. The project is an additional improvement replacing the traditional Pedestrian Crossing Warning signs to Rectangular Rapid Flashing Beacons (RRFBs) to a 2015 Neighborhood and Community Improvement Program Project.

In 2015, the City improved the crosswalk by adding bulbouts and highlighting the crosswalk with a textured, colored brick-pattern crosswalk. The project was originally funded in 2012 before the RRFBs were widely used in California and extensive research on the benefits was available. A 2017 Nationwide study reported a 47% reduction in pedestrian collisions as a result of installing a RRFB (Zegeer et al.). RRFBs are considered a proven countermeasure by the Federal Highway Administration (FHWA), which help address conflicts at crossing locations, pedestrian visibility, and compliance with yielding to pedestrians in crosswalks.

This Rectangular Rapid Flashing Beacon will be the first in the City to use wave-activated technology in addition to the push button functionality. The wave-activated option has positive benefits both avoiding contact during the COVID-19 Pandemic and for people with disabilities who have physical limitations preventing them from reaching and pressing the button.

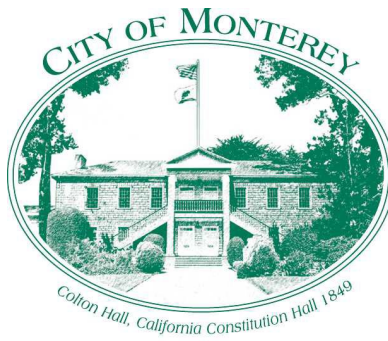
The project started in May 2022, but supply chain issues have impacted the procurement of materials. This has resulted in a delay of almost four months compared to past RRFB installation projects. This project is anticipated to be completed in February 2023.



*FHWA Media on RRFBs*



*Before Rectangular Rapid Flashing Beacon Installed, 2022*



## Measure X Project Report

December, 2022

### Measure X Transportation Projects

#### ATP Grant Application for Del Monte/Washington and Del Monte/El Estero

This project is using Measure X funding in combination with the Active Transportation Program to enhance transportation safety.

The intersections of Del Monte Ave at Washington and Del Monte at Camino El Estero are intersections heavily utilized by pedestrians and bicycles that must weave through heavy congestions and cars queueing in their crossing areas. Pedestrians and bicycles also face long crossing distances and wait times due to the heavy congestion in the corridor. Del Monte also has frequent crossing of larger groups of pedestrians, the intersection of Del Monte and Washington has pedestrian crossing calls activated 75% of day. Del Monte Avenue experiences severe congestion as it has a high demand of 42,000 vehicles per day, this is about 76% of traffic carried on Highway 1.

Crossing along Del Monte is precarious with long crosswalks between 100-120 feet in length that are often blocked by vehicles. There are currently no bicycle connections or facilities on Del Monte Avenue, Washington Street or Camino El Estero and bicyclists have no means for crossing Del Monte Avenue from the recreation trail to their final destination. Bicycles must dismount and cross narrow crosswalks and ramps competing with pedestrians.

Over the course of a day it is estimated that 4,600 pedestrians and 540 bicycles utilize the two intersections daily, however during peak tourism season and special events the numbers can be much higher.



This project provides great benefit and access for pedestrians and bicyclists for who utilize the recreational trail for commuting and recreational purposes. The expected benefits are increased biking and walking trips, mobility for non-motorized users, reduces vehicle trips and therefore reduce greenhouse gas emissions and enhances public health by improving access to non-motorized travel, for users of all abilities. All benefits apply to disadvantaged communities who utilize the trail to commute or for recreation purposes. Access to major destinations in the City such as Monterey Downtown, The Wharf, Cannery Row, and El Estero Park.

The improvements would make the crossings at the two intersections less stressful for bicycles and pedestrians by shortening distances, providing median refuges and higher visibility. Additionally, ADA improvements and safety lighting is included.

Funding was used to bring the project to 30% design and apply for Active Transportation Program funds to maximize the City's ability to deliver the best possible project to residents and visitors.

