

ACTIVE TRANSPORTATION PROGRAM

CYCLE 1
APPLICATION
PART 1 AND PART 2

City of Stockton Bicycle Master Plan Update

For Caltrans use only: TAP STP RTP SRTS SRTS-NI SHA
 DAC Non-DAC Plan

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I. GENERAL INFORMATION

Project name: Bicycle Master Plan Update

(fill out all of the fields below)

1. APPLICANT (Agency name, address and zip code) City of Stockton, 22 E Weber Ave. Rm 301, Stockton CA 95204	2. PROJECT FUNDING ATP funds Requested \$ _____ 550,000.00 Matching Funds \$ _____ (If Applicable) Other Project funds \$ _____ TOTAL PROJECT COST \$ _____ 550,000.00
3. APPLICANT CONTACT (Name, title, e-mail, phone #) Sharla Hardy, Assistant Engineer, sharla.hardy@stocktongov.com, (209) 937-8374	5. PROJECT COUNTY(IES): <p style="text-align: center;">San Joaquin County</p>
4. APPLICANT CONTACT (Address & zip code) 22 E Weber Ave. Rm 301, Stockton CA 95204	7. Application # <u>5</u> of <u>19</u> (in order of agency priority)
6. CALTRANS DISTRICT #- Click Drop down menu below District 10	

Area Description:

8. Large Metropolitan Planning Organization (MPO)- Select your "MPO" or "Other" from the drop down menu>	SJCOG San Joaquin Council of Governemnts
9. If "Other" was selected for #8- select your MPO or RTPA from the drop down menu>	
10. Urbanized Area (UZA) population (pop.)- Select your UZA pop. from drop down menu>	Within a Large MPO (Pop > 200,000)

Master Agreements (MAs):

11. Yes, the applicant has a FEDERAL MA with Caltrans. 10-5008R

12. Yes, the applicant has a STATE MA with Caltrans. 00149S

13. If the applicant does not have an MA. Do you meet the Master Agreement requirements? Yes No
 The Applicant MUST be able to enter into MAs with Caltrans

Partner Information:

14. Partner Name*:	15. Partner Type
16. Contact Information (Name, phone # & e-mail)	17. Contact Address & zip code

Click here if the project has more than one partner; attach the remaining partner information on a separate page

*If another entity agrees to assume responsibility for the ongoing operations and maintenance of the facility, documentation of the agreement must be submitted with the application, and a copy of the Memorandum of Understanding or Interagency Agreement between the parties must be submitted with the request for allocation.

Project Type: (Select only one)

18. Infrastructure (IF) 19. Non-Infrastructure (NI) 20. Combined (IF & NI)

Project name: Bicycle Master Plan Update

I. GENERAL INFORMATION-continued

Sub-Project Type (Select all that apply)

21. Develop a Plan in a Disadvantaged Community (select the type(s) of plan(s) to be developed)
 Bicycle Plan Safe Routes to School Plan Pedestrian Plan
 Active Transportation Plan

(If applying for an Active Transportation Plan- check any of the following plans that your agency already has): **Existing Bike Plan is expired.**

- Bike plan Pedestrian plan Safe Routes to School plan ATP plan

22. Bicycle and/or Pedestrian infrastructure
Bicycle only: Class I Class II Class III
Ped/Other: Sidewalk Crossing Improvement Multi-use facility

Other:

23. Non-Infrastructure (Non SRTS)
24. Recreational Trails*- Trail Acquisition
- *Please see additional Recreational Trails instructions before proceeding**
25. Safe routes to school- Infrastructure Non-Infrastructure

If SRTS is selected, provide the following information

26. SCHOOL NAME & ADDRESS:

27. SCHOOL DISTRICT NAME & ADDRESS:

28. County-District-School Code (CDS)	29. Total Student Enrollment	30. Percentage of students eligible for free or reduced meal programs **
31. Percentage of students that currently walk or bike to school	32. Approximate # of students living along school route proposed for improvement	33. Project distance from primary or middle school

**Refer to the California Department of Education website: <http://www.cde.ca.gov/ds/sh/cw/filesafdc.asp>

- Click here if the project involves more than one school; attach the remaining school information including school official signature and person to contact, if different, on a separate page

III. SCREENING CRITERIA

1. Demonstrated Needs of the Applicant

An efficient and complete Bicycle Network contributes many things to a community. It can reduce vehicle travel, thereby decreasing air pollution, greenhouse gas emissions, fuel consumption and costs, and road maintenance and repair costs. Increased cycling promotes public health by increasing exercise, which is known to contribute to lower obesity, heart disease, and diabetes rates. Cycling also helps maintain livable communities, making neighborhoods safer and friendlier. Because it is a cheap form of transportation, providing bicycle access will ensure that disadvantaged communities are provided with access to essential services and utilities. And increased walkability and bicycle access can stimulate the local economy.

The City of Stockton's first Bicycleway Plan was written in 1980. A new Bicycle Facilities Master Plan was written in 1994, updated in 1999, and amended through 2005. In 2007 it was updated to conform with Bicycle Transportation Account requirements as a Bicycle Master Plan (BMP). Bicycle Master Plans require updating every five years. The current BMP is overdue for an update. Since the last update, development goals have changed, populations and traffic patterns have shifted, and many street configurations have been modified. Currently when funds for bicycle projects are available, it is hard to identify a feasible project using the current BMP although the Bicycle Network is only half completed.

2. Consistency with Regional Transportation Plan (100 words or less)

Explain how this project is consistent with your Regional Transportation Plan (if applicable). Include adoption date of the plan.

The project is consistent with the San Joaquin Regional Transportation Plan (RTP) 2011, adopted July 22, 2010 by the San Joaquin Council of Governments (SJ COG), which

includes a Bicycle and Pedestrian Action Element. The pending 2014 RTP and Sustainable Communities Strategy (RTP/SCS) expands regional investment in bike lanes, sidewalks, and streetscapes. The RTP/SCS is a comprehensive long-range regional transportation planning document that is scheduled to be adopted by the SJ COG Board in June 2014.

The project will assist SJ COG in meeting its goal of reduced auto trips and increased bicycle and walking trips. A letter of support from SJ COG is included in this application.

IV. NARRATIVE QUESTIONS

1. POTENTIAL FOR INCREASED WALKING AND BICYCLING, ESPECIALLY AMONG STUDENTS, INCLUDING THE IDENTIFICATION OF WALKING AND BICYCLING ROUTES TO AND FROM SCHOOLS, TRANSIT FACILITIES, COMMUNITY CENTERS, EMPLOYMENT CENTERS, AND OTHER DESTINATIONS; AND INCLUDING INCREASING AND IMPROVING CONNECTIVITY AND MOBILITY OF NON-MOTORIZED USERS. (0-30 POINTS)

A. Describe how your project encourages increased walking and bicycling, especially among students.

The currently planned Bicycle Network is only half completed and many of the remaining proposed network segments have obstacles to construction. A constructible bicycle network will facilitate build out of a complete network and the new design will prioritize segments that provide a safe route to schools. Cyclists, students especially, are more likely to travel by bike if a dedicated bicycle facility is available.

B. Describe the number and type of possible users and their destinations, and the anticipated percentage increase in users upon completion of your project. Data collection methods should be described.

According to the 2000 Census, 1.0% of Stockton's commuters bicycle to work, with an assumed similar percentage cycling for other purposes. The 2000 population was 244,283. A 2% cycling rate means that about 7,300 people cycled regularly.

The City of Stockton's Climate Action Plan (2014) estimates that 15,520 vehicle miles per day would be diverted to bicycle travel miles if a well-designed Bicycle Network were constructed (see Attachment C for calculation methods). If the average bicycle trip is 1.5* miles, this represents 10,350 additional trips per day or an increase of

211%. A usable bicycle network design is critical to the eventual achievement of this benefit. We propose that this project represents 5% of the benefit of a completed bicycle network, or the equivalent of a 10.5% increase in ridership. This is a virtual or statistical benefit, the actual benefit will be realized after build out.

*Figure taken from the California DOT 2010-2012 California Household Travel Survey.

- C. Describe how this project improves walking and bicycling routes to and from, connects to, or is part of a school or school facility, transit facility, community center, employment center, state or national trail system, points of interest, and/or park.

The updated Bicycle Network will be designed to prioritize connections to schools, transit connections and hubs, community centers, employment centers, recreational facilities and other activity centers.

- D. Describe how this project increases and/or improves connectivity, removes a barrier to mobility and/or closes a gap in a non-motorized facility.

Many of the proposed future segments in the currently proposed Bicycle Network are not constructible due to physical or political barriers. Redesigning the bicycle network from scratch is the only way to close the gaps in the current network and provide city-wide connectivity.

- Projects with significant potential- 21 to 30 points
- Projects with moderate potential- 11 to 20 points
- Projects with minimal potential- 1 to 10 points
- Projects with no potential- 0 points

IV. NARRATIVE QUESTIONS- continued

2. POTENTIAL FOR REDUCING THE NUMBER AND/OR RATE OF PEDESTRIAN AND BICYCLIST FATALITIES AND INJURIES, INCLUDING THE IDENTIFICATION OF SAFETY HAZARDS FOR PEDESTRIANS AND BICYCLISTS. (0-25 POINTS)

- A. Describe the potential of the project to reduce pedestrian and/or bicycle injuries or fatalities.

The updated Bicycle Network will prioritize locating bicycle facilities away from arterial streets, reducing the risk of collisions. We use collision data to identify any engineering countermeasures that could decrease collision risks.

The Bicycle Master Plan will include safety education elements for school children, adult cyclists, and drivers to increase awareness of cyclists on the road and their rights and responsibilities. Advertising the public outreach part of the network redesign will also increase awareness.

B. Describe if/how your project will achieve any or all of the following:

- Reduces speed or volume of motor vehicles
- Improves sight distance and visibility
- Improves compliance with local traffic laws
- Eliminates behaviors that lead to collisions
- Addresses inadequate traffic control devices
- Addresses inadequate bicycle facilities, crosswalks or sidewalks

If the build out of the redesigned bicycle network increases bicycling by 211%, it will be decreasing the volume of motor vehicle traffic. The education components identified and promoted by the updated Bicycle Master Plan will improve compliance with traffic laws and reduce behaviors that can lead to collisions. The project will identify key conflict points between bicycles and motor vehicles, allowing MUTCD compliant devices to be installed at these locations. The current bicycle network is inadequate because many remaining segments are unfeasible to build. The redesign will allow us to begin to fill gaps, producing city-wide connections.

C. Describe the location's history of events and the source(s) of data used (e.g. collision reports, community observation, surveys, audits) if data is not available include a description of safety hazard(s) and photos.

See Attachment D for Collision Data and Maps from the Transportation Injury Mapping System's (TIMS) Statewide Integrated Traffic Records System (SWITRS) and Safe Routes to School (SRTS) databases. The SWITRS collision data for 2011 is on a spreadsheet and the SRTS data for 2007-2009 is presented in a map. The data presented is limited to bicycle and pedestrian collisions and represents the most recent data available. The SWITRS spreadsheet shows 226 bicycle and pedestrian collisions that resulted in injury or fatality in 2011.

- Projects with significant potential- 16 to 25 points
- Projects with moderate potential- 8 to 15 points
- Projects with minimal potential- 1 to 7 points
- Projects with no potential- 0 points

IV. NARRATIVE QUESTIONS- continued

3. PUBLIC PARTICIPATION and PLANNING (0-15 POINTS)

- A. Describe the community based public participation process that culminated in the project proposal or plan, such as noticed meetings/public hearings, consultation with stakeholders, etc.

The decision to redesign the bicycle network and update the Bicycle Master Plan was made by Public Works staff in response to concerns and requests received by groups and individuals seeking to improve bike facilities citywide. This includes the San Joaquin Bicycle Coalition, Safe Old Stockton, Downtown Stockton Alliance, and citizen bike advocates.

The creation of the original Bicycle Master Plan (1994) and the most recent update (2007) included public outreach and public hearings.

- B. Describe the local participation process that resulted in the identification and prioritization of the project:

This project was identified through the public outreach efforts that have been conducted while during the design phase of recent projects from the existing plan. The Sutter Bicycle and Pedestrian Bridge Project, in particular, required multiple neighborhood meetings and in the end neighborhood resistance caused the loss of a critical north-south segment of the bicycle network.

Public Works Staff have also met with cycling advocates and groups such as the San Joaquin Bicycle Coalition to discover the concerns of active cyclists and to discuss the feasibility of future bicycle facilities as listed in the current master plan. In addition, residents have used the Ask Stockton web forms to request the addition of specific segments to the current master plan. Many of these segments are well thought out, with identified user groups and targeted activity center destinations.

The participation processes for developing previous Bicycle Master Plans were intense. We anticipate that the outreach for this iteration of the Bicycle Master Plan will be even more intense as we address deficiencies in the current plan and seek to overcome them. See Attachment F – Documentation of Public Participation for excerpts from The Bicycle Facility Master Plan (Bikeway Plan), 1994, and the Bicycle Master Plan, 2007, detailing the cooperative creation of the plans and the public outreach methods that were used.

The most recent update was made in coordination with the city's General Plan, which ensured that it got public attention. This update will be made in coordination with amendments to the General Plan, which we anticipate will also generate interest.

C. Is the project cost over \$1 Million? Y/N N

If Yes- is the project Prioritized in an adopted city or county bicycle transportation plan, pedestrian plan, safe routes to school plan, active transportation plan, trail plan, circulation element of a general plan, or other publicly approved plan that incorporated elements of an active transportation plan? Y/N

- Projects with substantial participation of community members- 11 to 15 points
- Projects with moderate participation of community members - 6 to 10 points
- Projects with minimal participation of community members- 1 to 5 points
- Projects with no participation of community members- 0 points

IV. NARRATIVE QUESTIONS- continued

4. COST EFFECTIVENESS (0-10 POINTS)

A. Describe the alternatives that were considered. Discuss the relative costs and benefits of all the alternatives and explain why the nominated one was chosen.

Since the current Bicycle Master Plan is not only out of date but deficient, the only possible alternative is to continue with an increasingly irrelevant plan or to perform a perfunctory update that does not address core deficiencies. Proceeding with a useless plan has no direct cost, but the indirect costs are unsupportable. Performing a perfunctory update would probably cost well over a hundred thousand dollars and would be of very little benefit.

The only real choice is to do a major overhaul of the Bicycle Master Plan, including redesigning the bicycle network. This will require a great deal of public outreach and may require significant work to gain the political support to remove parking, narrow lanes, remove center double left turn lanes, or otherwise change streets where necessary. But there is nothing to be gained by listing future facilities that will never be built.

- B. Calculate the ratio of the benefits of the project relative to both the total project cost and funds requested (i.e., $\frac{Benefit*}{Total\ Project\ Cost}$ and $\frac{Benefit*}{Program\ Funds\ Requested}$).

*Benefits must directly relate to the goals of the Active Transportation Program.

- Applicant considers alternatives and exceptionally justifies the project nominated - 5 points
- Applicant considers alternatives and adequately justifies the project nominated - 3 to 4 points
- Applicant considers alternatives and minimally justifies the project nominated - 1 to 2 points
- Applicant did not consider alternatives or justify the project nominated - 0 points

- Applicant logically described how project benefits were quantified and has a benefit-cost ratio greater than 1 - 5 points
- Applicant logically described how project benefits were quantified and has benefit-cost ratio less than 1- 3 points
- Applicant did not logically describe how project benefits were quantified - 0 points

The project will decrease vehicle traffic and increase walking and cycling.

Decreasing the vehicle traffic will:

- Decrease greenhouse gas emissions and sequester carbon dioxide,
- Decrease air pollution,
- Decrease road maintenance and repair
- Decrease fuel costs.

Increasing walking and cycling will:

- Decrease obesity, heart disease and diabetes rates and
- Energize students before class, increasing their level of achievement

Providing bicycle segments away from arterial streets will reduce collisions.

Greenhouse Gas Reduction. Reducing vehicle miles traveled will reduce greenhouse gas (GHG) emissions and may reduce the rate of climate change. One vehicle mile traveled (VMT) produces one pound of CO₂e.

The City of Stockton's Climate Action Plan (2014) estimates that 15,520 vehicle miles per day would be diverted to bicycle travel miles if a well-designed Bicycle Network were constructed (see Attachment C for calculation methods). Although a usable bicycle network design is critical to the eventual achievement of this benefit, we propose that this project represents 5% of the benefit, or the equivalent of 776 vehicle miles per day or 283,240 miles reduced per year. The actual, full benefit will be realized after build out.

Per the EPA, the value of reducing greenhouse gas emissions for a project completed in 2015 with an available interest of 3% is \$39 per metric ton per year or \$0.02 per pound per year. This is a benefit of \$28,324 over the life of the project, which is stipulated to be only 5 years, the time until the next required BMP update, rather than the 15 or 20 years that the constructed facilities will last.

Also, trees sequester carbon dioxide, and aligning the BMP with the city's Complete Streets documents will require that greenscapes be installed along some Class I bike paths. Using the urban greening calculation wizard (see Attachment E), and assuming that the plan's functional portion of additional trees is 160, the value of carbon dioxide sequestered is 41.2 metric tons of CO₂, or \$118 over 5 years. Adding the two types of greenhouse gas savings yields **\$28,442 total greenhouse gas benefit.**

Air Pollution Reduction. Using the CMAQ formulas, we can also calculate the reduction of air pollutants (see Attachment E). The project will cause a reduction of 449

pounds of pollutants per year or 2243 pounds over the life of the project. There have been many studies on the social cost of air pollution, with differing benefit values. Averaging the estimates gives a value of \$14,000 per ton or \$7 per pound. Using that value, the project benefit will be \$3,140 per year or **\$15,700 total air pollution benefit.**

Road Maintenance. There are many studies that assess the cost of road maintenance and repair per vehicle mile driven. Since this cost varies by location, we chose an amount of 0.20 cents per mile, the lowest result given for cars, to be conservative. Reducing the VMT by 776 miles per day or 283,240 miles per year will result in a maintenance savings of \$566 per year or **\$2832 total road maintenance benefit.**

Fuel Costs. Using 20 miles per gallon as an average for mixed year cars and trucks, the cost savings for diverted MVT is 0.05 gallons per mile. Current gas prices are around \$4 per gallon, for a savings of \$0.20 per mile. Reducing the VMT by 776 miles per day or 283,240 per year will result in a fuel savings of \$56,648 per year or **\$283,240 total fuel benefit.**

Public Health Improvement. It is difficult to calculate a dollar value for the increase in public health due to increased exercise. Physical activity improves your chance of living longer and living healthier in many ways (see question 5).

The CDC has calculated that increased exercise would cut yearly medical costs in the US by more than \$70 billion. Since the population of the US is 313.9 million, that is a savings of \$223 per active person, per year.

The vehicle miles diverted (VMD) for the project does not directly correlate to numbers of active people, but health advisers suggest that walking 2.5 hours per week at a brisk pace (or 2.25 miles of brisk walking) is enough to be active. Cyclists require a greater number of miles per day, but they are also likely to take longer trips.

We propose that 2.25 miles per week, 52 weeks a year, represents one additional active person per year. Multiplying it out ($2.25 \times 52 = 117$) shows that one statistical active person per year is achieved for every 117 vehicle miles diverted in that year.

The project has been assigned a value of 776 miles per day or 283,240 vehicle miles per year diverted from motorized to non-motorized travel. Dividing that by 117 vehicle miles per active person yields 2421 additional active people, or \$539,851 saved in health care costs per year. Doubling that to represent the increased productivity of the healthier people yields \$1,079,701 total health benefits per year or **\$5,398,506 total health benefits due to exercise** over the life of the project.

Energize Students. Although many studies have shown that students who walk or bike to school are, on average, more energized and productive, it is difficult to place a price on that increase.

Reduced Collisions. There were 116 bicycle collisions in Stockton in 2011 (see Attachment D), resulting in 115 injuries and 1 fatality (non-injury collisions were not tallied). If accidents could be cut by 10%, that would be a collision reduction of 11.5 per year or 58 over 5 years. Assuming that each injury collision averages \$1000 of repairs, pain and suffering, and medical costs, the savings per year from reduced collisions will be \$11,500 or \$57,500 over the life of the project.