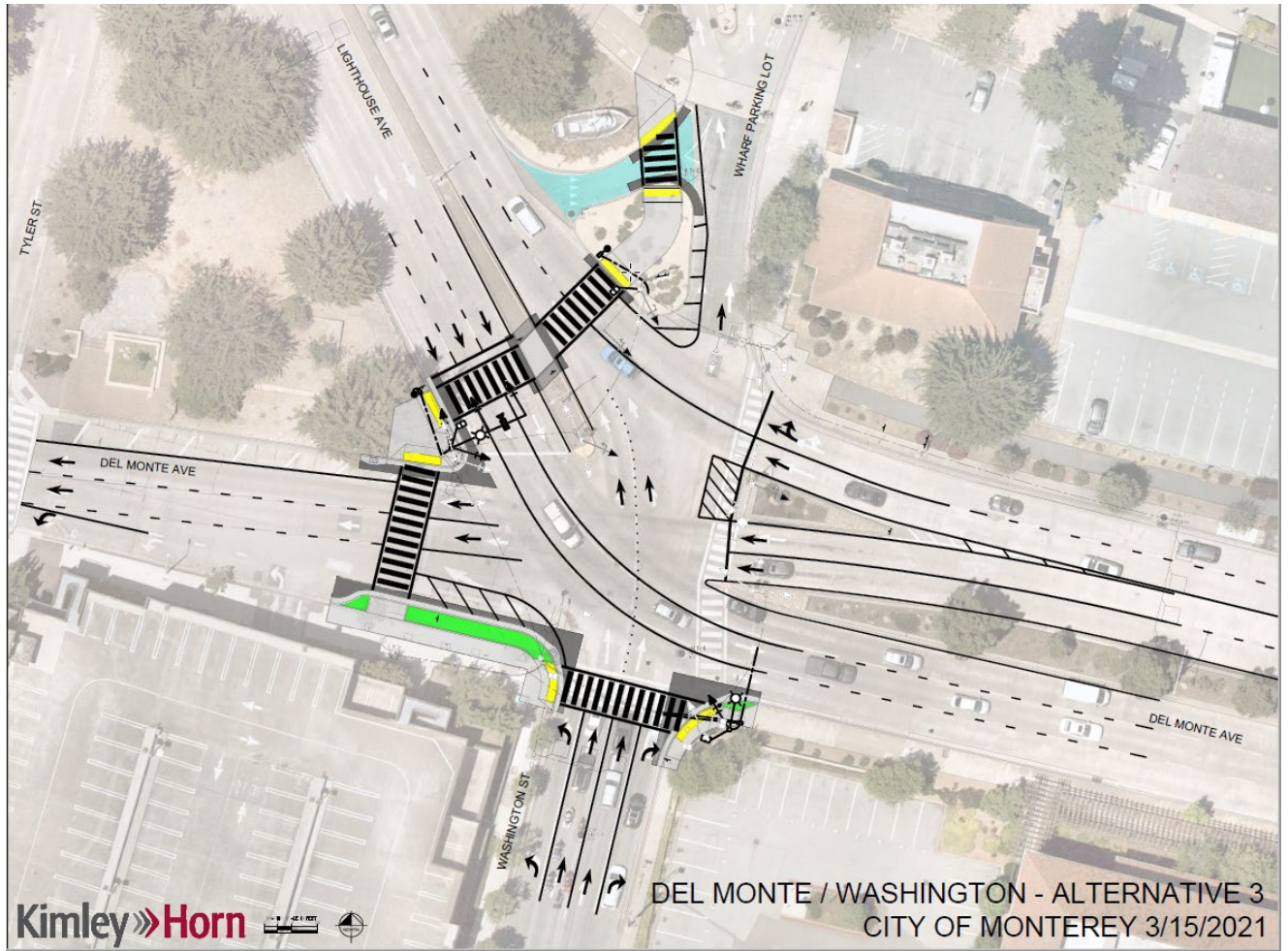
The City applied in 2018 to the Active Transportation Program (ATP) Cycle 4 Call for Projects and did not receive funding. The City applied again to Cycle 5 in 2020, reducing the scope and focusing on Del Monte and Washington. The Cycle 5 application scored higher, but still did not meet the threshold for funding which was a score of 92 out of 100 points.

The City decided to reevaluate the intersection Del Monte and Washington and look for a lower cost alternative and alternative grant funding sources for the final design and construction of the intersection. This alternative has a single stage crossing and has less median improvements and landscaping than the ATP grant application alternative. This alternative does not remove the right turn exiting from the southbound Washington approach and does not include separate crosswalks for bikes "crossbikes".

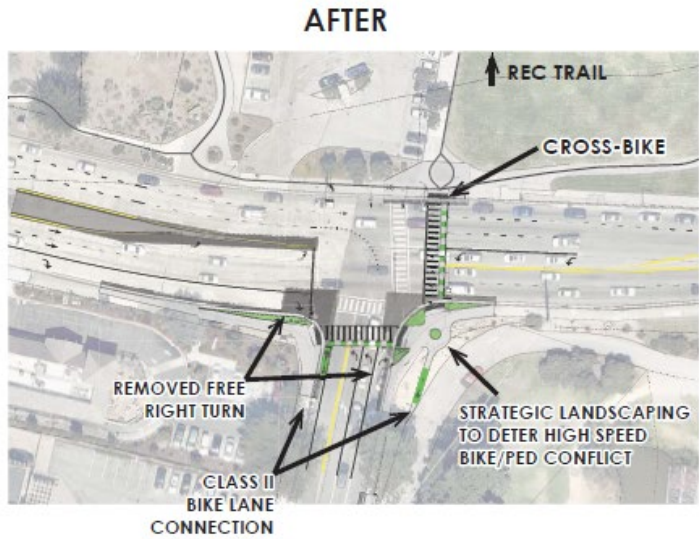
The City is continuing to look for funding sources for the intersection improvement with the lower cost alternative.

In 2022 the City applied again for an Active Transportation Program Active Transportation Program (ATP) Cycle 6 Call for Projects and did not receive funding. The City increased the scope from Cycle 5 to consider the intersection of Camino El Estero and scored lower at 67 points. The cut off score was 78 points and 65% of the projects were Safe Routes to School Projects, this project did not include a Safe Routes to School component.

The City is considering re-applying for both an ATP grant in a future funding Cycle and continuing to consider alternative funding sources for a lower cost alternative. The City has successfully implemented two ATP grant funded projects, the North Fremont Bicycle and Pedestrian Safety and Access Improvement project and the Active Transportation/Demand Management Plan project. The ATP grant program has long been considered an underfunded and over-subscribed funding source even with the annual commitment of nearly a billion dollars for the State as part of SB 1.



*Del Monte/Washington Alternative*

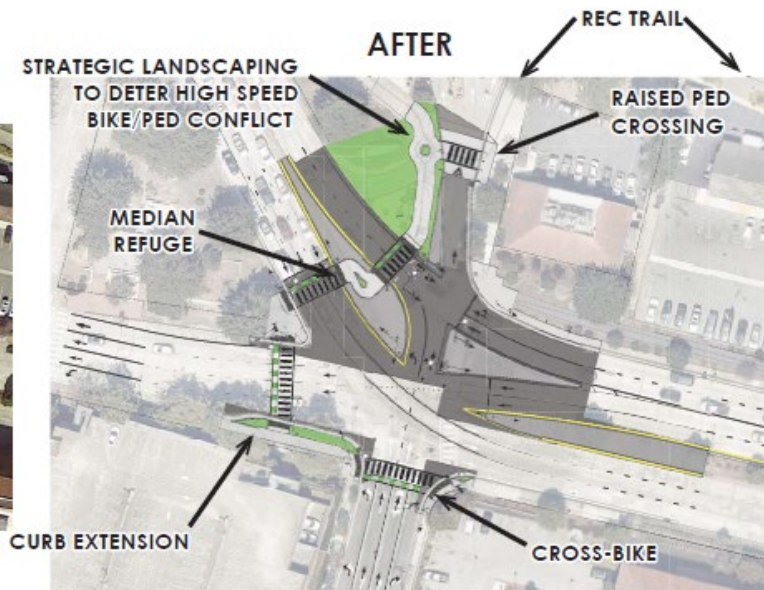


Source: Google Earth, 2018

## Del Monte Intersection Improvements

City of Monterey, California

*ATP Cycle 4 & 6 Del Monte/Camino El Estero Design*

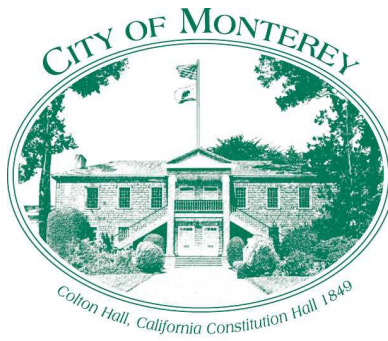


Source: Google Earth, 2018

## Del Monte Intersection Improvements

City of Monterey, California

*ATP Cycle 4 & 6 Del Monte/Washington Design*



# Measure X Project Report

## December, 2022

### Measure X Munras Avenue and Webster Street Underground Infrastructure Rehabilitation

This project is a characteristic example of using Measure X funding to support the maintenance and repair of Critical Signal Infrastructure to enhance the quality of transportation in Monterey County.

Due to its historical character, City of Monterey has a unique transportation network. The intersection of Munras Avenue and Webster Street is a critical intersection in the transportation network and the major southern entrance into Downtown Monterey. This intersection is the primary response route for City Emergency Services and serves the Monterey Transit Plaza, which is the City's main transfer station for Monterey Salinas Transit Bus Routes.

The last major improvement to the intersection of Munras Avenue and Webster Street was in 1972 and it is well beyond its expected useful life of 30 – 40 years. The intersection was predominantly constructed using galvanized steel conduit and the underground substructure has degraded with rusted conduits, broken pull boxes, and corroded conductors. The age and quality of the equipment no longer meets local utility provider standards and will not be served by them in the event of failure.

The controller cabinet that houses the traffic signal controller is the brain of a traffic signal. The current cabinet size cannot fit battery back up systems, video detection CCU and other upgraded hardware, reducing the resiliency of the intersection. The size of the new cabinet cannot fit in the prior location or it would preclude ADA improvements, so the service cabinet and controller cabinet had to be relocated to another corner with more space.

The upgrades to the underground infrastructure will provide enough space in the conduit to support the wiring for new pedestrian push buttons, video detection system, pedestrian signal

heads, and traffic signal heads. The Adaptive Signal System has not been implemented at the intersection of Munras Avenue and Webster Street due to the age of equipment and lack of video detection equipment. These upgrades will allow for the deployment of SCOOT at the intersection.

The project kicked off in late spring 2022; however construction was delayed until the fall to minimize interference with tourism traffic. The project construction started in September 2022 and was not billed during the 2022 fiscal year.

After relocating the cabinet and the underground infrastructure, the ADA upgrades to the intersection of Munras and Webster are anticipated to start Spring 2023.



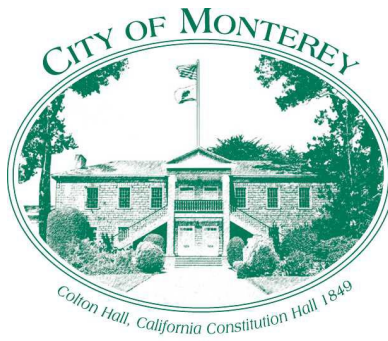
*Intersection of Munras and Webster, 2021*



*During Construction on Munras Avenue at Webster Street, 2022*



*During Construction on Munras Avenue at Webster Street, 2022*



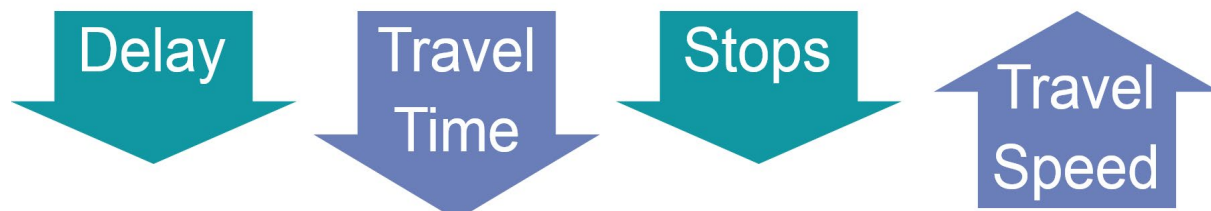
# Measure X Project Report

## December, 2022

### Measure X Citywide Traffic Signal Adaptive System

The City of Monterey experiences significant and unpredictable arterial roadway congestion, which creates inefficient traffic flow resulting in considerable emissions of pollutants and particulate matter. This degrades quality of life as well as air quality.