Vehicle accidents are also costlier, requiring more costly repairs and likely to cause more serious injuries. Trips made by walking or cycling are therefore shifting collisions to a cheaper category. From the FARS database, there were 1.10 fatalities for every 100,000,000 vehicle miles traveled in 2011. The EPA calculates the value of reduction in risk by calculating Value per Statistical Life (VSL). The VSL per year (of life remaining) is \$293,000, so the value per life depends on age, ranging from \$3 to 5M.

Since younger people are statistically more likely to be involved in accidents, we have chosen \$4.5 million per life. The project is anticipated to reduce VM by 1,416,200, therefore:

$$1.10 \text{ deaths}/100,000,000 \text{ VM} * \$4,500,000/\text{death} = \$0.045/\text{VM}$$

$$1,416,200 \text{ VM} * \$0.045/\text{VM} = \$70,102$$

The savings over the life of the project due to reduction in the risk of motor vehicle collisions will be \$70,102. The **total benefit due to decrease in collision costs is \$127,602.**

Total. Total benefits for the project, rounded to the nearest thousand, are \$6,070,000. Project cost is \$550,000 and program funds requested are \$550,000.

Cost Effectiveness for the project, calculated as the benefit to cost ratio is 11.0.

See Attachment E: Benefits Spreadsheets.

IV. NARRATIVE QUESTIONS- continued

5. IMPROVED PUBLIC HEALTH (0-10 points)

A. Describe how the project will improve public health, i.e. through the targeting of populations who have a high risk factor for obesity, physical inactivity, asthma, or other health issues.

- Applicant exceptionally described how the project will improve public health and addresses high risk populations- 7 to 10 points
- Applicant adequately described how the project will improve public health and addresses high risk populations - 4 to 6 points
- Applicant minimally described how the project will improve public health - 1 to 3 points
- Applicant did not describe how the project will improve public health - 0 points

Increased use of cycling for travel will decrease air pollution. CalEnviroScreen data show significant ozone and particulate matter for many areas in Stockton and, unsurprisingly, a high rate of both asthma and birth weight (see Attachment G). Lowering the air pollution in the city will help decrease those rates for an at-risk population.

Three quarters of Stockton is either in the 5% or 10% most disadvantaged category for CalEnviroScreen. The city's median household income of \$47,246, which is 77% of the median household income for California (\$61,400 – see Attachment H). Poverty has a significant effect on health and on accessibility of health and other services.

Physical activity improves a person's chance of living longer and living healthier and can help ameliorate the effects of poverty. By encouraging increased cycling and walking, the project will contribute to: lower rates of obesity and heart disease, improved heart-lung and muscle fitness; improved sleep; reduced high blood pressure and risk of type 2 diabetes; reduced risk of heart attack, stroke, and some cancers; reduced arthritis pain and disability; reduced risk of osteoporosis and falls; improved cognitive function in older adults; and reduced symptoms of depression and anxiety. Since a 2009 Gallup poll determined that the Stockton Metropolitan Area had a 35% incidence of obesity, there is obviously a significant population that could benefit from an increased opportunity to cycle and walk as a mode of travel.

IV. NARRATIVE QUESTIONS- continued

6. BENEFIT TO DISADVANTAGED COMMUNITIES (0-10 points)

A. I. Is the project located in a disadvantaged community? Y/N

II. Does the project significantly benefit a disadvantaged community? Y/N

a. Which criteria does the project meet? (Answer all that apply)

- Median household income for the community benefited by the project: \$47,246
- California Communities Environmental Health Screen Tool (CalEnvironScreen) score for the community benefited by the project: from 6.85 to 58.75 (see Attachment G)
- For projects that benefit public school students, percentage of students eligible for the Free or Reduced Price Meals Programs: 71.3 %

b. Should the community benefitting from the project be considered disadvantaged based on criteria not specified in the program guidelines? If so, provide data for all criteria above and a quantitative assessment of why the community should be considered disadvantaged.

B. Describe how the project demonstrates a clear benefit to a disadvantaged community and what percentage of the project funding will benefit that community, for projects using the school based criteria describe specifically the school students and community will benefit.

<ul style="list-style-type: none"> • Project clearly and significantly addresses health, safety, and/or infrastructure challenges in the disadvantaged community- 5 points • Project adequately addresses health, safety, and/or infrastructure challenges in the disadvantaged community - 3 points • Project minimally addresses health, safety, and/or infrastructure challenges in the disadvantaged community - 1 point
<ul style="list-style-type: none"> • 80% to 100% of project funding benefits the disadvantaged community- 5 points • 60% to 79% of project funding benefits the disadvantaged community- 4 points • 40% to 59% of project funding benefits the disadvantaged community- 3 points • 20% to 39% of project funding benefits the disadvantaged community- 2 points • 1% to 19% of project funding benefits the disadvantaged community- 1 point • 0% of project benefits the disadvantaged community- 0 points

A constructible Bicycle Master Plan will lead to the build out of an efficient bicycle network, providing disadvantaged neighborhoods in Stockton with connections to necessary services and increasing their mobility. The mean household income for Stockton is 77% of California’s mean household income. Eight out of thirteen zip codes serving the City of Stockton are in a higher than 50% percentile in the CalEnviroScreen scoring system. On the CalEnviroScreen map, nearly ¾ of the residential areas are marked as being 5 to 10% most disadvantaged. Surrounding San Joaquin County areas, which will also benefit from the improved bikeway network, are also low income.

Out of 100 schools in Stockton, for 64 schools, 75% of enrolled students qualify for free or reduced lunches. City-wide, out of 66,366 students enroll during October 2012, at least 47,301, or 71.3%, qualified for free or reduced lunches. Increasing the availability of bicycle facilities and improving the connectivity of the bicycle network, will increase the health and safety of disadvantaged neighborhoods particularly, because residents with low incomes are more likely to take advantage of cycling opportunities. The updated plan will also prioritize connections to low income areas.

Disadvantaged neighborhoods will receive at least 80% of the benefit of this project, which will prioritize overcoming obstacles to non-motorized connections to essential services.

IV. NARRATIVE QUESTIONS- continued

7. USE OF CALIFORNIA CONSERVATION CORPS (CCC) OR A CERTIFIED COMMUNITY CONSERVATION CORPS (0 to -5 points)

The applicant must send the following information to the CCC and CALCC prior to application submittal to Caltrans:

Project Description Project Map	Detailed Estimate Preliminary Plan	Project Schedule
------------------------------------	---------------------------------------	------------------

The corps agencies can be contacted at:

California Conservation Corps at: www.ccc.ca.gov

Community Conservation Corps at: <http://callocalcorps.org>

A. The applicant has coordinated with the CCC to identify how a state conservation corps can be a partner of the project. Y/N

a. Name, e-mail, and phone # of the person contacted and date

[Virginia Clark, Region Deputy, Region 1 California Conservation Corps](#)

[Office: \(916\) 341-3147, \[virginia.clark@ccc.ca.gov\]\(mailto:virginia.clark@ccc.ca.gov\), 5/5/2014](#)

B. The applicant has coordinated with a representative from the California Association of Local Conservation Corps (CALCC) to identify how a certified community conservation corps can be a partner of the project. Y/N

a. Name, e-mail, and phone # of the person contacted and date

[Nicholas Mueller, Coordinator II, San Joaquin Regional Conservation Corps](#)

[Office: \(209\) 468-9131, Cell: \(209\)639-5343, \[nmueller@sjcoe.net\]\(mailto:nmueller@sjcoe.net\)](#)

C. The applicant intends to utilize the CCC or a certified community conservation corps on all items where participation is indicated? Y/N

I have coordinated with a representative of the CCC; and the following are project items that they are qualified to partner on:

[The California Conservation Corps will not be able to participate on this proposed grant application for the Bicycle Master Plan Update project. See Attachment I.](#)

I have coordinated with a representative of the CALCC; and the following are project items that they are qualified to partner on:

[The San Joaquin Regional Conservation Corps will not be able to participate on this proposed grant application for the Bicycle Master Plan Update project. See Attachment I.](#)

Points will be deducted if an applicant does not seek corps participation or if an applicant intends not to utilize a corps in a project in which the corps can participate*.

- The applicant intends to partner with a conservation corps to the maximum extent possible- 0 points
- The applicant did not seek partnership with a conservation corps, or indicated that they do not intend to partner with the corps to the maximum extent possible- (-)5 points

**If the applicant has indicated intended use of the CCC or CALCC in the approved application, a copy of the agreement between the implementing agency and the CCC or CALCC must be provided by the implementing agency, and will be incorporated as part of the original application, prior to request for authorization of funds for construction.*

IV. NARRATIVE QUESTIONS- continued

8. APPLICANT'S PERFORMANCE ON PAST GRANTS (0 to -10 points)

A. Describe any of your agency's ATP type grant failures during the past 5 years, and what changes your agency will take in order to deliver this project.

- The applicant has no past grant experience or has performed satisfactorily on past grants - 0 points
- The applicant has not performed satisfactorily on past grants and/or has not adequately described how they will deliver this project (-)10 points

Over the past five years, the City of Stockton Public Works Department has worked on an average of \$54 million in capital improvement projects from major arterials and collectors to complex multi-year and multi-funded interchange projects. The majority of the funding for these projects came from grants. Public Works' success in delivering projects and managing grants has strongly positioned itself to receive additional grant funding from the San Joaquin Council of Governments through annual redistributions and funding from other agencies that were unable to deliver their projects. Public Works staff have a great many years of combined engineering, business, and other technical experience in successfully executing and delivering grant-funded projects from grant award through project close-out and final reimbursement billings.

Project name: Bicycle Master Plan Update

V. PROJECT PROGRAMMING REQUEST

Applicant must complete a Project Programming Request (PPR) and attach it as part of this application. The PPR and can be found at http://www.dot.ca.gov/hq/transprog/allocation/ppr_new_projects_9-12-13.xls

PPR Instructions can be found at <http://www.dot.ca.gov/hq/transprog/ocip/2012stip.htm>

Notes:

- Fund No. 1 must represent ATP funding being requested for program years 2014/2015 and 2015/2016 only.
- Non-infrastructure project funding must be identified as Con and indicated as "Non-infrastructure" in the Notes box of the Proposed Cost and Proposed Funding tables.
- Match funds must be identified as such in the Proposed Funding tables.

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	5/19/14
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
10						
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SJ				City of Stockton		
				MPO	Element	
				SJCOG	Capital Outlay	
Project Manager/Contact		Phone		E-mail Address		
Cindy Erdman		(209) 937-7390		Cynthia.Erdman@stocktongov.com		
Project Title						
Bicycle Master Plan Update						
Location, Project Limits, Description, Scope of Work						<input type="checkbox"/> See page 2
Perform public outreach and redesign the Stockton Bicycle Network. Rewrite the Bicycle Master Plan. Submit updated plan for City Council approval.						
<input checked="" type="checkbox"/> Includes ADA Improvements			<input checked="" type="checkbox"/> Includes Bike/Ped Improvements			
Component	Implementing Agency					
PA&ED	City of Stockton					
PS&E						
Right of Way						
Construction	City of Stockton					
Purpose and Need						<input type="checkbox"/> See page 2
The current Bicycle Master Plan has expired. In addition, many of the proposed facilities in it are not feasible to build. Completing a usable bicycle network is critical to meeting greenhouse gas reduction goals and this will require a redesign of the proposed network and an update of the Bicycle Master Plan.						
Project Benefits						<input type="checkbox"/> See page 2
Project will increase walking and cycling, providing increased access and health benefits, especially in disadvantaged areas. It will reduce fuel use, road maintenance costs, greenhouse gas emissions, and air pollution.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals			<input type="checkbox"/> Reduces Greenhouse Gas Emissions			
Project Milestone						Proposed
Project Study Report Approved						05/15/15
Begin Environmental (PA&ED) Phase						05/15/15
Circulate Draft Environmental Document				Document Type	05/30/15	
Draft Project Report						05/30/15
End Environmental Phase (PA&ED Milestone)						05/30/15
Begin Design (PS&E) Phase						
End Design Phase (Ready to List for Advertisement Milestone)						
Begin Right of Way Phase						
End Right of Way Phase (Right of Way Certification Milestone)						
Begin Construction Phase (Contract Award Milestone)						06/01/15
End Construction Phase (Construction Contract Acceptance Milestone)						12/31/15
Begin Closeout Phase						01/15/16
End Closeout Phase (Closeout Report)						04/15/16

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/19/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
10	SJ					
Project Title: Bicycle Master Plan Update						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		50	500					550	
TOTAL		50	500					550	

Fund No. 1:	ATP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		50	500					550	
TOTAL		50	500					550	

Fund No. 2:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 3:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Project name: Bicycle Master Plan Update

VI. ADDITIONAL INFORMATION

Only fill in those fields that are applicable to your project

FUNDING SUMMARY

ATP Funds being requested by Phase (to the nearest \$1000)

Amount

PE Phase (includes PA&ED and PS&E)	\$	0
Right-of-Way Phase	\$	0
Construction Phase-Infrastructure	\$	0
Construction Phase-Non-infrastructure	\$	550,000
Total for ALL Phases	\$	550,000

All Non-ATP fund types on this project* (to the nearest \$1000)

Amount

	\$	
	\$	
	\$	
	\$	
	\$	
	\$	

*Must indicate which funds are matching

Total Project Cost	\$	550,000
Project is Fully Funded	Yes	

ATP Work Specific Funding Breakdown (to the nearest \$1000)

Amount

Request for funding a Plan	\$	550,000
Request for Safe Routes to Schools Infrastructure work	\$	
Request for Safe Routes to Schools Non-Infrastructure work	\$	
Request for other Non-Infrastructure work (non-SRTS)	\$	
Request for Recreational Trails work	\$	

ALLOCATION/AUTHORIZATION REQUESTS SCHEDULE

	Proposed Allocation Date	Proposed Authorization (E-76) Date
PA&ED or E&P		
PS&E		
Right-of-Way		
Construction	10/15/2014	05/15/2015

All project costs MUST be accounted for on this form, including elements of the overall project that will be, or have been funded by other sources.

Project name: Bicycle Master Plan Update

VII. NON-INFRASTRUCTURE SCHEDULE INFORMATION

Start Date	End Date	Task/Deliverables
05/15/2015	06/15/2015	Advisory Committee List
05/15/2015	06/15/2015	Advisory Committee Kickoff Meeting
06/15/2015		Ongoing Advisory Committee Meetings
06/15/2015	07/15/2015	Project Management Plan
06/15/2015	07/15/2015	Scope of Work for Request for Proposals
07/15/2015	08/15/2015	Request for Proposals
08/15/2015	09/15/2015	Consultant Chosen
09/15/2015	10/15/2015	Consultant Contract
06/15/2015		Stakeholder Database
10/15/2014	11/15/2014	Table of Deficiencies
11/15/2014	12/15/2014	Table of Possible Segments
11/15/2014	12/15/2014	Report of Field Survey
11/15/2014	12/15/2014	PC Matrix Report
11/15/2014	01/15/2015	General Public Survey Report
12/15/2014	01/15/2015	Table of Unmet Recommendations
12/15/2014	01/15/2015	Policy and Code Review
12/15/2014	01/15/2015	Multimodal Report
01/15/2015	02/15/2015	List of Obstacles
01/15/2015	02/15/2015	List of Weighted Priorities
01/15/2015	02/15/2015	List of Activity Centers
02/15/2015	03/15/2015	List of Prioritized Segments
02/15/2015	03/15/2015	Target Area Map
03/15/2015	04/15/2015	3 Network Alternative Maps
03/15/2015	04/15/2015	Publicity Materials
03/15/2015	04/15/2015	Distribution Lists
03/15/2015	05/15/2015	Project Fact Sheet
11/15/2014	12/15/2014	School Survey Results
05/15/2015	07/01/2015	Public Meeting Reports 4-6
05/15/2015	06/15/2015	Draft Code and Procedure Changes
07/01/2015	07/15/2015	Detailed Outline of New Master Plan
07/15/2015	08/15/2015	Select preferred network
08/15/2015	09/15/2015	Estimates for construction and maintenance
08/15/2015	09/15/2015	Maps, Figures, Tables for new Master Plan
08/15/2015	09/15/2015	Draft updated Master Plan
08/15/2015	09/15/2015	CEQA Documentation
08/15/2015	09/15/2015	Planning Commission Hearing
08/15/2015	09/15/2015	Presentation to Council
09/15/2015	10/15/2015	Final Updated Master Plan

10/15/2015 11/15/2015 Authorization of Updated Plan by Council

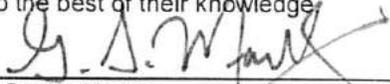
11/15/2015 12/15/2015 Presentation to Public

11/15/2015 12/15/2015 Task list and schedule for implementation

Project name: Bicycle Master Plan Update

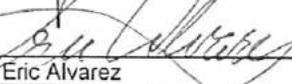
VIII. APPLICATION SIGNATURES

Applicant: The undersigned affirms that the statements contained in the application package are true and complete to the best of their knowledge.

Signature: 
Name: Gordon Mackay
Title: Public Works Director

Date: 5/19/14
Phone: (209)-937-8400
e-mail: gordon.mackay@stocktongov.com

Local Agency Official (City Engineer or Public Works Director): The undersigned affirms that the statements contained in the application package are true and complete to the best of their knowledge.

Signature: 
Name: Eric Alvarez
Title: Deputy Public Works Director/City Engineer

Date: 5/15/14
Phone: (209)-937-8228
e-mail: eric.alvarez@stocktongov.com

School Official: The undersigned affirms that the school(s) benefited by this application is not on a school closure list.

Signature: _____
Name: _____
Title: _____

Date: _____
Phone: _____
e-mail: _____

Person to contact for questions:

Name: _____
Title: _____

Phone: _____
e-mail: _____

Caltrans District Traffic Operations Office Approval*

If the application's project proposes improvements on a freeway or state highway that affects the safety or operations of the facility, it is required that the proposed improvements be reviewed by the district traffic operations office and either a letter of support or acknowledgement from the traffic operations office be attached () or the signature of the traffic personnel be secured below.

Signature: _____
Name: _____
Title: _____

Date: _____
Phone: _____
e-mail: _____

*Contact the District Local Assistance Engineer (DLAE) for the project to get Caltrans Traffic Ops contact information. DLAE contact information can be found at <http://www.dot.ca.gov/hq/LocalPrograms/dlae.htm>

Project name:
Bicycle Master Plan Update

IX. ADDITIONAL APPLICATION ATTACHMENTS

Check all attachments included with this application.

- Vicinity/Location Map- **REQUIRED for all IF Projects**
 - North Arrow
 - Label street names and highway route numbers
 - Scale

- Photos and/or Video of Existing Location- **REQUIRED for all IF Projects**
 - Minimum of one labeled color photo of the existing project location
 - Minimum photo size 3 x 5 inches
 - Optional video and/or time-lapse

- Preliminary Plans- **REQUIRED for Construction phase only**
 - Must include a north arrow
 - Label the scale of the drawing
 - Typical Cross sections where applicable with property or right-of-way lines
 - Label street names, highway route numbers and easements

- Detailed Engineer's Estimate- **REQUIRED for Construction phase only**
 - Estimate must be true and accurate. Applicant is responsible for verifying costs prior to submittal
 - Must show a breakdown of all bid items by unit and cost. Lump Sum may only be used per industry standards
 - Must identify all items that ATP will be funding
 - Contingency is limited to 10% of funds being requested
 - Evaluation required under the ATP guidelines is not a reimbursable item

- Documentation of the partnering maintenance agreement- Required with the application if an entity, other than the applicant, is going to assume responsibility for the operation and maintenance of the facility

- Documentation of the partnering implementation agreement-Required with the application if an entity, other than the applicant, is going to implement the project.

- Letters of Support from Caltrans (Required for projects on the State Highway System(SHS))

- Digital copy of or an online link to an approved plan (bicycle, pedestrian, safe routes to school, active transportation, general, recreation, trails, city/county or regional master plan(s), technical studies, and/or environmental studies (with environmental commitment record or list of mitigation measures), if applicable. Include/highlight portions that are applicable to the proposed project.