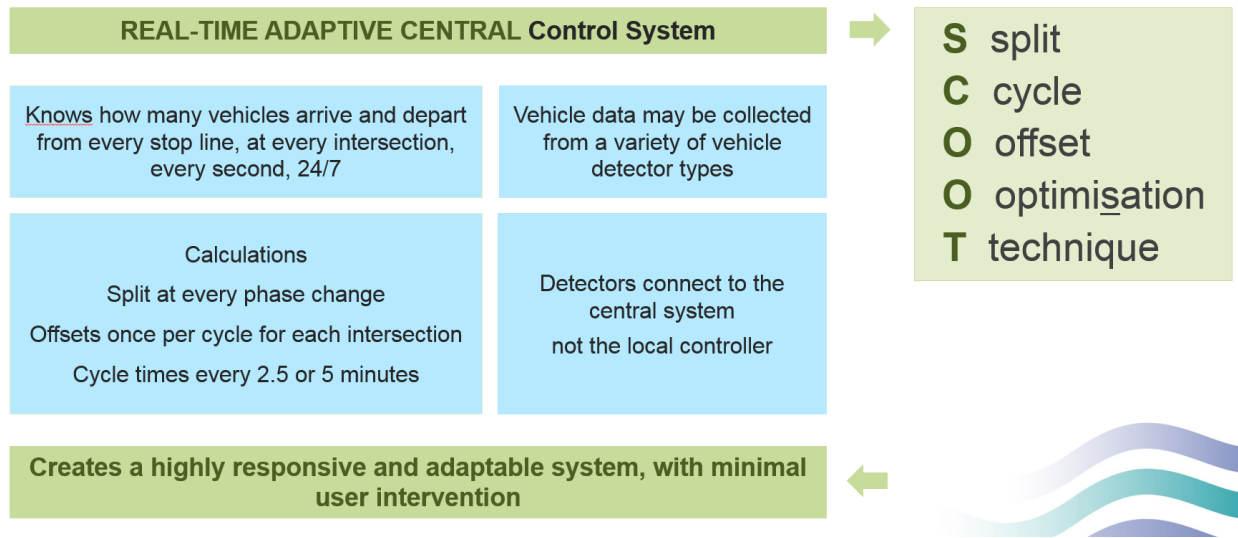
#### Objectives



Adaptive traffic control systems are the latest technology for improving traffic conditions by better synchronizing and controlling traffic signals. The system uses vehicle detection and artificial intelligence software to respond accurately and immediately to real-time traffic conditions. This enables the system to use green light time efficiently and to progress traffic through a corridor with few or no stops, and therefore less fuel consumed and fewer emissions. By eliminating idling due to stops and the resulting acceleration, vehicles burn less fuel and expel fewer pollutants and particulate matter. There are also travel time, quality of life, economic, and safety benefits from the system. The system consists of installing additional video vehicle detection and in-cabinet processors as well as software and engineering services.

City of Monterey staff extensively researched the different adaptive systems and based on a study of 12 different systems, conducted by Kimley Horn and Associates, the City chose to deploy the SCOOT (Split Cycle Offset Optimization Technique) system.

**SCOOT is the network-wide adaptive traffic control solution chosen for the City of Monterey**



This ongoing project has been funded through Measure X, Monterey Bay Air Resources District’s Emissions reduction grant, City of Monterey Neighborhood Capital Improvement Program and Regional Surface Transportation Program. Staff has applied for competitive grants to fund all of these efforts. By combining multiple sources of funding and leveraging Measure X dollars, staff has been able to fund the system implementation resulting in cost and time savings. By managing this large project in house, the City has been able to efficiently implement necessary equipment upgrades, fiber optic communication installation and install the adaptive system. By eliminating mark up costs and profit margins, staff estimates a cost savings of over \$700,000 for this Citywide Project.

The system uses green time efficiently and progresses traffic through a corridor with few or no stops, and therefore less fuel consumed and fewer emissions. By eliminating idling due to stops and the resulting acceleration, vehicles burn less fuel and expel fewer pollutants and particulate matter. The system, when completed along Lighthouse, Del Monte and North Fremont, Munras, Foam, Pacific and Franklin, will result in a yearly reduction of **20 tons** of criteria pollutants (NOx, ROG and PM).



Between 2016 and 2019, the following intersections were running adaptive control:

- Lighthouse and Reeside
- Lighthouse and Dickman
- Lighthouse and Drake
- Lighthouse and McClellan
- Lighthouse and Hoffman
- David and Hawthorne
- Lighthouse and David
- Lighthouse and Irving
- Lighthouse and Prescott
- Del Monte and Washington
- Del Monte and Figueroa
- Del Monte and Camino El Estero
- Del Monte and Camino Aguajito
- Del Monte and Sloat
- Del Monte and NPS
- Del Monte and Casa Verde
- Del Monte and English

In 2020, the North Fremont Corridor was completed:

- North Fremont and Casa Verde
- North Fremont and Airport/Dela Vina
- North Fremont and Ramona
- North Fremont and Casanova

In 2021, we also completed the installation of Scoot on the Munras/Fremont and Foam corridors:

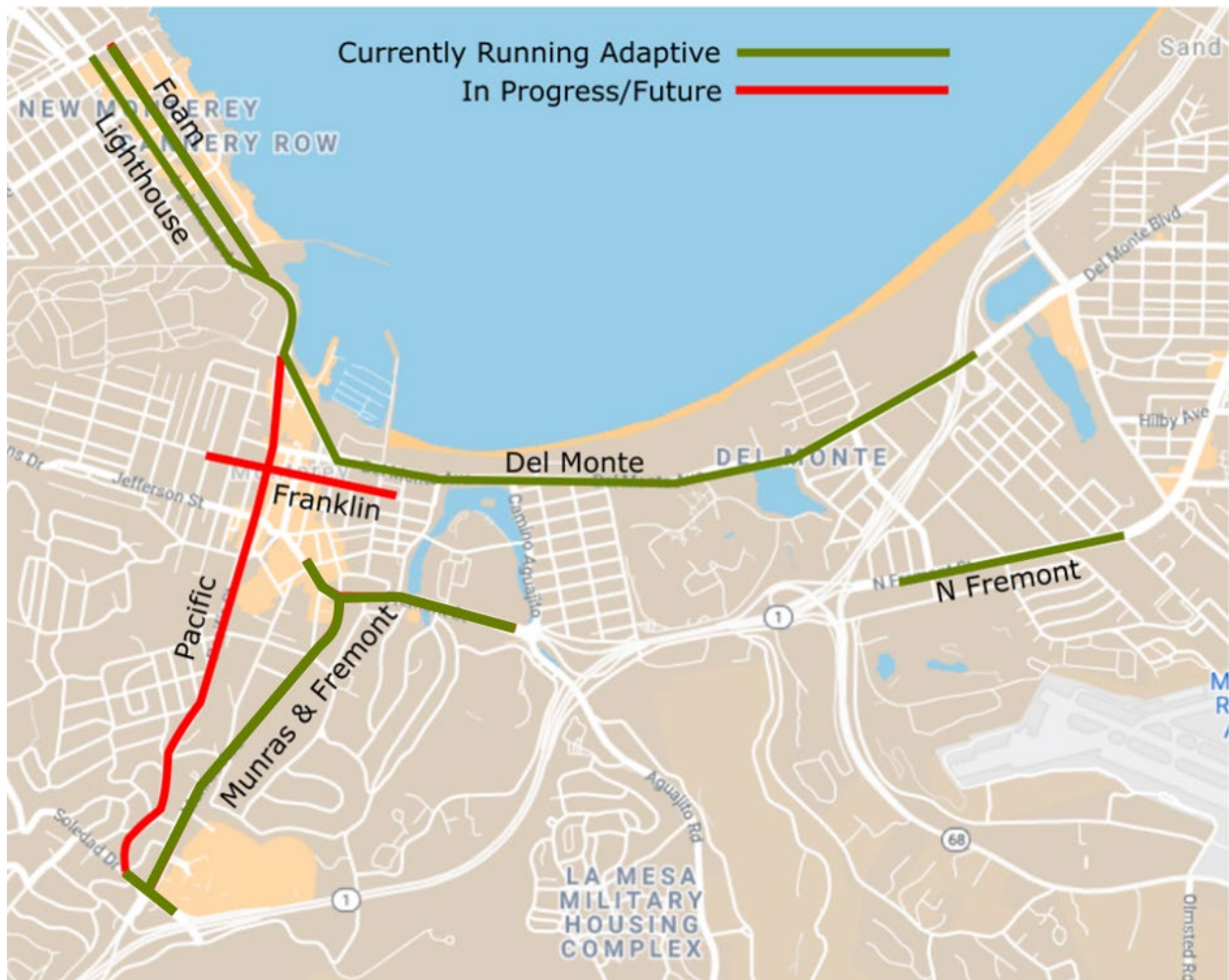
- Munras and El Dorado
- Munras and Del Monte Center North
- Munras and Del Monte Center South
- Munras and Soledad
- Soledad and Pacific
- Fremont and Abrego
- Fremont and Camino El Estero
- Foam and Cannery Row
- Foam and Reeside
- Foam and Drake
- Foam and Hoffman
- Foam and Prescott
- Foam and Irving
- Foam and David

The City is has installed video detection equipment and activated fiber communication to the corridor. The implementation to the Adaptive Signal System on the Pacific corridor is anticipated to start in late January 2023:

- Pacific and Scott
- Pacific and Franklin
- Pacific and Jefferson
- Pacific and Madison
- Pacific and El Dorado/Martin