- Documentation of the public participation process (required)

- Letter of Support from impacted school- when the school isn't the applicant or partner on the application (required)

- Additional documentation, letters of support, etc (optional)

STATE CAPITOL
ROOM 2059
SACRAMENTO, CA 95814
TEL (916) 651-4005
FAX (916) 651-4905

STOCKTON DISTRICT OFFICE
31 EAST CHANNEL STREET
SUITE 440
STOCKTON, CA 95202
TEL (209) 948-7930
FAX (209) 948-7993

California State Senate

SENATOR
CATHLEEN GALGIANI
FIFTH SENATE DISTRICT



STANDING COMMITTEES

AGRICULTURE
CHAIR

BUSINESS, PROFESSIONS &
ECONOMIC DEVELOPMENT

GOVERNMENTAL
ORGANIZATION

TRANSPORTATION &
HOUSING

May 12, 2014

Grant Selection Committee
Active Transportation Grant Program
c/o Gordon A. MacKay, Director
City of Stockton Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202

LETTER OF SUPPORT – CITY OF STOCKTON ACTIVE TRANSPORTATION PROGRAM GRANT APPLICATIONS

I am writing to urge your consideration of the City of Stockton's grant applications to secure Active Transportation Program (ATP) funding.

City of Stockton Public Works staff identified and reviewed candidate projects for ATP funding consideration in consultation with the City's Safe Routes to School Committee, including representatives from the four School Districts within the City of Stockton, the Community Development Department, the Economic Development Department/Housing Division, and representatives from the San Joaquin Council of Governments. As a result of the meetings, City staff are submitting applications for funding consideration under the ATP for the 20 projects shown in the attached list.

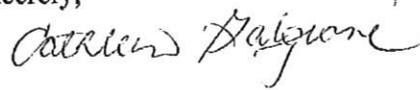
The proposed projects represent a broad spectrum of projects to benefit active transportation users that meet the goals of the ATP to increase the proportion of trips accomplished by biking and walking, increase the safety and mobility of non-motorized users, contribute to greenhouse gas reduction goals, enhance public health, and ensure that disadvantaged communities fully share in the benefits of the program.

As an active member of the California Senate Committee on Transportation and Housing, I know all too well the need for safety and sustainability projects in Stockton that encourage non-motorized modes of transportation. All of these proposed projects will directly or indirectly benefit disadvantaged communities as well as all residents and businesses in our community.



I respectfully urge your favorable consideration of this request. If you have any questions, please contact me at (916) 651-4005.

Sincerely,

A handwritten signature in cursive script that reads "Cathleen Galgiani".

Cathleen Galgiani
State Senator, 5th District



SAN JOAQUIN COUNCIL OF GOVERNMENTS

555 E. Weber Avenue • Stockton, California 95202

209.235.0600 • 209.235.0438 (fax)

www.sjcog.org

May 12, 2014

Jeff Languero
CHAIR

Steve Dresser
VICE CHAIR

Andrew T Chesley
EXECUTIVE DIRECTOR

Member Agencies
CITIES OF
ESCALON,
LATHROP,
LODI,
MANTECA,
RIPON,
STOCKTON,
TRACY,
AND
THE COUNTY OF
SAN JOAQUIN

Grant Selection Committee
Active Transportation Grant Program
c/o Gordon A. MacKay, Director
City of Stockton Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202

CITY OF STOCKTON ACTIVE TRANSPORTATION GRANT APPLICATIONS

I am writing to urge your consideration of the City of Stockton's grant applications to secure Active Transportation Program (ATP) funding.

City of Stockton Public Works staff identified and reviewed candidate projects for ATP funding consideration in consultation with the City's Safe Routes to School Committee, including representatives from the four School Districts within the City of Stockton, the Community Development Department, the Economic Development Department/Housing Division, and representatives from the San Joaquin Council of Governments. As a result of the meetings, City staff are submitting applications for funding consideration under the ATP for the 20 projects shown in the attached list.

The proposed projects represent a broad spectrum of projects to benefit active transportation users that meet the goals of the ATP to increase the proportion of trips accomplished by biking and walking, increase the safety and mobility of non-motorized users, contribute to greenhouse gas reduction goals, enhance public health, and ensure that disadvantaged communities fully share in the benefits of the program.

The projects identified will directly support implementation of SJCOC's 2014 Regional Transportation Plan (RTP). The initial draft plan has undergone a 55-day public review period and will be considered for adoption by the SJCOC Board in June 2014. This is the first RTP to include a Sustainable Communities Strategy (SCS) – aligning sustainability goals with transportation investments strategies that seeks to facilitate/encourage infill development, emphasize a true multi-modal approach, and provide increased funding for active transportation improvements.

The San Joaquin Council of Governments encourages positive consideration of the proposed ATP projects as an important step in advancing sustainable planning in the San Joaquin County region and enhancing the quality of life for all residents of San Joaquin County.

Sincerely,

A handwritten signature in black ink, appearing to read "Diane Nguyen", with a long horizontal line extending to the right from the end of the signature.

Diane Nguyen
Deputy Director, Planning, Programming & Project Delivery
San Joaquin Council of Governments

Attachment



SAN JOAQUIN COUNTY
HISPANIC
 CHAMBER OF COMMERCE

Executive Committee

James Jimenez/President
 Community Bank of San Joaquin

**Sylvester Aguilar
 President- Elect**
 Bank of the West

Bob Gutierrez/Secretary
 Food 4 Less/ Rancho San Miguel

**Lisa Blanco Jimenez
 Treasurer**
 Law office of Neumiller & Beardslee

Jonise Oliva/Past- President
 Deck the Walls

Board of Directors

Eddie Lira
 JP Morgan Chase Bank

John Freeman
 California Water Service

Zenet Negron
 Socially Now

Henry Peralta
 Stockton Auto Glass

Mark Plovnick
 University of the Pacific

Armando Salgado
 Ambit Energy

Thom Sanchez
 Waste Management

Andrew Mendoza, MPA
 Kaiser Permanente

Mario Eguiluz (Ex Officio)
 Comerciantes Unidos

**Chief Executive Officer
 Brenna Butler Garcia**

May 12, 2014

Grant Selection Committee
 Active Transportation Grant Program
 c/o Gordon A. MacKay, Director
 City of Stockton Public Works Department
 22 E. Weber Avenue, Room 301
 Stockton, CA 95202-2317

LETTER OF SUPPORT – CITY OF STOCKTON ACTIVE TRANSPORTATION PROGRAM (ATP) GRANT APPLICATIONS

Please accept this letter in support of the City of Stockton’s applications for funding through the California Active Transportation Program (ATP).

The City has given thoughtful consideration to the selection of projects that they believe will further the goals of the ATP to increase bicycling, walking and accessibility for all its residents and visitors. In collaboration with its Safe Routes to School committee, San Joaquin Council of Governments, and other City departmental staff, the City of Stockton Public Works Department presents its projects to you for funding consideration.

Improved safety and mobility of non-motorized users contributes to an increase in active modes of transportation such as biking and walking, reduces greenhouse gases, enhances overall public health, and ensures that disadvantaged communities fully share in the benefits that our great community has to offer. All of the City’s proposed projects will benefit the entire community.

The San Joaquin County Hispanic Chamber of Commerce values this opportunity to support the City of Stockton’s efforts to obtain critical funding to develop projects that will encourage lifestyle and neighborhood enhancement and bring workforce development opportunities to our constituency.

Thank you for your consideration of the City of Stockton’s ATP projects. We are eager to see these community biking and walking projects in action!

Warm Regards,

Brenna Butler Garcia

CEO

7500 West Lane, Suite 111, Stockton, CA 95210 ~ Phone 209-943-6117 ~ Fax 209-943-0114
www.sjchispanicchamber.com



May 12, 2014

Grant Selection Committee
Active Transportation Grant Program
City of Stockton – Public Works Department
22 E. Weber Avenue
Stockton, CA 95202

To whom it may concern,

On behalf of the Board of Directors of the San Joaquin Bike Coalition (SJBC), I wish to express my support to the City of Stockton for funding applications to California's Active Transportation Program. The potential for effective transportation alternatives such as transit, biking and walking within Stockton is great and SJBC looks forward to being an active participant in the ATP planning process.

The SJBC particularly supports projects like the Bicycle Master Plan Update which would bring an outdated and now mostly irrelevant plan into modernity, allowing for more aggressive, achievable and effective outcomes. The need for a plan update is compounded by the fact that its current stated goals do not align with other local and regional plans (e.g. the Regional Transportation and Climate Action plans).

Other projects – like installing push button detections at selected bicycle routes, installing additional designated bicycle lanes and an update of the city's current major Class 1 bicycle route – would enhance the current bicycling experience within Stockton and encourage those who “would ride, but ... “ to feel safer when choosing a bicycle as a means of real transportation.

Current streets, especially those toward the north of the city, lack adequate signal timing to accommodate cyclists. By improving the Calaveras River Bike Trail, a Class 1 designated route, the city would be taking a step toward creating a focal recreational attraction for Stockton. While many people utilize the route it has been allowed to deteriorate for years. Investment in this particular route would realize the true potential a waterside trail should have in any community as a local attraction.

We at SJBC appreciate the work you've put in to provide healthy, sustainable transportation alternatives to cities throughout California. Please feel free to contact me should you require more information or clarification in SJBC's support of these proposed projects.

Sincerely,

A handwritten signature in blue ink, appearing to read "K.A. Williams". The signature is fluid and cursive, with the first name "K.A." and the last name "Williams" clearly distinguishable.

Kristine Williams
Executive Director
San Joaquin Bike Coalition

SAN JOAQUIN COUNTY
Public Health Services
Healthy Future

P.O. Box 2009 • 1601 East Hazelton Ave. • Stockton, CA 95201-2009
phone (209) 468.3411 • fax (209) 468.3823 • www.sjcphs.org

May 8, 2014

CALTRANS
Division of Local Assistance
Attn: Office of Active Transportation and
Special Programs
1120 N Street
Sacramento, CA 95814

Letter of Support: City of Stockton - Active Transportation Program (ATP) Funding

Dear Ms. McWilliam:

San Joaquin County Public Health Services (PHS) is very pleased to be able to submit this Letter of Support for the City of Stockton's proposed ATP projects. This slate of infrastructure and non-infrastructure projects addresses high priority concerns voiced by both professionals and our residents. They represent a broad spectrum of strategies designed to increase mode share for Active Transportation. By creating safer, more walkable and bikeable communities, the projects will provide opportunities for everyday physical activity – a critical and effective public health intervention to address the obesity epidemic. Also, with more Stocktonians out and about, the improvements will help to address personal safety issues (i.e., violence prevention), support reductions in greenhouse gas emissions, and lend to the vibrancy of city life. It is of special interest that the projects will also fix dangerous conditions in disadvantaged neighborhoods in the City. Safe streets here are critically important since twice as many low-income children walk or bike to school than affluent children and 65 percent of families below the poverty line do not even own a car.

PHS participated in several initial discussions with the City's Public Works Department and was an active member of Public Works' Safe Routes to School (SRTS) Committee that created the potential list of school-centered project sites. We have a strong track record in community engagement and are committed to helping the City of Stockton mobilize neighborhood residents to ensure that their voices are heard as planning for the new projects unfolds. PHS also looks forward to collaborating with the City of Stockton on its proposed SRTS Plan and in working to enhance and expand existing SRTS educational programs.

We urge CALTRANS to consider the City of Stockton's proposed slate of Active Transportation projects.

Sincerely,



William J. Mitchell, MPH, Director
San Joaquin County Public Health Services



May 09, 2014



ATHENA



PORTOCALL



Grant Selection Committee
Active Transportation Grant Program
c/o Gordon A. MacKay, Director
City of Stockton Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202-2317

As CEO of the 113 Year-strong Greater Stockton Chamber of Commerce, I am pleased to offer my support to the City of Stockton for funding applications to the California Active Transportation Program (ATP).

These projects of great need to our city were each selected with the purpose of increasing safety, mobility and desire to use non-motorized transportation. By calming vehicular traffic, identifying corridors and barriers for bicycle and pedestrian paths, making bridges accessible, increasing bicyclist and pedestrian visibility while crossing roads, and installing improvements to generally make our community more bicycle and pedestrian friendly and accessible to all our residents, the entire community benefits from better health through increased alternate modes of transportation and reduced air pollution.

Additionally, with continued reductions in State and federal funding for transportation and safety projects, local governments need access to alternative forms of transportation funding. The competitive grants such as those offered through the ATP, will help to transform communities into safer and healthier places to live, work and play.

We appreciate your efforts to provide alternate modes of transportation to California communities by funding projects such as these proposed by the City of Stockton. Please feel free to contact me if further information is needed in support of these very worthwhile projects.

Sincerely,

Douglass W. Wilhoit, Jr.
CEO

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0013
(916) 319-2013
FAX (916) 319-2113

DISTRICT OFFICE
31 EAST CHANNEL STREET, SUITE 306
STOCKTON, CA 95202
(209) 948-7479
FAX (209) 465-5058

Assembly California Legislature



SUSAN TALAMANTES EGGMAN, Ph.D.
ASSEMBLYMEMBER, THIRTEENTH DISTRICT

COMMITTEES
CHAIR: AGRICULTURE
APPROPRIATIONS
BUSINESS, PROFESSIONS AND
CONSUMER PROTECTION
VETERANS AFFAIRS

May 12, 2014

Grant Selection Committee
Active Transportation Grant Program
c/o Gordon A. MacKay, Director
City of Stockton Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202

RE: CITY OF STOCKTON ACTIVE TRANSPORTATION PROGRAM GRANT APPLICATIONS

I am writing to urge your consideration of the City of Stockton's grant applications to secure Active Transportation Program (ATP) funding.

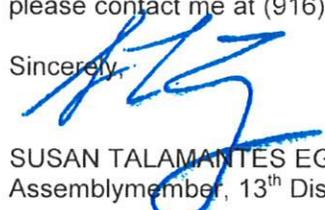
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The proposed projects represent a broad spectrum of projects to benefit active transportation users that meet the goals of the ATP to increase the proportion of trips accomplished by biking and walking, increase the safety and mobility of non-motorized users, contribute to greenhouse gas reduction goals, enhance public health, and ensure that disadvantaged communities fully share in the benefits of the program.

As an advocate for smart growth and clean air – and as a former member of the Stockton City Council, I know all too well the need for safety and sustainability projects in Stockton that encourage non-motorized modes of transportation. All of these proposed projects will directly or indirectly benefit disadvantaged communities as well as all residents and businesses in our community.

I respectfully urge your favorable consideration of this request. If you have any questions, please contact me at (916) 319-2013.

Sincerely,


SUSAN TALAMANTES EGGMAN
Assemblymember, 13th District

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Chapter 3 Emissions Reduction Measures and Cost/Benefit Analysis 3-1

Chapter 4 Implementation Strategies 4-1

Appendix A	Settlement Agreement
Appendix B	Greenhouse Gas Inventory Methodology
Appendix C	Greenhouse Gas Reduction Measure and Cost/ Benefit Methodology
Appendix D	Transit Plan
Appendix E	State Greenhouse Gas Inventory Calculations
Appendix F	Climate Impact Study Process
Appendix G	References
Appendix H	Competitiveness Analysis

Residents may experience a maximum annual cost savings of approximately \$6 million from reduced VMT; however, additional costs for substitute modes of transportation (e.g., bus fares) may offset these savings.

Trans-4: Efficient Goods Movement [City]

There are a number of at-grade railroad crossings throughout the City. These at-grade crossings contribute to vehicle delay, especially when long freight trains pass through the crossings. Providing grade-separated crossings where rail lines and roadways intersect can reduce idling and traffic diversions. To improve the efficiency of goods movement through Stockton, the City is constructing grade-separated crossings on Eight Mile Road and Lower Sacramento Road, and planning for an additional grade separation along Sperry Road.³⁴ If the City were to make these roadway improvements, daily VMT would decrease by approximately 10,251 miles and citywide GHG emissions would be reduced by 767 MT CO_{2e} in 2020.

Grade separation projects have substantial upfront construction costs, but these projects are already planned and separately funded, and as such would not result in additional incurred costs if the CAP were adopted and implemented. Residents and businesses would also experience savings from reduced VMT.

Trans-5: Reduce Barriers for Non-Motorized Travel [City]

In 2007, the City of Stockton completed a Bicycle Master Plan which identified existing bicycle routes, bicycle usage, and future improvements to the bicycle system. This report also identified several major gaps in the City's bicycle network including the need for additional connections to major destinations. It is anticipated that the addition of these bicycle facilities would encourage additional bicycle commuting, as well as bicycling for other trip purposes, such as for shopping or personal business.

Implementing policies to support multi-modal streets, or complete streets, would also encourage transit, walking, and bicycle trips. The City developed Multi Modal Street Design Guidelines in 2011 to support and integrate Stockton's land use and mobility needs. The design standards provide design concepts for vehicles, pedestrian, bicycle, transit, and alternative intersection design. Implementation of these supportive policies would encourage residents to make shorter trips using alternative modes of transportation.

Overall, with the progressive implementation of the City's Bicycle Master Plan over time, the provision of additional bicycle and pedestrian facilities and implementation of the Multi Modal Street Design Guidelines is expected to reduce daily VMT in 2020 by approximately 15,520 miles and GHG emissions by 1,459 MT CO_{2e}.

Based on Stockton's Bicycle Master Plan, construction costs can vary on a per-mile basis, depending on the type of bikeway facility constructed. Constructing a total of 18 miles of bikeway (2 miles per year from 2014–2020) could cost the City approximately \$1.4–\$11 million, assuming either Class I or II facilities. Annual maintenance costs could reach \$90,000–\$180,000 per year by 2020. Funding sources are discussed in Chapter 4. The initial capital costs are relatively high due to the capital

³⁴ Grade separations on Airport Way and French Camp Road are planned to be constructed when these roadways are widened to accommodate approved and pending projects in the area, although currently there is no schedule for their construction.

Greenhouse Gas Inventory Methodology

Introduction

In order to develop a Climate Action Plan (CAP) for the City of Stockton (City), a baseline greenhouse gas (GHG) emissions inventory must first be established. The City previously prepared a draft 1990 emissions backcast, 2005 community GHG inventory, and 2020 emissions forecast. Since development of the draft inventories, additional guidance and modeling methodologies have been adopted by relevant state and federal agencies.¹ This memorandum presents revised GHG inventories that have been updated to be consistent with the most recent state and federal guidance. The revised GHG inventories, once approved by the City, will ultimately be incorporated into the City's CAP.

Report Organization

This memorandum summarizes the methods used to develop the 1990 backcast, 2005 GHG inventory, and 2020 business-as-usual (BAU) forecast. General concepts and terminology that are used throughout the document are defined in Section 1.2. An overview of the inventory background, including a summary of the draft GHG inventories previously prepared by the City, is presented in Section 2. Methods used to quantify emissions for each sector are presented in Section 3. Finally, the inventory results are discussed in Section 4.

General Concepts and Terminology

This section briefly defines key inventory terms and concepts used throughout this document.

1990 Backcast. The backcast is an estimate of community emissions in 1990, based on 2005 baseline emissions and projected backward to 1990 using socioeconomic factors.

Assembly Bill 32 (AB 32): The California Global Warming Solutions Act of 2006, widely known as AB 32, requires CARB to develop and enforce regulations for the reporting and verification of Statewide GHG emissions. The heart of the bill is the requirement that statewide GHG emissions must be reduced to 1990 levels by the year 2020, or about 15% from levels at the time of adoption of the AB 32 Scoping Plan².

AB 32 Scoping Plan: The Scoping Plan for AB 32 was developed by CARB and approved in December 2008. The plan has a range of GHG reduction actions, which include direct regulations, compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-

¹ As discussed further below, primary guidance used in the preparation of this document includes the California Air Resources Board's (CARB) Local Governments Operations Protocol (LGOP) (2010a), the California Climate Action Registry's (CCAR) General Reporting Protocol (2009), and the Intergovernmental Panel on Climate Change's (IPCC) 2006 Guidelines for National GHG Inventories (2006).

² The AB 32 Scoping Plan was developed and approved in 2008. The Scoping Plan recommended that local municipalities adopt a reduction goal of 15% below "current" levels for community and municipal emissions. The Scoping Plan did not identify a specific year as defining "current", but it is thought to be somewhere between 2005 and 2008. For Stockton, 2005 is used as the "current" year.

- Estimated 2005 GHG emissions (2005 baseline inventory)
- Estimated of 2020 GHG emissions (2020 BAU forecast)

To fulfill these requirements, the City developed a draft community-wide GHG inventory and estimates (hereafter referred to as “existing inventory and estimates”) (City of Stockton 2010). The existing inventory and estimates includes an estimate of GHGs from public and private sources for the years 1990, 2005, and 2020. This memorandum presents revised inventory and estimates (hereafter referred to as “revised inventory and estimates”) that provides refinements to the existing inventory and estimates, as discussed in Section 2.1.

The 2005 revised inventory defines a baseline from which historic 1990 and future 2020 BAU emissions can be projected. The 2005 inventory was prepared according to the guidelines of the CARB’s Local Governments Operations Protocol (LGOP) (2010a). Where the LGOP does not provide adequate guidance for community inventories, other methods consistent with the CCAR’s General Reporting Protocol (GRP) (2009) or IPCC 2006 Guidelines for National GHG Inventories (2006) were utilized.⁶ The results of the inventory will inform future climate protection initiatives, including the selection of GHG reduction measures.

Consistent with the terms of the Settlement Agreement, a revised 1990 backcast and 2020 BAU forecast were developed for community emissions. The 2020 emissions projection is based on anticipated growth within the City, specific to each inventory sector. Likewise, the 1990 backcast is based on historic data and levels of development. The updated inventory and estimates discussed in this memo will form the foundation of the CAP developed by the City to reduce the regions GHG emissions.

City of Stockton Existing and Revised 2005 Inventory

The revised 2005 inventory is based on the most recent state and federal guidance for quantifying GHG emissions. The key differences between the existing and revised inventories are summarized in Table 1 below. Major differences occur in the transportation sector (the existing inventory used an older model with different trip apportionment methodology), the waste sector (the existing inventory used a different methodology), and the wastewater treatment sector (updated emission factors were used). In addition, the revised inventory includes emissions from three new sectors: agriculture, high GWP GHGs, and off-road equipment.

Table 1. Methodology Comparison of the Existing and Revised 2005 GHG Inventories for the City of Stockton

Emissions Sector	Existing Inventory Methods	Revised Inventory Methods	Main Improvement
On-Road Transportation	Annual vehicles miles traveled (VMT) estimated based on roadway miles in the City.	Emissions based on updated estimates of VMT provided by Fehr & Peers, which incorporate origin-destination information. ^a	New model and VMT generation methodology, which only accounts for VMT the City has direct control over.

⁶ This inventory was completed in 2011 before publication of the 2012 ICLEI community inventory protocol. However, the methods used for this inventory are consistent with the 2012 ICLEI protocol.

Emissions Sector	Existing Inventory Methods	Revised Inventory Methods	Main Improvement
Building Energy	Estimates of GHG emissions due to energy consumed by residential, commercial and industrial buildings were based on electricity and natural gas data, available from the energy provider, Pacific Gas and Electric (PG&E)	Existing inventory based on the most recent data. No revisions were made to the 2005 inventory.	None
Solid Waste Management	Landfill emissions and methane commitment estimated using U.S. Environmental Protection Agency's (EPA's) Landfill Gas Emissions Model (LandGEM) and Waste Reduction Model (WARM).	Emissions calculated using historic landfill data obtained from CalRecycle (2010) and the EPA's most recent first order decay (FOD) model	More accurate representation of actual waste-related emissions occurring in the baseline year ^b
Off-Road Equipment	N/A	Emissions from off-road equipment estimated using the OFFROAD2007 model.	Analysis includes all potential emissions sources, consistent with the LGOP
High GWP GHGs	N/A	Replacements for ozone-depleting substances (ODS) ^c and emissions of sulfur hexafluoride (SF ₆) from electricity transmission were estimated using 2005 statewide emissions data published by CARB (2010b).	Analysis includes all potential emissions sources, consistent with the LGOP
Wastewater	Process emissions calculated using the CARB's LGOP.	Process and stationary emissions calculated using the CARB's LGOP.	Inclusion of stationary emissions and accurate accounting of process emissions.
Water Importation	Inventory only includes emissions associated with water pumping and treatment (reported in the Building Energy sector)	Includes a new Water sector with emissions from water importation.	More robust analysis of water-related emissions.
Agriculture	N/A	Estimates emission from fertilizer application	Analysis includes all potential emissions sources, consistent with the LGOP

^a This approach is consistent with the statewide SB 375 Regional Targets Advisory Committee recommendations

^b The revised inventory is based on historic data rather than a single year of data. Because methane emissions from decay are a function of the amount of material historically deposited at a landfill, this approach provides a more accurate representation of actual waste-related emissions occurring in the baseline year.

^c Includes hydroflouorocarbons (HFCs) and chlorofluorocarbons (CFCs)

Purpose of the Revised Inventory and Estimates

The purpose of the revised inventory and estimates is threefold. First, it serves to update and refine the City's existing inventory to allow for more accurate accounting of GHG emissions. Second, the revised inventory will be used to develop the City's CAP and emissions reduction targets. The interim reduction goal is 15% below 2005 levels by 2020, which is consistent with the requirements of AB 32 and the Settlement Agreement. Third, City officials will be able to identify the major contributing sectors or emissions categories of the City's community emissions. Using this information, specific reduction strategies can be developed and targeted to those sectors with the largest GHG emissions.

Methodology

This section presents the methodology used to prepare the revised baseline 2005 inventory, 1990 backcast, and 2020 BAU forecast. It defines the emissions sectors included in the inventory and estimates, and summarizes the factors used to quantify emissions. Specific analysis methods for each emission sector, including data acquisition and calculations, are also presented. The primary protocols consulted for the analysis are:

- Local Governments Operations Protocol (LGOP) for the quantification and reporting of greenhouse gas emissions inventories (California Air Resources Board 2010a);
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Intergovernmental Panel on Climate Change 2006); and
- 2009 General Reporting Protocol (Version 3.1) for reporting entity-wide GHG emissions (California Climate Action Registry 2009).

Emissions Scopes and Sectors

Scope

CARB's LGOP categorizes community emission sources as Scope 1 (direct), Scope 2 (indirect), and Scope 3 (other indirect). Scope 1 and 2 sources comprise the majority of emissions in a community inventory. The LGOP (2010a) defines emissions scopes as follows:

- **Scope 1:** All direct GHG emissions (with the exception of direct CO₂ emissions from biogenic sources).
- **Scope 2:** Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.
- **Scope 3:** All other indirect emissions not covered in Scope 2 that are not under the control or influence of the local government.

The revised inventory includes an analysis for all Scope 1 and 2 emissions sources within the City. This is consistent with standard practice, which is to only include Scopes 1 and 2 emissions in community inventories as there is little to no mechanism for a local government to affect Scope 3 emissions.

Sector

The following emissions sectors are included in the inventory/estimates. For each sector, the scope has been identified.

- Fuel consumption for on-road vehicles due to the land uses in the City.
- Natural gas and electricity consumption for the residential, commercial, and industrial sectors. Natural gas emissions are considered Scope 1, while electricity emissions are considered Scope 2.
- Methane emissions from waste generated by the community and deposited in landfills.
- Fuel consumption for off-road vehicles and equipment in the City.
- Fugitive emissions of HFCs and CFCs from refrigeration and air conditioning units, as well as SF₆ from the transmission of electricity to the City. Emissions of HFCs and CFCs are considered Scope 1, while emissions for SF₆ are considered Scope 2.
- Process emissions from wastewater treatment, as well as stationary emissions from stationary fuel combustion at the wastewater treatment facility.
- Electricity consumption associated with water importation.
- : N₂O emissions from fertilizer application from farm operations.

Emission Factors

Emission factors and corresponding references used to formulate the City's GHG inventory/estimates are summarized in Table 2. As discussed in the following section, these emission factors were used to calculate GHG emissions from activity data, such as gallons of gasoline combusted.

Table 2. Greenhouse Gas Emission Factors

Source	Emissions Factor	Reference
Energy and Stationary Fuels		
Electricity ^a	0.3809 kg CO ₂ /kWh	EPA 2010b
	0.000013 kg CH ₄ /kWh	EPA 2010b
	0.000003 kg N ₂ O/kWh	EPA 2010b
Gasoline ^b	8.78 kg CO ₂ /gallon	CCAR 2009
	0.0005 kg CH ₄ /gallon	CCAR 2009
	0.0002 kg N ₂ O/gallon	CCAR 2009
Diesel ^b	10.15 kg CO ₂ /gallon	CCAR 2009
	0.0005 kg CH ₄ /gallon	CCAR 2009
	0.0002 kg N ₂ O/gallon	CCAR 2009
Liquefied Petroleum Gasoline ^b	5.79 kg CO ₂ /gallon	CCAR 2009
	0.001 kg CH ₄ /gallon	CCAR 2009
	0.001 kg N ₂ O/gallon	CCAR 2009

Source	Emissions Factor	Reference
Water-Related Energy Intensities^c		
Surface Water (including Reservoirs)	Importation: 1,510 kWh/MG Treatment: 1,911 kWh/MG	CAPCOA 2010 CAPCOA 2010
Ground Water (including the Delta Water Supply Project)	Importation: 896 kWh/MG Treatment: 1,911 kWh/MG	CAPCOA 2010 CAPCOA 2010
High Global Warming Potential GHGs^d		
HFCs and CFCs	0.000334 kg CFC & HFC/person	CARB 2010b
SF ₆	0.000028 kg SF ₆ /person	CARB 2010b

^a Emission factors are presented in kilograms (kg) of each GHG per kilowatt hour (kWh) of electricity

^b Emission factors are presented in kg of each GHG per U.S. gallon of fuel. Data obtained from CCRAR (2009).

^c Electricity intensities are presented in kWh of electricity per million gallons (MG) of water. Data obtained from the California Air Pollution Control Officers Association (CAPCOA) (2010)

^d Emission factors are presented in kg of each GHG per person

Analysis Methods

This section describes the calculation methodology for each emission sector included in the community inventory/estimates. Table 3 briefly summarizes the sources for the baseline activity data and the methodology used for backcasting and forecasting emissions to 1990 and 2020, respectively. Attachment 1 contains more detailed information and data considered for several sectors.

Table 3. Summary of Community Inventory/Estimates Data Sources and Methodology

Emissions Sector	Description	Inventory Data Source (2005)	Backcast Methodology (1990)	Projection Methodology (2020)
On-Road Transportation	On-road vehicles fuel combustion	Fehr & Peers 2005 VMT data (Fehr & Peers 2011a)	Fehr & Peers 1990 VMT data (Fehr & Peers 2011a), 1990 EMFAC factors.	Fehr & Peers 2020 VMT data (Fehr & Peers 2011b)
Building Energy	Residential electricity and natural gas consumption	Existing inventory	Reverse growth in households (2005–1990) ^a	Growth in households (2005–2020)
	Commercial electricity and natural gas consumption	Existing inventory	Reverse growth in employment (2005–1990) ^a	Growth in employment (2005–2020)
	Industrial electricity and natural gas consumption	Existing inventory	Reverse growth in employment (2005–1990) ^a	Growth in employment (2005–2020)
Solid Waste Management	Methane emissions from landfilled waste	CalRecycle 2010	Reverse growth in population ^b	Growth in population ^b

Emissions Sector	Description	Inventory Data Source (2005)	Backcast Methodology (1990)	Projection Methodology (2020)
Off-Road Equipment	Off-road vehicle fuel combustion	OFFROAD2007 Model ^c	Reverse growth in employment and population (2005–1990)	Growth in employment and population (2005–2020)
High Global Warming GHGs	Substitutes for ODS and SF ₆	CARB 2010b	Reverse growth in population (2005–1990) ^d	Growth in population (2005–2020)
Wastewater	CH ₄ and N ₂ O emissions from the treatment of wastewater and GHG emissions from stationary fuel combustion at the treatment plant	CARB 2010a	Reverse growth in population (2005–1990)	Growth in population (2005–2020)
Water Importation	Indirect electricity emissions for water importation	City of Stockton Staff (Morales pers. comm.)	Linear regression of historic water data (2004–1994) ^e	2020 water consumption projection (Morales pers. comm.)
Agriculture	N ₂ O from fertilizer use	Miyao pers. comm.; CARB 2008a and 2008b	N/A ^f	N/A ^f

Sources: California Air Resources Board 2010a and 2010b; Fehr & Peers 2011a and 2011b; CalRecycle 2010; Morales pers. comm.

^a Due to improvements in building efficiency and renewable energy generation, energy consumption and utility-specific emission factors have decreased between 1990 and 2005. Consequently, actual GHG emissions from building energy use in 1990 may be slightly higher than what is quantified by scaling 2005 emissions by City growth forecasts.

^b Assumes a constant per-capita waste disposal rate (based on 2005 data)

^c OFFROAD generates emissions estimates at the County-level; emissions were appropriated to the City of Stockton using city-wide employment and population (see Section 3.3.3 for more information)

^d Use of replacements for ODS was less widespread in 1990 than in 2005. The per capita emission rate in 1990 for HFCs and CFCs is therefore likely lower than the 2005 emission rate. Because 1990 emissions are calculated using the 2005 per capita emission factor, this report likely overestimates emissions of HFCs and CFCs in 1990.

^e Improvements in renewable energy generation have reduced utility-specific emission rates between 1990 and 2005. Consequently, emissions for the 1990 backcast related to water consumption may be slightly higher than what is presented in this report.

^f Agricultural activity within the City assumed to remain constant. Please refer to Section 3.3.8 for additional information.

Population, housing, and employment data for 1990, 2005, and 2020 are presented in Table 4. Note that the 2020 data presented in Table 4 differs from what was assumed in the existing inventory. This is because the revised analysis utilizes slightly more recent projections, which account for the economic downturn.

Table 4. Population, Housing, and Employment Data for the City of Stockton

Parameter	Value			Factors ^a	
	1990 ^b	2005 ^c	2020 ^d	1990 ^e	2020 ^f
Population	210,943	278,515	310,378	0.76	1.11
Housing	72,525	95,375	104,678	0.76	1.10
Employment	79,162	114,318	141,245	0.69	1.24

Notes

^a For 2020, the projection factor represents the total growth between the 2020 year and the existing year. For example, between 2005 and 2020, population is anticipated to increase by a factor of 1.11. For 1990, the projection factor represents the reverse growth rate between 2005 and 1990.

^b Based on the 1990 U.S. Census

^c Based on the 2005 American Communities Survey (U.S. Census)

^d Calculated by multiplying the 2005 Census values by the projected growth estimated by Fehr & Peers.

^e Based on 1990 Census and 2005 Census

^f Based on 2005 Census and Fehr & Peers 2010b

Sources: U.S. Census 1990; U.S. Census 2005; Fehr & Peers 2011b

To estimate emissions generated in 1990 and 2020, baseline emissions were multiplied by the factors summarized in Table 4. For example, emissions generated by residential building energy use in 2005 were multiplied by 0.76 and 1.10 to obtain emissions in 1990 and 2020, respectively. The following analysis provides additional detail on specific factors assumed for each emissions sector.

On-Road Vehicles

On-road transportation emissions were quantified based on estimates of VMT provided by Fehr & Peers (Fehr & Peers 2011a), as well as emission factors and vehicle fleet profiles obtained from CARB’s EMFAC emissions model (see Attachment 1). Consistent with the statewide Regional Targets Advisory Committee (RTAC), Fehr & Peers developed baseline VMT using the transportation origin/destination modeling methodology. This methodology calculates daily VMT by five mile per hour speed increments and accounts for the three following types of vehicle trips.

1. Vehicle trips that originated and terminated within the City of Stockton
2. Vehicle trips that either originated or terminated (but not both) within the City
3. Vehicle trips with neither originated or terminated within the City. These trips are commonly called pass-through trips.

Using the “accounting rules” established by the RTAC, VMT from the trips of type 1, 2, and 3 were weighted by 1, 0.5, and 0 respectively towards jurisdiction-generated VMT (Fehr & Peers 2011a).

Fehr & Peers developed estimates of 1990 VMT by multiplying the number of households in 1990 by the 2005 household trip rate per household. This approach assumes the average household trip rate remained constant between 1990 and 2005. Based on the analysis, it was calculated that up to

4,216,021 daily vehicle miles were generated in 1990.⁷ Speed data by five mile per hour increment was not available for 1990. Consequently, the baseline speed profile was assumed in the emissions calculations. (Fehr & Peers 2011a.)

VMT in 2020 was estimated using an updated version of the City of Stockton Travel Demand Model. The updated model accounts for land use and roadway networks anticipated at the end of 2020. Land use conditions were developed by City staff, based on permit activity between 2005 and 2010 and estimates of new development between 2011 and 2020. Roadway modifications reflect improvement projects completed between 2005 and 2010, as well as those expected for completion by 2020. Based on these revised model inputs, and the “accounting rules” (discussed above), Fehr & Peers calculated 2020 BAU daily VMT by five mile per hour speed increments. (Fehr & Peers 2011b.)

Table 5 summarizes the 1990, 2005, and 2020 VMT data provided by Fehr & Peers. As discussed above, VMT estimates presented in Table 5 were converted to CO₂, CH₄ and N₂O using emission factors and vehicle fleet profiles obtained from the CARB’s EMFAC emissions model (Attachment 1).

Table 5. City of Stockton Annual VMT by Five Mile per Hour Speed Bin

Speed Bin (MPH)	1990	2005	2020
0.0 – 4.9	840,714	1,138,435	1,568,040
5.0– 9.9	5,968,824	8,082,560	8,234,400
10.0 – 14.9	12,188,326	16,504,570	25,301,435
15.0 – 19.9	21,574,991	29,215,330	54,826,650
20.0 – 24.9	65,801,809	89,104,165	98,124,775
25.0 – 29.9	201,334,599	272,633,100	271,842,875
30.0 – 34.9	202,651,869	274,416,855	318,752,675
35.0 – 39.9	156,678,394	212,162,820	260,992,520
40.0 – 44.9	119,584,299	161,932,615	229,772,245
45.0 – 49.9	109,722,963	148,579,090	168,946,820
50.0 – 54.9	84,446,837	114,351,945	170,711,230
55.0 – 59.9	251,219,185	340,183,285	298,178,355
60.0 – 64.9	245,760,881	332,792,035	305,698,815
65.0 – 69.9	61,074,244	82,702,430	89,478,655
Total	1,538,847,665	2,083,798,870	2,302,429,855

Building Energy

Building energy consumption includes electricity and natural gas usage in residential, commercial, and industrial buildings. Electricity use results in indirect emissions from the power plants that produce electricity. Natural gas consumption results in direct emissions where the natural gas is combusted.

The existing inventory quantified electricity and natural gas emissions in 2005 using activity data

⁷ Note that actual VMT in Stockton may be lower on a per-capita and per-household basis in 1990 than in 2005 given the changes in Stockton commuting patterns between the 1990 and 2000 Census. However, a comparison of the Fehr & Peers VMT estimate to the 1990 Highway Performance Monitoring System (HPMS) indicates that the 1990 VMT estimate of 4,216,021 miles per day is within the likely range of travel generated solely by Stockton land uses in 1990. (Fehr & Peers 2011a.)

obtained from Pacific Gas & Electric Company (PG&E) (see Table 6). PG&E has a third party certified emission factor for CO₂. The factor in 2005 was 489.12 pounds of CO₂ per megawatt-hour (MWh). The existing inventory utilized this factor to quantify CO₂ emissions associated with building energy use. Because PG&E does not have third party certified emission factors for CH₄ and N₂O, the analysis used the emission factors summarized in Table 2 to quantify emissions of these pollutants.

The activity data and the emission factors employed by the existing inventory are still accurate. As such, the building energy inventory estimates are the same for the existing and revised inventories for the year 2005.⁸

Table 6. Electricity and Natural Gas Consumption (2005)

Sector	Electricity (kWh)	Natural Gas (therms)
Residential	633,260,860	38,401,223
Commercial	699,836,120	40,018,337
Industrial	222,230,294	2,098,110

Source: Adapted from City of Stockton (2010) model outputs

The revised inventory quantifies 1990⁹ and 2020 BAU emissions from natural gas and electricity consumption using the most recent City growth forecasts presented in Table 4. For the residential sector, emissions were projected using the growth in households. For the commercial/industrial sector, emissions were projected using the growth in total employment. Note that for 2020, these factors represent a more realistic estimate of 2020 activity, and thus future demand, than what was used in the existing inventory.