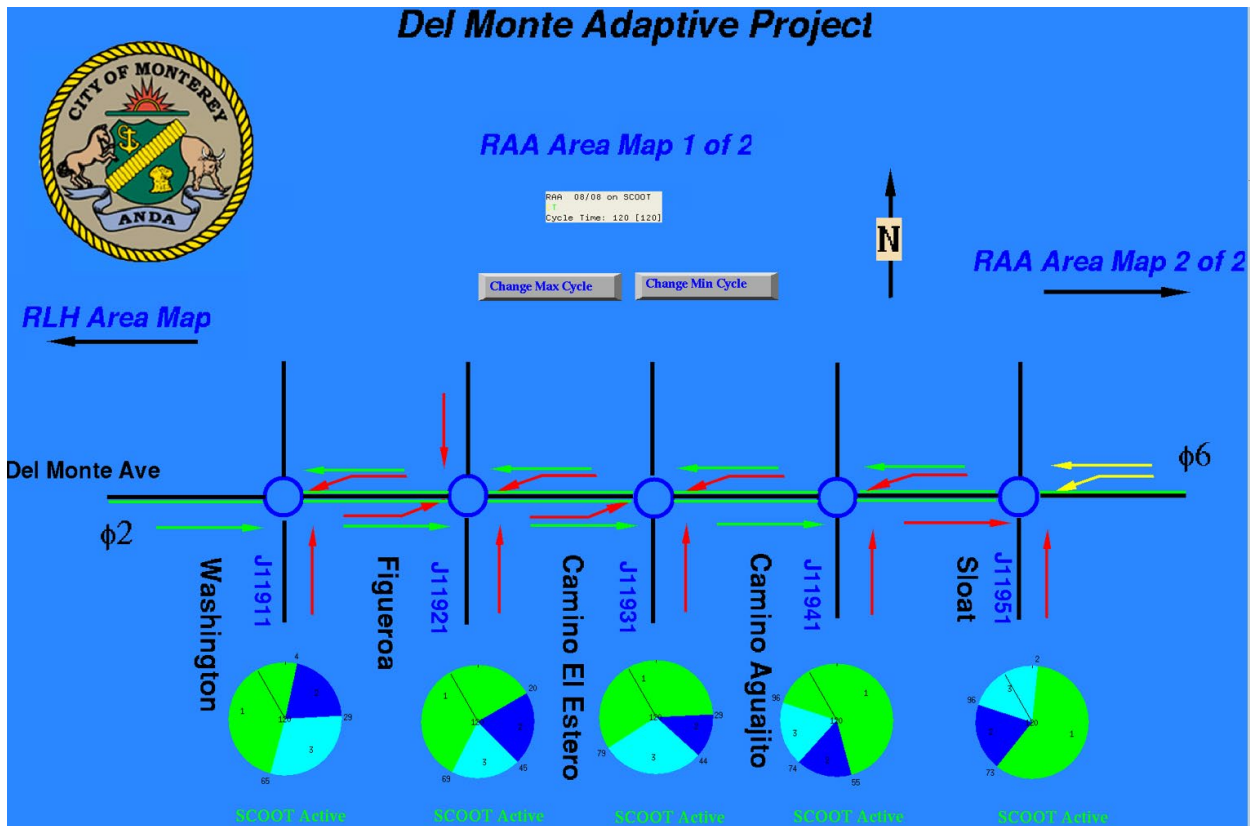
The City is preparing to install the Adaptive Signal System on the Franklin and Pacific corridors starting in March 2023:

- Franklin and Van Buren
- Franklin and Calle Principal
- Franklin and Alvarado
- Franklin and Tyler
- Franklin and Washington
- Franklin and Figueroa



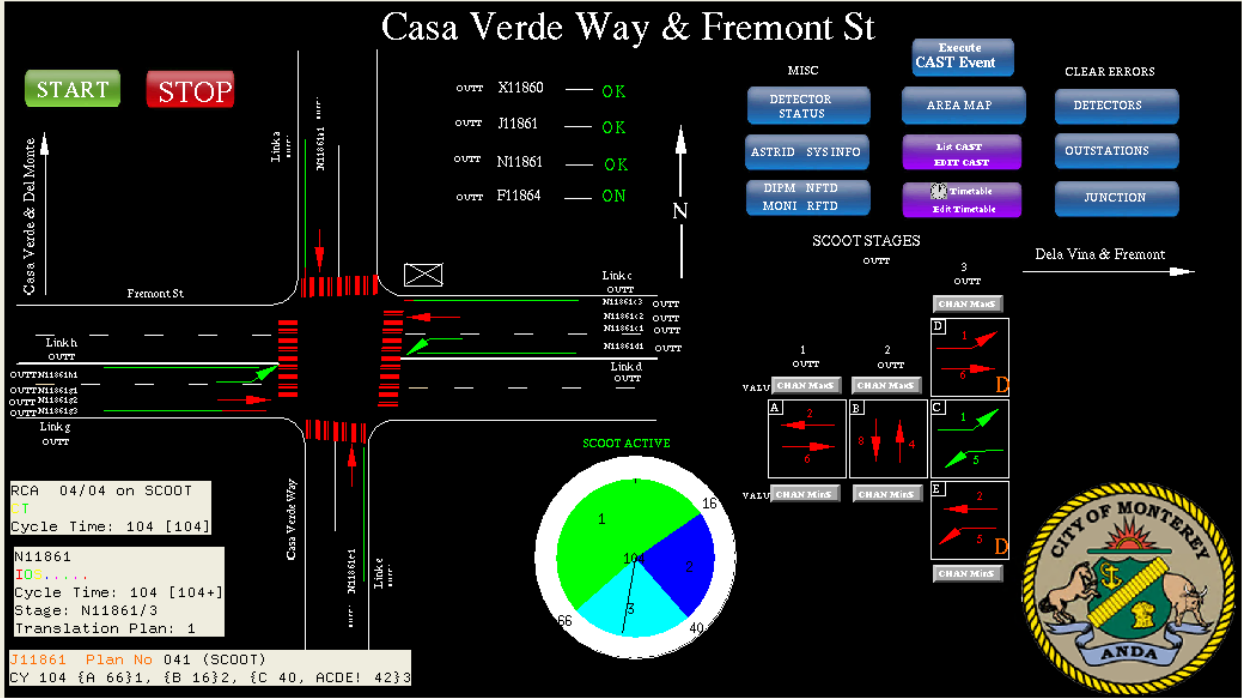
In order to implement the SCOOT system at additional intersections, existing traffic signal equipment has and will have to be upgraded (cabinets, controllers and communications) and new vehicle detection will need to be installed. Measure X funding was used to upgrade outdated and failing equipment to improve the reliability of the City's traffic signal system.