Off-Road Equipment

Off-road equipment includes vehicles that do not operate on City or County roadways. Direct emissions of CO₂, CH₄, and N₂O are generated by equipment fuel combustion. CARB's OFFROAD2007 air quality model was used to calculate off-road equipment GHG emissions. Because the model provides county-level data, it was run for the year 2005 to calculate overall emissions for off-road equipment in San Joaquin County (see Attachment 1). Equipment categories were refined to include those activities relevant to the City. The following equipment categories, as defined by the OFFROAD model, were included in the model run based on consultation with City staff: agricultural, construction, dredging, entertainment, industrial, lawn and garden, light commercial, other potable,

⁸ The existing inventory includes biogas generated at the wastewater treatment facility in the industrial sector. Because emissions from wastewater treatment were quantified separately below, the revised inventory has removed biogas emissions from the industrial building energy sector. Please refer to Section 3.3.5 for a discussion of biogas emissions.

⁹ Due to improvements in building efficiency and renewable energy generation, energy consumption and utility-specific emission factors have decreased between 1990 and 2005. Consequently, actual GHG emissions from building energy use in 1990 may be slightly higher than what is quantified by scaling 2005 emissions by City growth forecasts. Revising the inventory to reflect these caveats is beyond the consultant's scope of work, which was to prepare a 1990 backcast and not a bottom up 1990 inventory. Should the City elect to use 1990 as an emissions goal for their CAP, additional revisions can be made to the building energy sector to better capture changes in energy efficiency and emission rates.

pleasure craft, Railyards, recreational, and transportation refrigeration units.¹⁰

To obtain city-wide emissions, population and employment statistics were used to apportion the OFFROAD County estimates. Table 7 outlines the scaling factors used in this analysis. Table 7 also lists a rationale as to why these factors were selected to represent each equipment category.

Table 7. Off-Road Transportation Equipment and Scaling Factors

Off-Road Equipment	Scaling Factor	Rational
Agricultural	Employment	Equipment use assumed to operate on agricultural fields
Construction	Population	Equipment use assumed to be correlated with population increase
Dredging	Employment	Equipment assumed to operate at port locations
Entertainment	Population	Equipment assumed to be owned by households
Industrial	Employment	Equipment use assumed to operate at manufacturing businesses
Lawn and garden	Population	Equipment assumed to operate on residential, commercial, and industrial landscapes
Light Commercial	Employment	Equipment use assumed to operate at manufacturing businesses
Other potable	Employment	Equipment assumed to operate throughout various employment sectors
Pleasure craft	Population	Equipment assumed to be owned by households
Railyards	Population	Equipment use and Railyards activity assumed to be driven by demand
Recreational	Population	Equipment assumed to be owned by households
Transportation refrigeration units	Employment	Equipment use assumed to operate at trade-related businesses

To calculate GHG emissions for 1990, OFFROAD2007 was run for the year 1990 (see Attachment 1) and emissions apportioned to the City level using the methodology described above. GHG emissions estimates for 2020 were calculated using City growth forecasts presented in Table 4.

High Global Warming Potential GHGs

High GWP GHGs include SF₆ and replacement gasses for ODS, such as HFCs and CFCs. HFCs and CFCs are commonly emitted from refrigeration and air conditioning equipment, while SF₆ is generated by electricity transmission to the City. Although emissions of high GWP GHGs are typically small (on a mass basis) relative to other GHGs, they have high GWPs and can persist in the atmosphere for thousands of years. Given their importance, it is recommended that high GWP GHGs be included in community inventories.

Emissions of HFCs, CFCs, and SF₆ were estimated using 2005 statewide emissions data published by CARB (2010b). Based on the State's population, a per capita emissions factor was calculated for each pollutant (see Table 2). The statewide per capita factor was then multiplied by the population of

¹⁰ The following equipment sectors were not included in the analysis: airport ground support equipment; logging equipment; military tactical support equipment; oil drilling equipment.

approximately 3,000 acres of croplands (Stagnaro pers. comm.). Crop management generates emissions of N₂O through fertilization, which deposits anthropogenic nitrogen into soil. These emissions are generated by way of a direct (directly from the soils to which the nitrogen is added/released) and indirect (following volatilization of ammonia and nitrogen oxides from managed soils) pathways (Intergovernmental Panel on Climate Change 2006). Both direct and indirect emissions of N₂O were included in the revised inventory.

Emissions of N₂O released by fertilizers were calculated using the average quantity of nitrogen applied in synthetic fertilizer, which is 140 pounds per acre per year (Miyao pers. comm.). It was assumed that all crops in the City use the same rate of fertilizer application, and that all crops use synthetic fertilizer. This assumption is conservative considering that organic fertilizers produce much lower N₂O emissions.

The following equations were used to estimate N₂O emissions from fertilizer application on farmland (California Air Resources Board 2008a and 2008b). Direct and indirect emissions of N₂O were added together and converted to metric tons of CO₂e.

$$\text{Direct } N_2O \text{ Emissions} = N_f * C * (1 - N_v) * N_n * M * A$$

$$\text{Indirect } N_2O \text{ Emissions} = N_f * C * (N_v) * N_n * M * A$$

where

N_f = nitrogen applied in fertilizer (140 lbs per acre)

C = pounds to gram conversion (453.59 grams per pound)

N_v = nitrogen volatilization (0.1)

N_n = nitrogen emitted as N₂O (0.01)

M = molecular weight ratio of N₂O to N₂ (1.57)

A = number of crop acres in Stockton (3,000 acres)

Crop acreages in 1990 and 2020 were unavailable. Consequently, emissions of N₂O from fertilizer in 1990 and 2020 were assumed to equal emissions in 2005. Future agricultural areas within the City may be condensed as a result of increasing population and urbanization. Assuming a constant crop acreage between 2005 and 2020 therefore represents the most conservative approach for estimating emissions from agriculture, given the availability of existing data and relative importance of the sector.

Analysis Limitations

Baseline Inventory

There are three primary limitations associated with the 2005 inventory:

- **Stockton Specific Activity Data:** Although considerable efforts were made to obtain activity data specific to the City, in some cases these data were unavailable and default values were substituted (e.g., wastewater treatment LGOP default equations, CH₄ capture efficiencies, quantity of nitrogen in fertilizers, etc.). These default values are intended to be representative of average activity within California, but may over- or underestimate emissions depending on the

actual level of activity in Stockton.

- **Data Aggregation:** In some emissions sectors, data was not available at a high resolution of detail. For example, electricity required to pump and treat water could not be disaggregated from building energy consumption provided by PG&E. Consequently, the building energy sector includes a small percentage of water-related electricity.
- **Scale of Off-Road Data:** Because off-road data are not readily available on a scale smaller than the County level, off-road emissions were scaled by population and employment statistics to determine emissions associated with activities in Stockton. This approach assumes that off-road equipment can be reasonably approximated with population and employment. This is not necessarily the case, because various equipment emissions may not be equally represented in the cities based on population and employment.

A greater level of detail and disaggregation would certainly strengthen this inventory. However, the revised inventory is based on acceptable methods for quantifying GHG emissions, as outlined by CARB (2010a). The results of the revised inventory are therefore accurate and will provide sufficient detail for the City to identify, quantify, and monitor effective emission reduction actions.

1990 Backcast and 2020 BAU Forecast

Where possible, 1990 and 2020 BAU projections were made using the best available information and estimates provided by City staff and experts on individual sectors. For many sectors (e.g., residential fuel combustion), projections were based on the historic and future population estimates for the City using data provided by the U.S. Census and Fehr & Peers. This method assumes that emissions are proportionate to the current population or employment, which may not be completely accurate. For example, per capita energy consumption may change over time as habits and technology change. It is also possible that the ratio of certain emissions sources (e.g., natural gas combustion in commercial buildings) to a quantity of infrastructure (e.g., commercial square feet) may change over time. However, as discussed above, the methodology utilized in this emissions analysis is consistent with the most recent state and local guidance for preparing GHG inventories. While a greater level of detail may improve the accuracy of the analysis, it would not affect the City's ability to implement and track effective measures for reducing community GHG emissions.

Updates to the Revised Inventory

The revised inventory serves as a baseline for emission reduction measures and as a starting point for future GHG emissions inventories. Updates to the GHG emissions inventory presented in this report should be conducted periodically to ensure that the inventory remains accurate and that data gaps are resolved in a timely manner. This would also enable efficient tracking of the effectiveness of any GHG reduction measures put in place to address these emission sources.

Inventory Results

This section presents the results of the revised City of Stockton baseline inventory, 1990 backcast, and 2020 BAU forecast. Table 10 and Figures 1 and 2 show emissions for each sector and their contributions to the total inventory. Figure 3 presents a breakdown of minor GHG sources, which are combined as "other sources" in Figure 1. Table 11 presents emissions by scope.

Total emissions for the City of Stockton in 2005 were 2,360,932 metric tons. Dividing these emissions by the population of Stockton in 2005, per capita emissions were estimated to be 8.5 metric tons of CO₂e per capita.¹⁷ The largest source of emissions for the City was on-road transportation, which represented 48% of total community emissions. Transportation emissions are often the largest source of emissions in community inventories due to the sheer number of vehicles traveling throughout a jurisdiction. Building energy emissions are the second largest source of emissions and accounted for 33% of total community emissions. This sector includes emissions associated with natural gas combustion and electricity consumption in residential, commercial, and industrial buildings in Stockton. The third largest source was off road equipment, with a contribution of 8% of the total 2005 emissions. The remaining sources in order of greatest contributions were high GWP GHGs (4%), wastewater treatment (4%), solid waste management (3%) water importation (0.4%), and agriculture (0.04%).

Community wide, BAU emissions are projected to increase by approximately 13% from 2005 to 2020. The increase will occur primarily because of increases in VMT, building energy and water use, and wastewater generation. As the population and employment in Stockton grow, transportation activity and energy consumption increase. Likewise, water consumption and wastewater generation will increase due to higher demand. As shown in Table 10, transportation emissions and building energy are expected to increase by 9% and 17% between 2005 and 2020, respectively; water and wastewater emissions will grow by 42% and 11%, respectively.

Table 10. 1990 Backcast, 2005 Inventory, 2020 BAU Forecast by Sector for the City of Stockton

Emissions Sector	1990		2005		2020	
	MTCO ₂ e	% of Total	MTCO ₂ e	% of Total	MTCO ₂ e	% of Total
Agriculture	928	0.05%	928	0.04%	928	0.03%
Building Energy	560,993	31.3%	776,186	32.9%	911,272	34.1%
High Global Warming GHG	76,444	4.3%	100,931	4.3%	112,478	4.2%
Off-Road Equipment	154,233	8.6%	176,431	7.5%	213,300	8.0%
On-Road Transportation	836,037	46.7%	1,132,265	48.0%	1,232,663	46.1%
Solid Waste Management ^b	79,939	4.5%	65,720	2.8%	78,347	2.9%
Wastewater Treatment	75,569	4.2%	99,777	4.2%	111,191	4.2%
Water Importation	6,977	0.4%	8,694	0.4%	12,340	0.5%
Total Emissions	1,791,120	100%	2,360,932	100%	2,672,519	100%

^a As disused in the Analysis Limitations, the calculations presented above contain a certain amount of uncertainty. Quantitative error analyses are complicated, require detailed statistical equations, and are outside the scope of the consultant's work. The EPA estimates an error range of -1% to 6% for the 2009 national inventory. Given that the City's 2005 inventory employed similar methods and analysis factors, a similar level of error can be expected, yielding an emissions range of 2,337,323 MTCO₂e to 2,502,588 MTCO₂e. Uncertainty associated with the 1990 backcast and 2020 forecast are likely higher due to the assumptions associated with the City's socioeconomic data.

^b Note that solid waste management emissions decline between 1990 and 2005 and then increase between 2005

¹⁷ Note that per capita emissions vary depending on the methodologies used to estimate emissions for each source and the types of emissions included in each inventory. For example, transportation emissions in some inventories are only included within jurisdictional boundaries while in this inventory, 50% of transportation emissions that originate or terminate in Stockton are included. Thus, per capita emissions should only be compared to values calculated using the same methodology and emissions sectors.

Emissions Sector	1990		2005		2020	
	MTCO ₂ e	% of Total	MTCO ₂ e	% of Total	MTCO ₂ e	% of Total

and 2020. This is because the landfill profile between 1990 and 2020 changes. More specifically, the number and efficiency of methane capture systems is highest in 2005, which results in the dip in emissions, compared to 1990 and 2020.

Table 11. City of Stockton 2005 Community Inventory, 1990 Backcast, 2020 BAU Forecast by Scope

Scope and Sector	Description of Sector	1990 Backcast		2005 Inventory		2020 BAU Forecast	
		MTCO ₂ e	% of Total	MTCO ₂	% of Total	MTCO ₂ e	% of Total
Scope 1 Emissions	Direct Emissions						
Agriculture	Fertilizer	928	0%	928	0%	927,87591	0%
Residential	Natural Gas	155,338	9%	204,279	9%	224,206	8%
Commercial	Natural Gas	147,415	8%	212,882	9%	263,025	10%
Industrial	Natural Gas	7,683	0%	11,095	0%	13,708	1%
Transportation	Fuel combustion	836,037	47%	1,132,265	48%	1,232,663	46%
Off-Road Equipment	Off-road equipment	154,233	9%	176,431	7%	213,300	8%
ODS	Refrigeration and AC	70,533	4%	93,127	4%	103,781	4%
Wastewater	Liquid waste	75,569	4%	99,777	4%	111,191	4%
Subtotal Scope 1							
Scope 2 Emissions	Indirect Emissions						
Residential	Electricity	107,723	6%	141,662	6%	155,481	6%
Commercial	Electricity	108,410	6%	156,555	7%	193,430	7%
Industrial	Electricity	34,425	2%	49,713	2%	61,423	2%
Waste	Waste decomposition	79,939	4%	65,720	3%	78,347	3%
Water	Electricity usage	6,977	0%	8,694	0%	12,340	0%
SF ₆	Electrical transformers	5,911	0%	7,804	0%	8,697	0%
Subtotal Scope 2							
Total Scope 1 and 2							

^a As disused in the Analysis Limitations, the calculations presented above contain a certain amount of uncertainty. Quantitative error analyses are complicated, require detailed statistical equations, and are outside the scope of the consultant's work. The EPA estimates an error range of -1% to 6% for the 2009 national inventory. Given that the City's 2005 inventory employed similar methods and analysis factors, a similar level of error can be expected, yielding an emissions range of 2,337,323 MTCO₂e to 2,502,588 MTCO₂e. Uncertainty associated with the 1990 backcast and 2020 forecast are likely higher due to the assumptions associated with the City's socioeconomic data.

GHG Reduction Measure and Cost/Benefit Methodology

C.1 Introduction

This Appendix provides a detailed overview of the calculations and assumptions used to quantify greenhouse gas (GHG) savings and costs for each of the City of Stockton's (City) GHG reduction measures. A qualitative discussion of benefits is also presented. The following information is provided for each measure.

- **Measure Description:** Details the implementation requirement(s) and reduction goal.
- **Assumptions:** Includes all assumptions used in calculating emissions reductions and costs. Because the majority of measures utilize the same assumptions, Table C-1 in Section C.5 includes a master list of assumptions for reference.
- **Analysis Details:** Presents the methods for calculating business-as-usual (BAU)¹ and baseline² emissions, as well as a more detailed discussion of calculations performed to quantify emissions reductions. A qualitative summary of benefits is also provided. Note that a reasonable amount of information is provided so that the reader can understand the basic methods and equations used to quantify emissions reductions and costs. However, this section *does not* include an exhaustive list of all calculations and steps performed; doing so would result in hundreds of pages of documentation. For additional information, please refer to the citations provided for each measure.

As an introduction to the measure details, this Appendix begins with an overview of the general GHG quantification methods by emissions sector, followed by a brief description of the approach for the cost analysis.

C.2 Overview of GHG Methods

The quantification of GHG reductions was based primarily on guidance provided by the California Air Pollution Control Officers Association (CAPCOA), other reference sources (such as the U.S. Environmental Protection Agency), and professional experience obtained from preparing climate action plans (CAP) for other jurisdictions in California. The majority of calculations were performed using standard factors and references, rather than performing a specific analysis of individual technologies. The following sections provide an overview of general calculation methods by emissions sector.

¹ BAU emissions are defined as those that would occur without the implementation of state (e.g., renewable energy portfolio, Title 24) or local action (e.g., Energy-1, Energy-2).

² Baseline emissions are defined as those that would occur with the implementation of state action, but no local action.

To avoid double counting emissions savings achieved by state programs, emissions reductions attributed to the candidate measures subtract reductions achieved through the relevant state measures first. Likewise, emissions reductions attributed to certain candidate measures subtract reductions achieved by overlapping local measures. By removing overlapping reductions, one can combine GHG reduction strategies to determine the cumulative effect of several measures without double counting measure effectiveness.

C.2.1 State Measures

The City's CAP includes emissions benefits from eleven statewide initiatives. These State measures span multiple emission sectors, but are primarily targeted at the building energy and transportation sectors. Emissions reductions achieved by these measures were apportioned to the City-level using statewide estimates of measure effectiveness and sector-specific information. For example, the California Air Resources Board (CARB) estimates that implementation of Pavley I will reduce statewide emissions from passenger vehicles by 27.7 million metric tons (MT) of CO₂ equivalent (CO₂e), or by approximately 17% (California Air Resources Board 2011). GHG reductions achieved by Pavley I within Stockton were therefore quantified by multiplying City-level 2020 BAU emissions from passenger vehicles by 17%. It is important to note that while Stockton will achieve emissions reductions as a result of State programs, implementation of State measures does not require local action.

C.2.3 Local Measures

The section summarizes local efforts that the City proposes to further reduce community-wide GHG emissions. Measures that are required by State law, such as compliance with Senate Bill X7-7, or existing City regulations, such as the Green Building Ordinance, would be mandatory for either existing and/or new development (and are identified with a [M]). The City would require implementation of these measures, pursuant to state and new or existing local laws and regulations. Measures that would be implemented through incentive-based approaches, such as building retrofits, would be voluntary and are marked with a [V]. GHG reductions associated with these voluntary measures were quantified based on anticipated participation rates. Measures that would be implemented by City but that would not create specific mandates for existing or new development are marked with a [City] mark. An example of this would be outdoor street lighting or certain transportation measures. Some measures are a combination of City measures and voluntary or mandatory measures.

Development Review Process

The City's Development Review Process (DRP) provides a streamlined and flexible program for new projects to reduce their emissions. The DRP establishes performance standards for new private developments as part of the discretionary approval process under CEQA. Under the DRP, new projects would be required to quantify project-generated GHG emissions and adopt feasible reduction measures to reduce project emissions to a level which is 29% below BAU project emissions. The DPR does not require project applicants implement a pre-determined set of measures. Rather, project applicants are encouraged to choose the most appropriate measures for achieving the 29% reduction goal, while taking into consideration cost, environmental or economic benefits, schedule, and other project requirements.

In order to quantify the reductions achieved for the DRP, the amount of new development emissions from 2012 to 2020 was estimated (174,648 MT CO₂e) and 29% reduction would result in reduction 50,648 MT CO₂e. Then the value of the other state and local measures for new development was estimated (45,685 MT CO₂e) and subtracted from the 29% reductions to derive the net additional reductions (4,963 MT CO₂e) that would result from the DRP implementation. This does not mean that the state and local other measures would apply on an equal basis for every single project, and thus individual new development projects may have higher or lower project-level burdens than the average. But the analysis conducted of this measure indicates that the bulk of reductions needed to meet the 29% reduction would be from other state and local measures would be a smaller portion from project-level reductions.

Building Energy Use

Reduction measures to address GHG emissions from building energy use are separated into two categories: energy efficiency and renewable energy. Emissions reductions associated with these measures were quantified using estimates of electricity kWh and natural gas (therms) consumed by residential, commercial, and industrial buildings (City of Stockton 2010). Activity data was provided for the existing inventory year (2005), which was scaled to 2020 under BAU conditions using the socioeconomic data summarized in City of Stockton Inventory Methodology (GHG Inventory) (Appendix B) (ICF International 2011).

Emissions reductions achieved by energy efficiency and renewable energy measures were quantified using a general standards and factors. Specifically, percent reductions in energy consumption for various actions, such as exceeding the Title 24 Standard, were obtained from CAPCOA and other literature sources. These reductions were applied to the expected 2020 energy usage to quantify total reductions in energy consumption. GHG emissions that would have been emitted had the energy been consumed were then calculated using utility-specific emission factors.

Transportation

Measures within the transportation sector seek to both reduce the number of vehicle trips, as well as encourage mode shifts from single occupancy vehicles to alternative transportation. Fehr & Peers calculated the potential reduction in vehicle miles of travel (VMT)³ that are expected to occur by 2020 with implementation of each GHG reduction measure (Fehr & Peers 2011a) (Attachment C-1). Assumptions for existing and future land use and roadway networks were developed by City staff, as documented in the GHG Inventory (ICF International 2011).

ICF estimated GHG emissions reductions from transportation measures using VMT data provided by Fehr & Peers. Based on consultation with Fehr & Peers, all measures except Trans-4 were assumed to affect only light-duty passenger vehicles (Trans-5 would affect heavy and medium duty vehicles). GHG emissions reductions were quantified by multiplying the percent reduction in VMT (Fehr & Peers 2011a) by the 2020 BAU transportation emissions summarized in the GHG Inventory (ICF International 2011).

³ VMT is the number of miles traveled by vehicles on the City's roads.

High Global Warming Potential GHGs

The CAP's High Global Warming Potential (GWP) GHG measure promotes Responsible Appliance Disposal (RAD). RAD programs reduce emissions of high GWP GHGs by capturing and destroying appliance foam. Emissions reductions associated with RAD were quantified using the Climate Action Reserves' U.S. Ozone Depleting Substances Project Protocol, version 1.0 (2010).

Off-Road Vehicle Activity

Measures within the off-road sector seek to increase the use of electricity and reduce the consumption of fossil fuels in heavy-duty off-road equipment. GHG emissions in 2020 for off-road activity within the City were quantified using the CARB OFFROAD2007 emissions model. OFFROAD2007 provides detailed estimates of fuel consumption, hours of operation, and emissions by equipment type and horsepower. GHG emissions associated with electrifying portions of the off-road vehicle fleet were determined by multiplying the model outputs by the anticipated emission reductions estimated by CAPCOA (2010). GHG reductions from vehicle idling restrictions were also quantified using OFFROAD2007 and standard fuel consumption factors.

C.3 Overview of Cost Analysis Methods

For GHG reduction measures in the energy, transport, waste, and water sectors, costs and savings directly associated with the implementation of each measure were estimated for the City, as well as for residents and businesses.⁴ Costs estimated include initial capital costs and programmatic costs, and savings include reduced costs associated with electricity, natural gas, and fuel usage,⁵ as well as the reduced need for maintenance.

Costs and savings were estimated using information specific to the City of Stockton—when available—or for similar cities in the region, State of California, or United States, prioritized in that order. The majority of data was from public sources, including the California Public Utilities Commission (CPUC), California Energy Commission (CEC), Pacific Gas & Electric (PG&E), U.S. Environmental Protection Agency (EPA), and U.S. Department of Energy (DOE), although some cost data was based on price quotes provided from suppliers serving the Northern California region. Because of the uncertainties and variability associated with costs, ranges were provided for most measures. In general, ranges reflect differences in price estimates for technologies, based on the use of multiple data sources.

Initial costs generally represent the total upfront capital investment (e.g., purchase and installation of technology) needed to produce the emission reductions estimated by the GHG Analysis in 2020, and are based on current prices.⁶ These capital investments would also generate emission

⁴ Indirect costs or benefits, such as environmental or health impacts, are not quantified or monetized.

⁵ Annual energy savings were based on estimated reductions in 2020 and valued using average bundled PG&E retail rates by customer class. While actual rates will depend on each customer's usage and the specific rate schedules, such an analysis of utility rates was beyond the scope of this analysis.

⁶ This approach shows initial costs on an undiscounted basis. To the extent that measures are actually be implemented over time (e.g., a phased-in implementation), costs would not be incurred at one time.

reductions over the lifetime of the measure.⁷ For some measures, the initial capital investment is the difference between the cost of conventional and less emissions-intensive technology.

Some measures also generate cost savings through reduced energy usage, reduced need for operations and maintenance (O&M), and other means. These costs were estimated on an annual basis. O&M cost savings were estimated on an incremental basis (i.e., only the reductions in O&M costs were estimated). For example, in Energy-2, conventional light bulbs are replaced with CFLs or LEDs that have longer rated lives and lower fail rates and thus require less frequent maintenance; the average annual reductions in labor and replacement costs associated with CFL or LED fixtures is counted in this analysis as O&M cost savings.

Annual energy savings were based on reductions in 2020, as estimated through the GHG Analysis; this approach makes the assumption that 2020 energy savings are representative of the average annual savings over the measure's lifetime. To estimate the value of energy savings, average bundled PG&E retail rates by customer class were employed.⁸ While the actual rate would depend on each customer's usage and the specific rate schedules, such an analysis of utility rates was beyond the scope of this analysis. For PG&E, the rates employed were provided by CPUC (2011) and PG&E (2011c). For the purposes of this analysis, 2011 projected rates were employed, and for simplicity, no change of utility rates was assumed (unless escalation was incorporated into external models employed for cost estimation, such as the National Renewable Energy Laboratory [NREL] System Advisor Model for renewable energy analysis). The value of water savings were based on the City's Municipal Utilities Department fee schedule (City of Stockton 2011c).

Simple payback periods were estimated by dividing the total initial capital cost by the annual cost savings—equal to energy cost savings plus incremental O&M cost savings, if applicable. The simple payback period represents the estimated number of years before the initial investment is repaid. Whenever possible, payback periods estimated in other analyses for similar measures and technologies were compared to those calculated by this analysis to provide a check on magnitude.

In addition, to allow for better side-by-side comparison of measures, cost-per-ton values for emissions reductions in 2020 were calculated in annualized dollars.⁹ This approach adjusts for the significant variation in the lifetime of individual GHG reduction measures (e.g., from energy-efficient household appliances that last 10 years to solar panels that could last up to 30), as well as variation in capital costs and annual cost savings. In more technical terms, this cost metric represents the net present value of each measure annualized over its lifetime, and then divided by the tons of CO₂ reduction that each measure is expected to achieve in 2020. Two financial concepts are important for understanding this cost metric:

⁷ In other words, these upfront investments will generate emission reductions over a longer period of time than estimated by the GHG Analysis (i.e., one year, 2020). As such, the division of GHG reductions by total initial capital costs does not result in a meaningful calculation or comparison.

⁸ Customer classes included residential, small/medium commercial, and large commercial/industrial.

⁹ Net costs are discounted over the lifetime of the measure at a rate of 5%, which is consistent with many other GHG emissions reduction cost analyses.

- **Net present value**—Net present value gives the net cost of the measure in present value terms (i.e., discounted over the lifetime of the measure). In this analysis, a negative net cost indicates that the measure is cost-saving over its lifetime.
- **Discount rate**—Future costs are discounted to give a comparable value in today’s dollars, and the rate at which those costs are discounted is called the “discount rate.” This analysis uses a discount rate of 5%, which is consistent with many other GHG emissions reduction cost analyses.

As discussed in Chapter 3, City government implementation costs were estimated by ICF and city staff for upfront program development staff costs and for annual ongoing staffing costs. These costs are presented in Table 3-3 in Chapter 3 but not discussed further in this Appendix. Where upfront capital costs or non-staff operations and maintenance costs or savings would occur for the City, they are described in this Appendix.

Costs associated with state measures were not quantified as they would occur with or without the Stockton Climate Action Plan. The summary below notes qualitatively where costs and savings may be incurred by private and public entities due to the implementation of state measures.

C.4 Overview of Measure Benefits

Many of the GHG reduction measures would result in financial, environmental, and public benefits for the City and community that are additional to the expected GHG emission reductions. These benefits include cost savings over conventional activities, reductions in criteria pollutants, job growth, economic growth, and public health improvements. Studies have shown that climate action in California can produce net gains for the statewide economy, increasing growth and creating jobs (UC Berkeley 2006a). Climate policies can produce positive economic growth through monetary savings from improvements in energy efficiency and reduced energy bills, as well as investing in technologies for innovation, which can provide new stimulus for employment (UC Berkeley 2006b). Another study demonstrated that addressing and mitigating GHG emissions on a national level can yield a large savings potential, benefit the global economy, and can be mostly achieved through implementation of existing technology (Vattenfall 2007). Based on literature reviews, a qualitative discussion of anticipated benefits is provided for each of the City’s GHG reduction measures. Benefits are identified using the following icons.

	Reduced Energy Use		Reduced Energy Price Volatility
	Reduced Waste Generation		Economic Growth
	Resource Conservation		Public Health Improvements
	Energy Diversification and/or Security		Increased Quality of Life



Reduced Air Pollution



Reduced Urban Heat Island Effect



Increased Property Values



Smart Growth

C.5 Common Assumptions

As discussed in Section C.1, the measure write-ups include all assumptions used in calculating emissions reductions and costs. Because the majority of measures utilize the same assumptions, Table C-1 provides a master list of assumptions. Each assumption is numbered for reference.

Reduction and Cost Analysis
Methodology for non-bicycle related
reductions have been removed.

Trans-5: Reduce Barriers for Non-Motorized Travel [CITY]

Measure Description

Reduce physical barriers to bicycle and pedestrian networks by providing additional bicycle lanes and implementing the Multi Modal Street Design Guidelines.

Assumptions

Quantification of this measure employs the assumptions 1, 122, 125, and 130 in Table C-1.

Analysis Details

GHG Analysis

Cycling is a non-emissions forming mode of transportation that has a high potential for success in Stockton. By encouraging implementation of the City's adopted Bicycle Master Plan, existing gaps in the network can be filled. Beyond this, providing facilities for bicycle commuters, such as showers and bicycle lockers, can encourage them to use this mode for short and medium length trips (Fehr & Peers 2011a).

Baseline Emissions

The GHG Inventory quantified emissions associated with on-road transportation in 2020 under BAU conditions (Appendix A). Reductions achieved by overlapping state measures⁴⁰ (e.g., Pavely I) were subtracted to obtain baseline emissions for the transportation sector. Because the measure primarily affects light-duty vehicles, baseline emissions from light-duty autos were quantified by multiplying transportation emissions by 0.55.⁴¹

Emissions Reductions

Based on modeling conducted by Fehr & Peers, Trans-5 was assumed to result in a VMT reduction of 15,520 daily miles or 0.2% of total miles under 2020 BAU conditions (Attachment C-1). Implementation of the measure is not anticipated to significantly affect the distribution vehicle speeds within the City (Tellez pers. comm.). Consequently, the percent reduction in VMT was assumed to be commensurate with the percent reduction in GHGs. Emission reductions associated with this measure were therefore calculated by multiplying the percent reduction in VMT by the baseline emissions for light-duty autos.

Cost Analysis

The costs for this measure were based on the City of Stockton's Bicycle Master Plan (City of Stockton 2007), as completed in 2007. The capital costs of installing bikeway facilities is estimated to range from \$75,000 to \$600,000 per mile, assuming Class I or II facilities. A total of 18 miles are assumed to be constructed by 2020, for a total capital cost ranging from \$1.4–\$11 million. Annual maintenance costs for bikeway facilities range from \$5,000 to \$10,000 per mile, or up to \$90,000–\$180,000 (midpoint of \$135,000) per year by 2020. Additional costs would also be incurred for bicycle storage and shower facilities, multi-modal street design guidelines, and the purchase and maintenance of bicycles and associated equipment. The City would also incur limited costs for staff time to amend the City Zoning Code and to conduct planning and project administration.

Bicyclists might expect maximum annual cost savings of \$2.4 million from reduced VMT. The cost savings associated with reduced VMT were calculated by multiplying the number of VMT reduced, as calculated in the GHG Analysis, by \$0.19 per mile for fuel cost savings and \$0.24 per mile for non-fuel cost savings, including reduced oil, tires, maintenance and repair, and depreciation (Caltrans 2010).

A lifetime of 20 years was assumed for this measure. Cost-per-ton (including the value of reduced VMT) is estimated to range from -\$1,555/MTCO_{2e} to -\$1,079/MTCO_{2e}.

⁴⁰ Reductions from overlapping local measures were not removed as the analysis prepared by Fehr & Peers took care to avoid double counting VMT reductions between all measures.

⁴¹ Value based on an EMFAC2007 model run for San Joaquin County in 2020. Light-duty auto assumed to represent "light-duty auto (PC)," "light-duty trucks (T1)," and "light-duty trucks (T2)."

Co-Benefit Analysis

The following benefits are expected from implementation of Trans-5.



Reduced Energy Use: Providing network connections and facilities for bicycle commuters, such as showers and bicycle lockers, can encourage them to use non-motorized transportation for short and medium length trips. As a result, the number of vehicle trips made within the City, and thus gasoline and diesel consumption, would be reduced.



Reduced Air Pollution: Because less petroleum would be consumed by vehicles within the City, air pollutants generated by fossil fuel combustion, including particulate matter, carbon monoxide, sulfur dioxide¹⁵, and ozone precursors¹⁶, would be reduced. Likewise, reductions in congestion from fewer vehicles on the roadway network would contribute reductions in emissions generated by vehicle idling.



Public Health Improvements: Fossil fuel combustion release several toxic air contaminants known to cause adverse human health effects. Reductions in the amount of fuel combusted would result in corresponding reductions in toxic air contaminants. Additionally, reductions in ozone precursors would reduce the formation of smog, which has numerous human and environmental effects, including respiratory irritation and reduced plant productivity. Walking and bicycling would also provide exercise, which may help reduce obesity and other ailments caused by inactivity.



Increased Quality of Life: Improving the connectivity of the pedestrian and bicycle network would increase public mobility. Amenities like showers and lockers may also make bicycling and walking more enjoyable. Finally, reductions in the number of vehicle trips may reduce congestion and travel times.



Smart Growth: Creating a more walkable and accessible environment is a tenant of smart growth development.

Trans 4 – Goods Movement

There are a number of at-grade railroad crossings throughout the City of Stockton, including those on Eight Mile Road and Lower Sacramento Road. These at-grade crossings contribute to vehicle delay, especially when long freight trains pass through the crossings. Longer freight trains have been observed to block intersections in Stockton for significant periods of time, increasing vehicle idling and in some instances creating congestion and circuitous travel on alternate routes that avoid the crossing. Providing grade-separated crossings where rail lines and roadways intersect can reduce idling and traffic diversions. Two grade separated crossings on Eight Mile Road and one grade separated crossing on Lower Sacramento Road are currently under construction. In addition, a grade separated crossing is planned on Sperry Road. Based on a study conducted by the City of Irvine, it is expected that VMT could be reduced by up to 10,251 miles.

Grade separations on Airport Way and French Camp Road are planned to be constructed when these roadways are widened to accommodate approved and pending projects in the area, although there is currently no schedule for their construction; should these improvements be constructed over the life of the CAP, additional VMT reductions could be realized.

Trans 5 – Reduce Barriers for Non-Motorized Travel

Cycling is a non-emissions forming mode of transportation that has a high potential for success in Stockton. By implementing the City's adopted Bicycle Master Plan, existing gaps in the network can be filled. Beyond this, providing facilities for bicycle commuters – such as showers and bicycle lockers – can encourage them to use this mode for short and medium-length trips.

In 2007, the City of Stockton completed a Bicycle Master Plan which identified existing bicycle routes, bicycle usage, and future improvements to the bicycle system. This report also identified several major gaps in the City's bicycle network including the need for additional connections to major destinations. It is anticipated that the addition of these bicycle facilities will encourage additional bicycle commuting, as well as bicycling for other trip purposes, such as for shopping or personal business. According to this study, approximately 0.5 percent of commuters travel to work via bicycle; however, 13 percent of Stockton residents have a driving commute of 10 minutes or less, indicating that at least some of these commutes could potentially occur via an alternative mode, such as bicycling, if facilities were provided.

One method that can be used to estimate the increase in bicycle commuting is provided in a publication entitled *If You Build Them, Commuters Will Use Them; Cross-Sectional Analysis of Commuters and Bicycle Facilities* (Transportation Research Board Record 1578, 1997). This report estimated an increase of bicycle commuting of 0.075 percent per mile of bikeway added for each 100,000 residents. Based on the historical and projected rate of construction of new bicycle facilities, it is expected that approximately 2 miles per year of new bicycle facilities would be constructed over the life of the CAP.

Using the above methodology, the City's bicycle commuting share is anticipated to increase by approximately 6 percent. Implementation of other bicycle supportive policies would also contribute to the potential that short trips within Stockton could occur via bicycle and it is likely that non-commute trips would increase as well.

One impediment to bicycle commuters is that there is often no specified place to store or park bicycles. Another impediment is that bicyclists often are unable to shower and change after riding to work and therefore may be disinclined to commute using bicycles. One method to address these disincentives is to require new developments to provide bicycle lockers and showers on site. This can be accomplished by adding requirements to the City's Zoning Code. These requirements are consistent with Rule 9410, Employer Trip Reduction, of the San Joaquin Valley Air Pollution Control District.

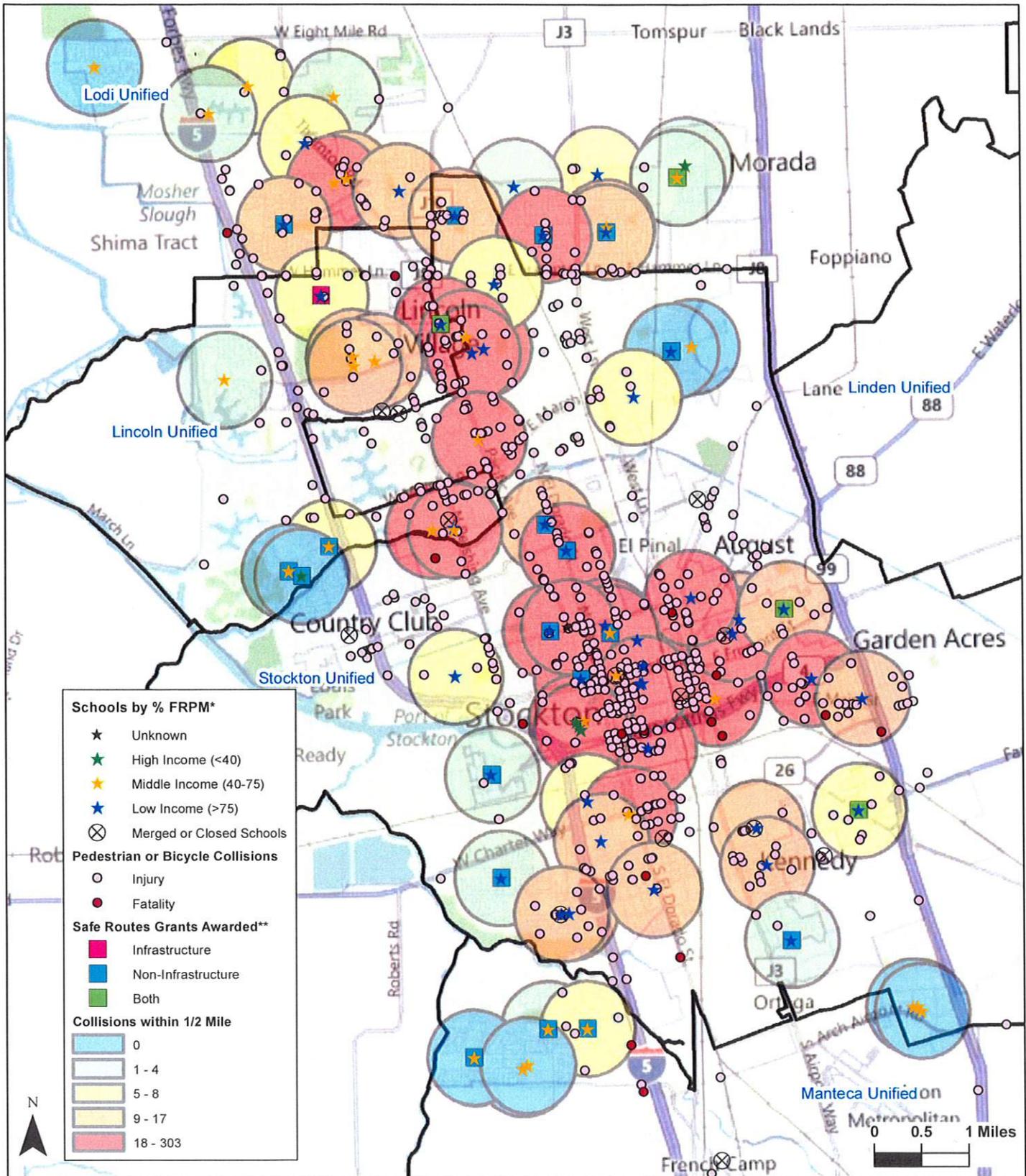
The "How to Reduce the Number of Short Trips By Car" study noted that enacting policies to provide additional bicycle facilities should reduce automobile trips by 5-10 percent. This is supported by a 2008 US EPA study. We assume that the reduction in vehicle trips for the provision bicycle lockers and showers alone would be 1 percent. However, this reduction would be further reduced because these reductions would only apply to new development and would only apply to commute trips.