The SCOOT system also is completely compatible with the SIEMENS TACTICS central system that the City of Monterey uses to manage their signal system.



SCOOT requires both software and hardware asset installation and construction and the project included such assets as:

- Video detection on all approaches of all eight intersections
- Cabinet upgrades
- Controller and/or software (SEPAAC 5.0) upgrades
- SCOOT expansion licenses
- Urban Traffic Control database programming
- SCOOT database programming
- SCOOT Communication Server programming
- Calibration, Validation and Fine tuning of the adaptive model



Coordinated traffic signals on the corridor will benefit all modes of travel by improving traffic flow and maintaining more consistent travel speeds. MST has a BRT service on Lighthouse and North Fremont that will also greatly benefited from this project and offer a substantial savings for bus travel, improving the ability for travelers to reach the corridor on modes other than via automobile. This system will also benefit the future SURF line on Del Monte Avenue.



New Video detection on N Fremont

The City of Monterey has been so successful in installing the adaptive system in a cost effective and efficient manner that we received yet another grant from the Monterey Bay Air District in the amount of \$382,000 in order to implement the same system on the Foam and Munras corridors. And in 2021, the City applied for and received another AB2766 Grant in the amount of \$400,000 for Pacific and Franklin.

This project has progressed in 2022, however the majority of funds expended during 2022 were Regional Surface Transportation Grant Program funds. Delays occurred in 2022 rolling out the Pacific and Franklin due to both supply chain issues and issues with bringing communication to the Pacific Corridor. The Traffic Adaptive Signal System relies on fiber communication, which must be installed and tested by the City's telecommunication utility partners.