In addition to measures identified by the Bicycle Master Plan, the CAP assumes implementation of *Multi-Modal Street Design Guidelines* as prepared by Fehr & Peers and the reduction of physical barriers to bicycle and pedestrian networks at freeways, railroads, cul-de-sacs, and connections to transit stops.

Overall the provision of additional bicycle and pedestrian facilities and implementation of the multi-modal street design guidelines is expected to reduce daily VMT by 15,520.

Stockton - Pedestrian or Bicycle Collisions Near School Sites (2007-2009)

Attachment D



*Schools classified according to percentage of students eligible for the Free/Reduced Price Meal Program (2010).
 **Safe Routes to School awards include state and federal funding from 2005 - 2011.



2011

Check to see if that's where it came from ^

COLLISIONS

COUNTY	CITY	ROAD CLASSIFICATION	TOTAL		Alcohol Involved		Pedestrian Involved		Bicycle Involved		Bicycle Involved		Motorcycle Involved		Motorcycle Involved		
			Fatal	Injury	Fatal	Injury	Fatal	Injury	Fatal	Injury	Fatal	Injury	Fatal*	Injury*	Fatal*	Injury*	
San Joaquin			79	3,087	35	331	15	192	3	199	9	170					
			Escalon		24		5	1		1			2				
			Lathrop		63		8	3		1			7				
			Lodi	3	243		30	24		31		1	15				
			Manteca	5	214	4	19	1	23		11	4	15				
			Ripon	1	21	1	4	1			1		2				
			Stockton	27	1,318	11	107	8	102	1	115	1	56				
			Tracy	1	203		7	16		21		10					
			Unincorporated	42	1,001	19	151	5	23	2	18	3	63				
			Uninc. State Highways	20	535	9	78	1	5		2		31				
County Roadways	22	466	10	73	4	18	2	16	3	32							

VICTIMS

COUNTY	CITY	ROAD CLASSIFICATION	Driver		Passenger		Pedestrian		Bicyclist		Motorcyclist*		TOTAL		
			Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	
San Joaquin			50	2,734	16	1,384	14	197	3	201	2	83	4,516		
			Escalon		25		7	1		1		8		34	
			Lathrop		67		21	3		1		16		92	
			Lodi	3	193		89	24		31	4	16	3	337	
			Manteca	4	168	1	82	24		10	2	5	284		
			Ripon		20		9			1		58	1	30	
			Stockton	11	1,118	9	636	8	104	1	118	9	29	1,976	
			Tracy	1	156		88	17		21		66	1	282	
			Unincorporated	31	987	6	452	5	24	2	18	34	44	1,481	
			Uninc. State Highways	17	542	3	276	1	5		2	32	21	825	
County Roadways	14	445	3	176	4	19	2	16	92	23	656				

Vertical line

Vertical line

Vertical line

Vertical line



From Table 3

Funding Dollars	Years	Days	Auto VMT Trips Reduced		Auto VMT Miles Reduced		EF ROG	EF Nox	EF PM10	VMT ROG	VMT Nox	VMT PM2.5	ROG	Nox	PM2.5	Total Pounds Removed	Value Pollution Removed
			per Day	Miles	per Day	Miles											
\$ 550,000	1	365	188,827	776.00	283,240	0.399	0.129	0.003	0.132	0.146	0.087	248.3	144.7	55.5	448.6	\$3,140	
\$ 550,000	5	365			1,416,200										2,242.8	\$15,700	

Over 5 years (BMP to be updated every 5 years)

Assume the BMP update is functionally equivalent to 5% of the network buildout

Annual Auto Trips Reduced (Column L)

(Days) x (ADT) x (Adjustment + Credit for Activity Centers)

Annual Auto VMT Reduced (Column M)

(Auto Trips Reduced) x (Length of Trip)

Annual Emission Reductions (Columns U, V, & W) [pounds per year]

[(Annual Auto Trips Reduced x Auto Trips End Factor) + (Annual Auto VMT Reduced x Auto VMT Factor)]/454

Cost Effectiveness

(CRF x Funding)/(Total pounds removed)

value pollution removed = \$14,000/ton=\$7/lb

value GHG reduced = \$39/metric ton=\$0.02/lb

Greenhouse Gas Reduction per year	283,240
Over 5 years	1,416,200
Dollar Value	\$28,324

Lagerstroemia indica (Crape Myrtle)

in years	years	trunk width	lbs CO2 sequestered per year per tree	cumulative CO2 sequestered per tree	total lbs CO2 for 100 trees
0-3	2	2 in.	3	6	600
3-5	2	3 in.	4.4	8.8	880
5-7	2	4 in.	5.4	10.8	1080
7-9	2	5 in.	6.2	12.4	1240
9-20	12	6 in.	6.6	79.2	7920

SUBTOTAL 11720

5 year subtotal 1480

Pistacia chinensis (Chinese Pistacia)

in years	years	trunk width	CO2 sequestered per year per tree	cumulative CO2 sequestered per tree	total lbs CO2 for 60 trees
0-3	2	2 in.	6.5	13	1300
3-5	2	3.5 in.	19.5	39	3900
5-7	2	4.5 in.	28.9	57.8	5780
7-9	2	6 in.	42	84	8400
9-20	12	7 in.	49.7	596.4	59640

SUBTOTAL 79020

5 year subtotal 5200

TOTAL CO2 SEQUESTERED (LBS) 6,680
 TOTAL CO2 SEQUESTERED (metric tons) 3.0
 \$39/metric ton **TOTAL SAVINGS \$118**

CITY OF STOCKTON



BICYCLE FACILITIES MASTER PLAN (BIKEWAY PLAN)

**Prepared By:
COMMUNITY DEVELOPMENT DEPARTMENT
&
PUBLIC WORKS DEPARTMENT**

Based on the Traffic Safety Program and Bicycle Safety Program Update

**Prepared by:
Korve Engineering
E.C. Jiu Associates
Economic and Planning Systems**

**Adopted by City Council
May 8, 1995**

Updated

January 26, 1999

Amended June 26, 2001

AMENDED JUNE 26, 2003



SECTION 2
INTRODUCTION

This Bikeway Plan was compiled from work completed from Traffic Safety Program and Bicycle Safety Program Update study conducted for the City of Stockton and the California Department of Transportation Office of Traffic Safety (included as Appendix A).

The development of the Traffic Safety Program and Bicycle Safety Program Update and subsequently this Bikeway Plan was accomplished through a cooperative effort of representatives from the City of Stockton, the San Joaquin Council of Governments, San Joaquin County, the Stockton Bicycle Club, the San Joaquin Bicycle Council, the Trails Coalition of San Joaquin County, University of the Pacific, and Stockton Metropolitan Area Transit District.

Public participation was included at two points in the study. The first was through a bicycle survey conducted in late April/early May 1993. The second was through a public presentation of the draft Bikeway Plan held on September 21, 1993. Comments received were incorporated into the proposed Bikeway Plan.

SECTION 3
BIKEWAY PLAN

1. INTRODUCTION

The Bikeway Plan serves as an update to the City of Stockton's 1980 Bicycleway Plan and is based on the current General Plan limits as defined in the City of Stockton General Plan. The plan incorporated information from a number of existing sources such as the 1980 Bicycleway Plan³, the 1990 City of Stockton General Plan⁴, 1990 Journey to Work Data⁵, the County of San Joaquin Bicycle Plan⁶ and the Arterial Streets Improvement Project Alternatives Analysis⁷ as well as new information developed from the bicycle survey and field review. The Bikeway Plan includes new development areas in the City of Stockton and increases the lane mileage of bicycle paths and lanes.

The City of Stockton, like other cities, is dependent on the automobile as the dominant form of transportation. However, bicycling can be an important travel mode in the City of Stockton given its flat terrain and favorable climate. According to the 1990 census, less than 1 percent of workers (approximately 700) commute to work by bicycle in the City of Stockton, and it is not certain how many bicyclists are recreational riders only. The bicycle also has a number of advantages over the automobile: it takes up less space, it does not use fossil fuels, it does not pollute the air, it does not make noise, it is inexpensive to operate, and it provides significant health benefits⁸. However, there are significant barriers to bicycle riding in the City of Stockton. First is the absence of a comprehensive bikeway system coupled with physical barriers such as freeways, waterways, and railroads. Many roadways in the City are also perceived as unsafe for bicyclists because of lack of facilities and general knowledge about safe bicycle riding practices from both the motorist's and the bicyclist's perspective. Additionally, current land use design does not encourage the use of bicycles and funding to provide bicycle facilities is very limited.

The development of the updated bikeway plan was accomplished through a cooperative effort of representatives from the City of Stockton, San Joaquin Council of Governments, San Joaquin County, the Stockton Bicycle Club, the San Joaquin Bicycle Council, the Trails Coalition of San Joaquin County, University of the Pacific, and Stockton Metropolitan Area Transit District. This group, listed at the end of this Plan, has met once a month since March 1993 to update and expand the plan, some of the time volunteered. Public input was obtained via two sources; a survey and an open house. The survey methodology and results are described in this section. The public Open House presenting the bicycle plan was held on September 21, 1993. A list of attendees

is presented in Appendix B. Responses to the comments received at the public meeting are incorporated, where possible, into this document. A summary of comments and responses are found in Appendix C. It is testimony to the commitment to providing a safe bicycling environment in the City of Stockton that this plan is produced.

Purpose

The purpose of the proposed Bikeway Plan is to identify bicycle travel characteristics and update the 1980 Bicycleway Plan. This includes the identification of the purpose of bicycle trips, primary destination points, and routes used. This update includes a review of how existing routes serve the need of bicyclists and an assessment of what bikeway facilities are needed to serve areas that have been developed since 1980. The specific objectives of the Bikeway Plan are:

- Identify key bicycle travel characteristics by surveying bicyclists in the City of Stockton;
- Develop an existing and proposed bicycle attractor map based on land use information in the General Plan and other sources;
- Preparing an updated plan;
- Identify short term and long term funding availability and collect information on existing internal and external funding sources;
- Prioritize bikeway improvements; and
- Recommend improvements for a three to five year period.

Section Organization

This section is organized in the following sub-sections:

1. Introduction
2. Methodology
3. Recommended Bikeway Plan
4. Funding Sources
5. Recommended Implementation Projects and Financing Plan



CITY OF STOCKTON

DEPARTMENT OF PUBLIC WORKS
CITY HALL
425 N. EL DORADO STREET
STOCKTON, CA 95202-1997

April 27, 1993

BICYCLE PLAN

The last Bicycle Plan for the City of Stockton was adopted in 1979. Since planning for the City's future has changed significantly since 1979, the City and the California Department of Transportation Office of Traffic Safety have undertaken an effort to develop a 1993 Bikeway Plan for the City of Stockton. As part of the study to formulate recommendations for this Bikeway Plan, we are requesting your help in a survey to obtain information about bicycle ridership and needs in the City of Stockton.

Please take a moment to answer a few questions about your bicycling habits during the last week. All information will be held in confidence.

If you would like to have your name placed on a mailing list to receive a copy of the draft Bikeway Plan, please record your name and address in the space below and mail to the indicated address. If you have any questions regarding this survey, please contact: Traffic Engineering Division, City of Stockton, Phone (209) 944-8282.

Thank you for your participation in this important planning effort.

JAMES B. GIOTTONINI
PUBLIC WORKS DIRECTOR

JBG:GT:cc

cc: Dwane Milnes, City Manager

=====

PLEASE PLACE MY NAME ON THE MAILING LIST FOR THE 1993 UPDATE OF THE CITY OF STOCKTON BIKEWAY PLAN. SEND REQUESTS TO:

City of Stockton, Traffic Engineering Division
425 N. El Dorado Street
Stockton, CA 95202-1997

Name: _____

Street Address: _____

CITY OF STOCKTON BICYCLE SURVEY

Please record the date that you are completing this survey: _____, 1993

1. In a typical month, how many times do you ride your bicycle? _____
2. In the last week, I used my bicycle: ___ Not At All (Skip to Question 5); ___ 1 time; ___ 2 times; ___ 3 times; ___ 4 times; ___ 5 times; ___ More Than 6 times
3. Of the bicycle trips reported in Question 2 above, how many were for:
 ___ Work; ___ Shopping; ___ School; ___ Visiting friends; ___ Recreation; ___ Exercise;
 ___ Other

4. If you recorded school or work trips in Question 3, please record the nearest major intersection to your school or work site: _____

For those work or school bicycle trips noted in Question 3, please record your general route listing major streets only. (For example: If you live on Stanton Way and work at City Hall, you would record the following; Benjamin Holt Drive, Pacific Avenue, Alpine Avenue, Kensington Way, Fremont Street). My general route is: _____

5. For those recreational bicycle trips noted in Question 1 or 3, please list your general route listing major streets only. (For example: If you live on Venetian Drive and are bicycling to Swenson Park, you would record the following; Quail Lakes, Alexandria Place). My general route is: _____

For the following questions, bicycle facilities refer to three separate types:

- **Bike Trails** Bike facilities that are physically separated from the street
- **Bike Lanes** Bike facilities that are located on-street marked with exclusive lanes separated from automobile traffic and indicated by "Bike Lane" signs
- **Bike Routes** Bike facilities that share the street with automobiles and are indicated by a "Bike Route" sign

6. Please list the name of any bicycle facilities (bike paths, lanes, or routes) that you are aware of in the City of Stockton. In the case of bike lanes or bike routes, please list the street name. _____

7. When bicycle riding on major roadways, do you prefer bike lanes or bike routes?
 ___ Bike Lanes ___ Bike Routes

8. Would you be willing to pay a bicycling licensing fee to support a bicycle program? ___ Yes ___ No

9. Please describe any means of financing a bicycle program that you might recommend _____

10. On the attached map, please highlight roadways where you feel bike lanes or bike routes should be provided for bicyclists.

Demographical Information

11. Year of Birth _____

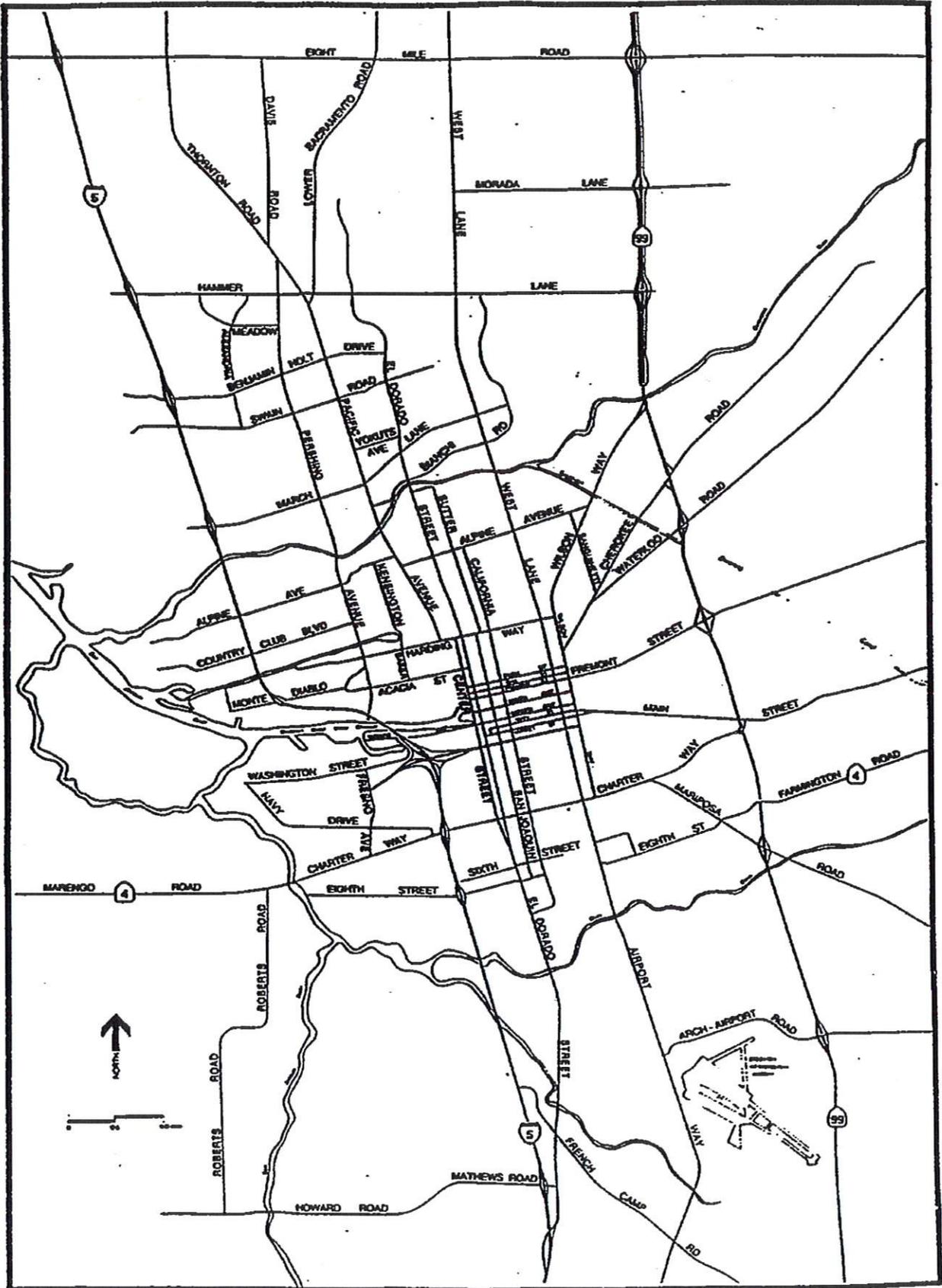
12. Sex: ___ Female ___ Male

13. Nearest Major Intersection To Home Residence: _____

14. Please describe any major hindrances or safety issues to bike riding in the City of Stockton: (use the back if you need more room) _____

THANK YOU VERY MUCH FOR YOUR HELP!
 Please Return Survey by May 7, 1993

CITY OF STOCKTON BICYCLE SURVEY

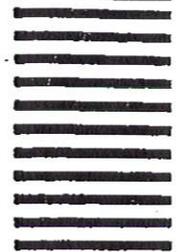


On the above map, please highlight the streets where you feel bike lanes or bike routes should be provided. If you feel other improvements are needed to make these streets safe for bicycling, please list on the back of this page.

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS
CITY HALL
425 N EL DORADO ST
STOCKTON CA 95202-1997



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DEPARTMENT OF PUBLIC WORKS
CITY HALL
425 N EL DORADO ST
STOCKTON CA 95297-0250



(fold in half here)

Additional Comments:

Bicycle Questionnaire Summary By Question

One hundred and thirty seven (137) completed questionnaire forms were collected. A sample questionnaire is attached. The information was summarized and is presented in this section.

Of the 137 surveys, 20 percent were received from the bicycle shops, 7 percent from the newspaper *Connections*, and 2 percent from schools. The majority were received from City of Stockton program distribution (42 percent) and the Stockton Bicycle Club (29 percent).

Question 1 queried about monthly ridership. Respondents appeared to be interpreting this question in different ways. The question "In a typical month, how many times do you ride your bicycle" was answered with just a plain number or a number with days or miles written after it. The usefulness of the data was questionable and so it was thrown out.

Question 2 asked about weekly ridership. In a mail-out survey, the question was asked—whether bicycle riding was a regular part of their commute or recreational transportation. In response, results indicated that in the week before the survey, forty-seven percent (47%) of the respondents rode their bicycles 4 or more times. Eight percent (8%) rode not at all, fifteen percent (15%) rode one to two times, and fifteen percent (15%) rode 3 times. In a follow-up phone survey, results indicated that in the week after the mail-out survey, seventeen percent (17%) rode 4 times a week, while fifteen percent (15%) rode 5 times and thirty percent (30%) rode 6 times or more.