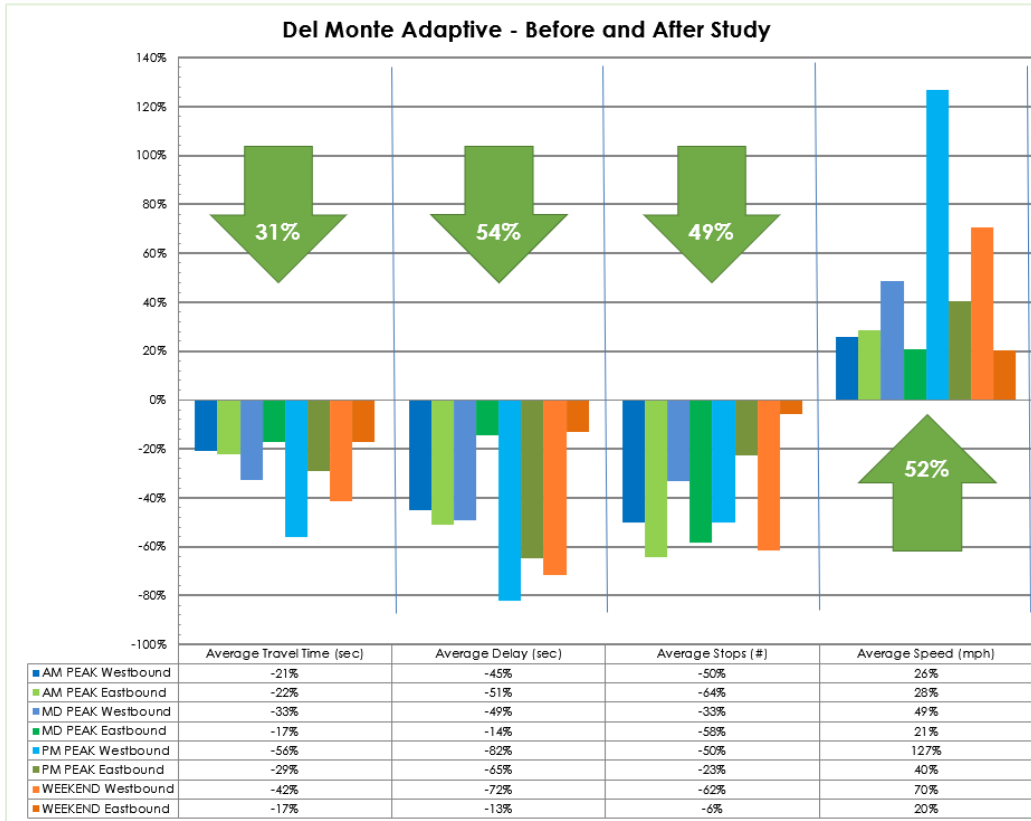


*New Video detection on Pacific*

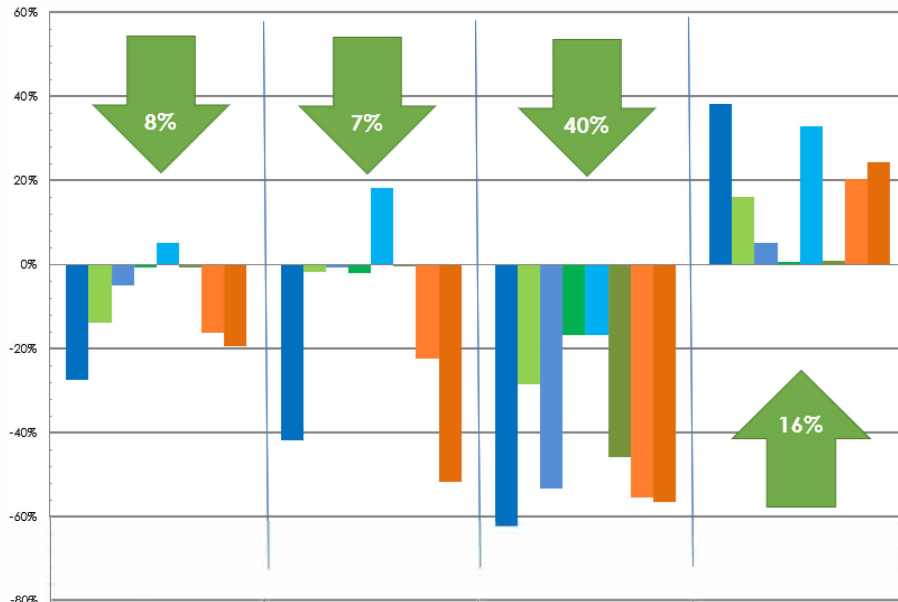
The Franklin Corridor will also require substantial upgrades and entirely new communication infrastructure due to its age. The City has been developing a plan to strategically bring communication prior to implementing the Adaptive Signal System to the half-mile long corridor.

In early 2023, the City will be conducting a before/after study on the Munras/Foam Corridor studying the benefits of the SCOOT Adaptive Signal System.

Results from the prior studies on Lighthouse, Del Monte, and North Fremont revealed the following data:



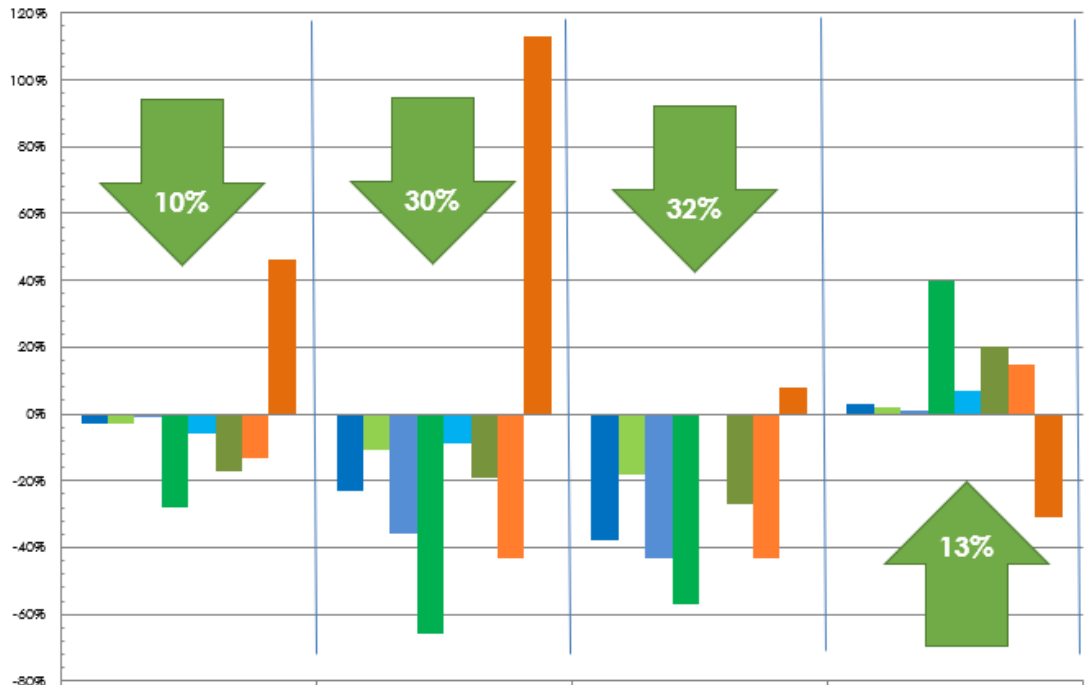
### North Fremont Adaptive - Before and After Study



	Average Travel Time (sec)	Average Delay (sec)	Average Stops (#)	Average Speed (mph)
AM PEAK Westbound	-27%	-42%	-63%	38%
AM PEAK Eastbound	-14%	-2%	-29%	16%
MD PEAK Westbound	-5%	-1%	-53%	5%
MD PEAK Eastbound	-1%	-2%	-17%	1%
PM PEAK Westbound	5%	18%	-17%	33%
PM PEAK Eastbound	-1%	0%	-46%	1%
WEEKEND Westbound	-16%	-22%	-56%	20%
WEEKEND Eastbound	-19%	-52%	-57%	24%



### Lighthouse Adaptive - Before and After Study



	Average Travel Time (sec)	Average Delay (sec)	Average Stops (#)	Average Speed (mph)
AM PEAK Northbound	-3%	-23%	-38%	3%
AM PEAK Southbound	-3%	-11%	-18%	2%
MD PEAK Northbound	-1%	-36%	-43%	1%
MD PEAK Southbound	-28%	-66%	-57%	40%
PM PEAK Northbound	-6%	-9%	0%	7%
PM PEAK Southbound	-17%	-19%	-27%	20%
WEEKEND Northbound	-13%	-43%	-43%	15%
WEEKEND Southbound	46%	113%	8%	-31%