Question 3 asked about trip purpose: work, shopping, school, visiting friends, recreation, exercise, other. The responses tell us how many of the respondents used their bicycles for a specific trip purpose during the week of the survey. The following trip purpose information was recorded:

<u>Trip Purpose</u>	<u>Percent Using Bicycle</u>	<u>Percent Not Using Bicycle</u>	<u>Total Percent</u>
Work	44	56	100
Shopping	21	79	100
School	20	80	100
Visiting	22	78	100
Recreation	47	53	100
Exercise	65	35	100
Other	14	86	100

Question 4 has two parts. The first asked for the nearest intersection to the respondents work or school site. The Figure 3 shows the areas most frequently mentioned. All are north of Charter Way.

The second part asked for major streets used on the route taken to school or work. The number of times a street was mentioned was recorded. Streets with 20 or more mentions include Pacific Avenue and Pershing Avenue. Ten to nineteen mentions include Alpine Avenue, El Dorado Street, Hammer Lane, and March Lane. Five to nine mentions include Airport Way, Benjamin Holt Drive, Brookside Road, Charter Way, Fremont Street, Harding Avenue, and the Calaveras Bike and Jog Trail. Approximately 60 additional streets were named less than five times.

Question 5 was similar to Question 4 except that it asked for major streets used on the recreational bicycle routes. Again, the number of times a street was mentioned was recorded. Streets with 20 or more mentions include March Lane and Thornton Road. Ten to nineteen mentions include Eight-Mile Road, Benjamin Holt Drive, Davis Road, Hammer Lane, and Pershing Avenue. Five to nine mentions include SR 99 Frontage Road, the Calaveras Bike and Jog Trail, Brookside Road, El Dorado Street, Feather River Drive, Pacific Avenue, Quail Lakes Road, Swain Road, and West Lane. Over 70 additional streets were named less than five times.

Question 6 queried respondents about bicycle facility awareness in the City of Stockton. The responses were tabulated. The data shows that the most frequently mentioned facilities were the Calaveras Bike and Jog Trail with 65 mentions, Pershing Avenue with 31 mentions, Quail Lakes with 16 mentions, Alexander Place with 13 mentions, Benjamin Holt Drive with 10 mentions, March Lane with 9 mentions, West Lane with 7 mentions, Feather River Road with 5 mentions, Brookside Road with 5 mentions, SR 99 Frontage Road with 4 mentions, and Baker Street with 3 mentions. Others that were mentioned less than 3 times were the Levee, EBMUD, Robinhood Road, San Joaquin Road, Wilson Way, Pacific Avenue, California Street, Davis Road, Sutter Street, and Gettysburg Street.

Question 7 asked the respondents preference for bike lanes or bike routes. Bike lanes were preferred by 74 percent of the respondents and bike routes were preferred by 21 percent. The remainder preferred both.

Question 8 asked if respondents were willing to pay a bicycle licensing fee. Six percent did not respond. Seventy-eight percent would be willing to pay a fee and the remainder were not.

Question 9 asked respondents to describe any means of financing a bicycle program. The most frequently mentioned methods of financing, excluding a bicycle licensing fee, are described below. Various methods of using existing tax bases were mentioned. These include using funds from the gas tax (16 mentions), bicycle and accessory tax (8 mentions), sales tax (4 mentions), additional property tax (3 mentions), and city tax (3 mentions).

A second method of creating funding sources was through fundraising techniques such as bicycle tours/races/events (11 mentions), general donations (three mentions), corporate sponsorships (4 mentions), bicycle commuter (1 mention), and selling bicycles confiscated by the police department (1 mention).

Suggestions were made that existing funding sources such as the Federal Highway funds/State of California/City of Stockton funds (8 mentions), Measure K (8 mentions), ISTEA (2 mentions), CDBG (1 mention), street improvement/maintenance (5 mentions), Proposition 116 (1 mention), and additional charges on new development (7 mentions) be used. Other funding sources mentioned were collecting Department of Motor Vehicle fees on auto registration, auto violations, and bicycle violations; giving pollution credits; charging additional parking fees at Buckley Cove, Parks, and City parking structures; and collecting tolls on the Calaveras bike trail.

Question 10 asked respondents to mark on a map where they would like to see bicycle facilities in the City of Stockton. Every roadway was mentioned at least once. This information will be used in developing the Draft Arterial Bikeway Plan presented later in the report.

Question 11 summarized the age of the respondents and is presented below:

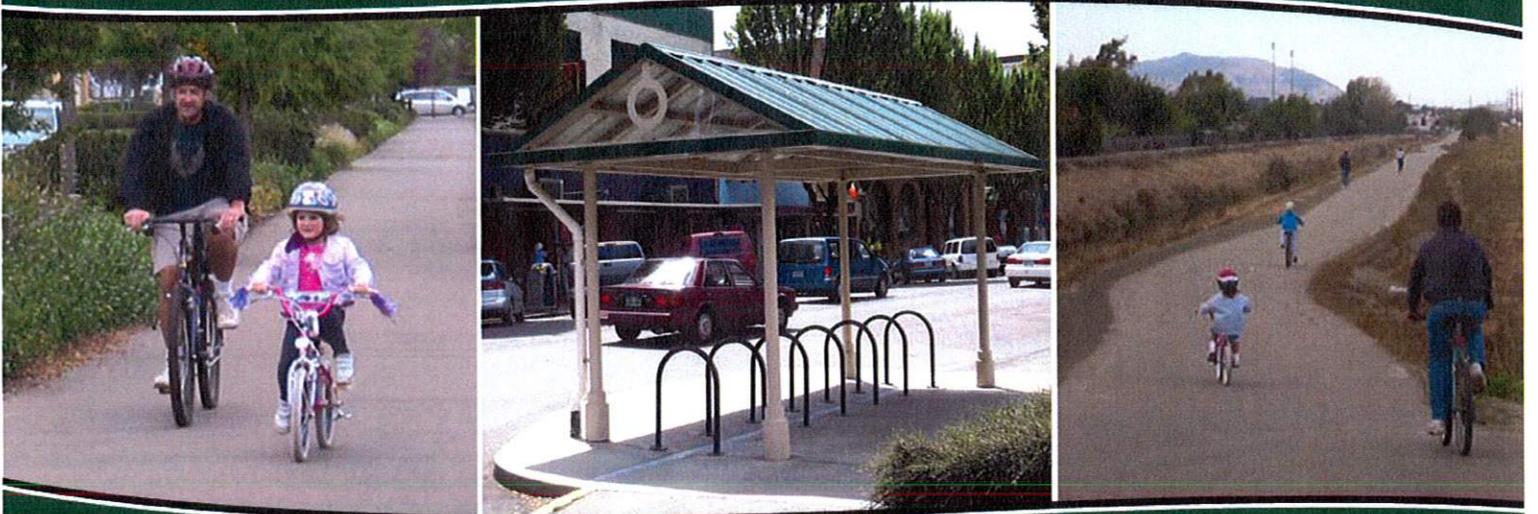
<u>Age</u>	<u>Percent</u>
17 and under	5
Between 18 and 25	13
Between 26 and 35	18
Between 36 and 45	31
Between 46 and 55	26
Between 56 and 65	4
Between 66 and 93	3

Question 12 recorded the respondent's gender. The majority (74 percent) were male and the remainder were female.

Question 13 asked for the nearest major intersection to home. With the exception of one on Mathews Road, all were located north of Charter Way.

Question 14 allowed respondents an opportunity to describe any major hindrances or safety issues to bicycle riding in the City of Stockton. The responses are summarized below.

- Lack of Bikeway facilities in the City of Stockton (33 mentions)
- Safety (e.g., increasing traffic, speeding automobiles, reckless driving, danger of being hit by an automobile, automobiles driving in bicycle lanes, dangerous to be so close to traffic, roads too narrow, narrow shoulders, no traffic enforcement, automobilists trying to hit or frighten bicyclists, dogs, no safe place to ride) (79 mentions)
- Street conditions are poor (bicyclists can not be detected by traffic signals, streets are full of debris, no handicapped curb cuts, more crossings of Calaveras needed, bridges are too narrow, not enough crosswalks) (26 mentions)
- Lack of bicycle amenities (5 mentions)
- Parked Vehicles (3 mentions)
- Lack of automobile driver awareness and consideration of bicyclists and lack of educational programs for automobilists on how to share the road (16 mentions)
- Lack of educational programs for bicyclists (7 mentions)
- Fear of personal safety because Stockton is unsafe (2 mentions)
- Automobile exhaust (1 mention)
- Indifferent elected officials



FINAL

City of Stockton Bicycle Master Plan

November 2007



2014 ATP Bicycle Master Plan Update



Page 85 of 123

Acknowledgements

Mayor

Edward Chavez

City Council

Steve Bestolarides

Dan Chapman

Leslie Martin

Clem Lee

Susan Eggman

Rebecca Nabors

Planning Commission

J.J. Jones, Chair

Mark Martinez, Vice Chair

Christopher Kontos

Reverend Dwight Williams

Constance Fitzpatrick Smith

Christina Fugazi

Gloria Johnson

Public Works Department Director

James Giottonini

Parks and Recreation Department Director

Pamela Sloan

Consultants

Fehr & Peers

CHAPTER 1: INTRODUCTION

BACKGROUND

This Bikeway Plan updates the City of Stockton's existing Bikeway Plan (written in 1994, adopted in 1995, updated in 1999, and amended in 2001 and 2003; herein referred to as the "1994 Bikeway Plan") and is consistent with the new General Plan update currently underway. The plan incorporates information from a number of sources such as the 1994 Stockton Bikeway Plans, the 1990 City of Stockton General Plan¹, Census 2000 Journey to Work Data, the 1994 San Joaquin County Bicycle Plan², and the Arterial Streets Improvement Project Alternatives Analysis³, as well as information from the 1994 bicycle survey and more recent field reviews. The Bikeway Plan includes new development areas in the City of Stockton and increases the mileage of bicycle paths, routes, and lanes.

This Bikeway Plan was completed during the General Plan update process and reflects input from the public and City staff as well as the new policies identified in the General Plan relating to non-motorized travel. This Bikeway Plan is intended to meet Caltrans' requirements for bicycle plans. As part of the update, a public meeting was conducted on September 8, 2004 to gather input on current deficiencies in the City's bicycle network and recommendations for future bicycle-related policies and facilities. A Draft of the plan was posted on the City's website in August 2007 and also sent to members of the Stockton Bicycle Club in August 2007 for review and feedback. A meeting was held with a representative of the Bicycle Club in September, 2007. Comments received were incorporated into the Bikeway Plan.

CONFORMANCE WITH FUNDING REQUIREMENTS

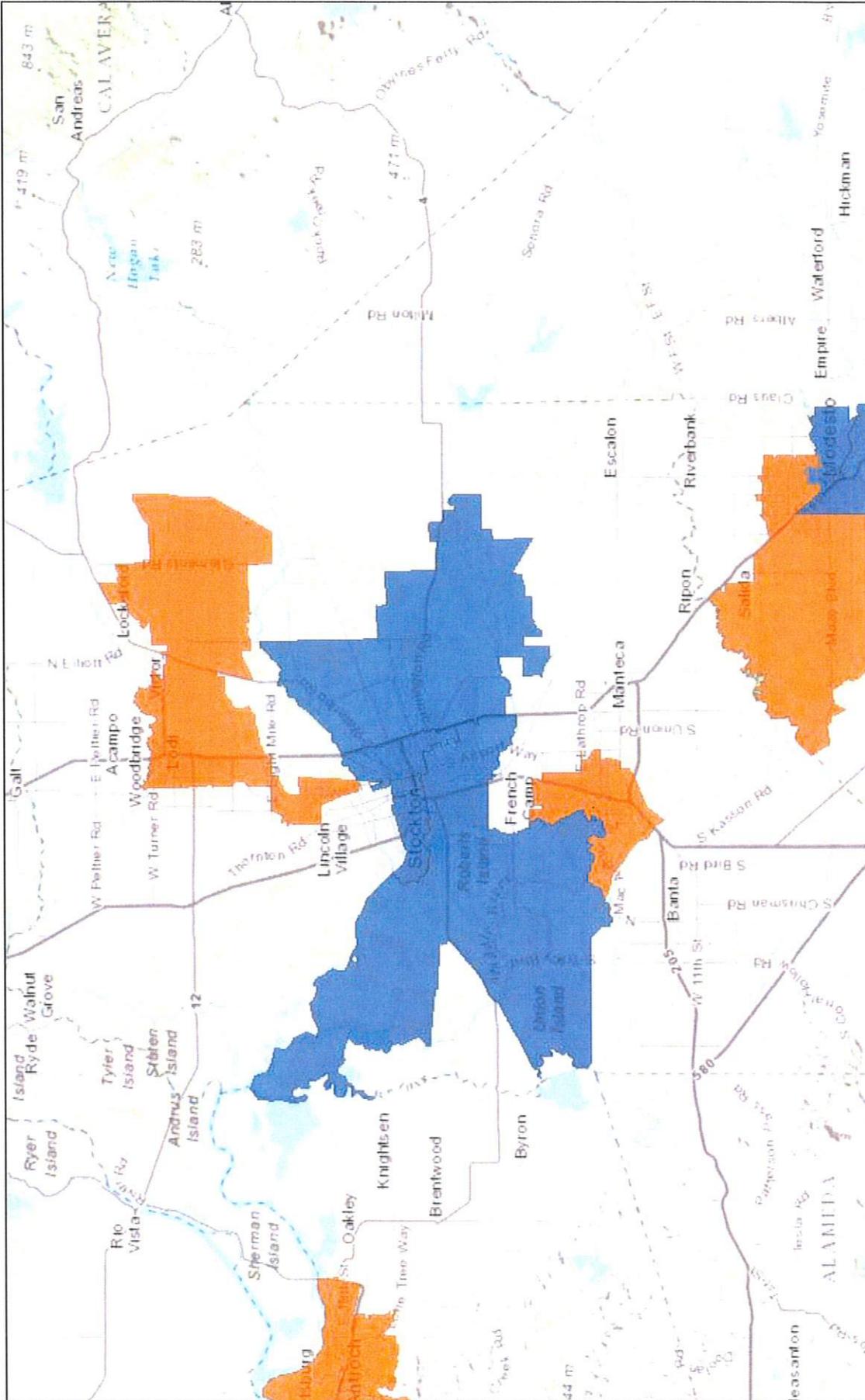
The *Bicycle Master Plan* conforms to the California Bicycle Transportation Act (BTA) and the Transportation Development Act (TDA), which allows the City to pursue grant funds for bicycle projects from these sources. The requirements of the BTA funding source are generally considered the most challenging, so satisfying the BTA will also expand the City's opportunities to pursue a variety of Federal and State funding sources. The TDA requires that the plan contain a list of prioritized projects approved by the City Council. These lists may be found in Chapter 6 and Appendix E.

1 City of Stockton, Stockton General Plan, 1990.

2 San Joaquin County Regional Bicycle Master Plan, 1994.

3 DKS Associates, City of Stockton Arterial Streets Improvement Project Alternatives Analysis, November 1992.

CalEnviroScreen 1.1 Results: Highest Scoring ZIP Codes

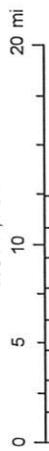


February 14, 2014

Top 5% of Statewide ZIP Codes

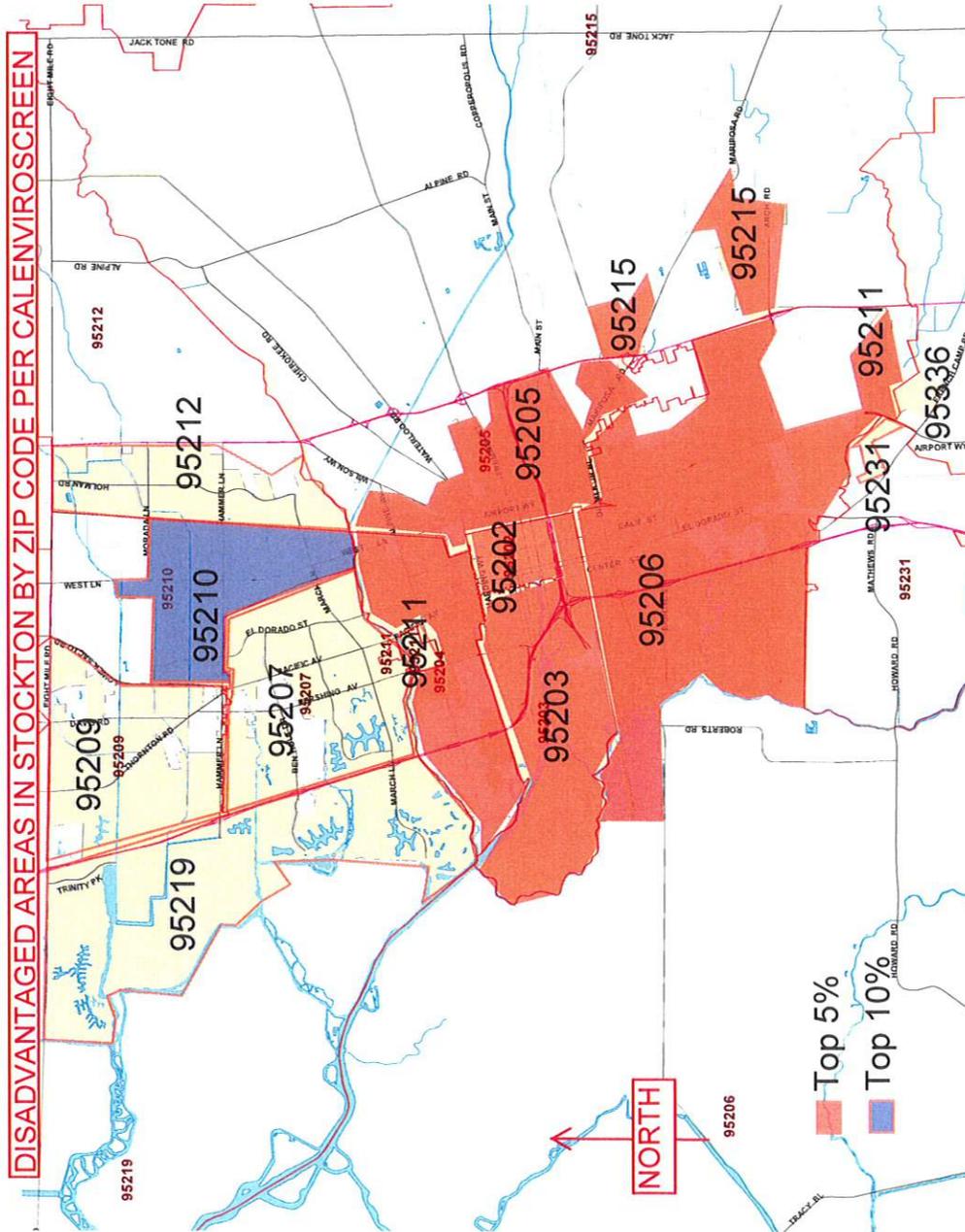
Top 6 - 10% of Statewide ZIP Codes

1:577,791



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P. Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL,

cehha_argis



ZIP Code	Total Population	Ozone	Ozone Pct	PM2.5	PM2.5 Pct	Diesel PM	Diesel PM Pct	Pesticides	Pesticides Pct	TRI	TRI Pct	Traffic	Traffic Pct	Cleanup Sites	Cleanup Sites Pct	Groundwater rThreats	Groundwater rThreats Pct	Haz. Waste	Haz. Waste Pct
95202	6521	0.02214	37.61	12.48	71.4	22.15	83.83	3.39	47.17	1473	31.22	696	51.2	42	74.24	145	81.25	1.6	55.04
95203	15696	0.02221	37.78	12.31	70.36	17.52	78.69	12.8	58.31	5510851	90.93	1328.5	72.15	179	96.89	1154	99.39	2.975	73.71
95204	27786	0.02180	37.37	12.28	69.93	18.4	79.76	0.039	14.31	1.00E+04	16.06	934.3	60.48	20	52.81	256	91.4	1.7	56.45
95205	38069	0.02279	38.53	12.51	71.65	18.95	80.5	94.2	72.24	4773280	90.28	1352.2	72.67	96	91.62	325	94.11	9.6	94.22
95206	65004	0.02532	40.10	11.92	66.5	8.23	61.79	252.3	79.83	11002150	93.65	711.7	52.11	163	96.28	434	96.68	8.05	92.53
95207	47965	0.02175	37.20	12.11	68.34	14.41	74.28	2.04	42.75	0	0	1376.9	73.29	4	16.68	122	77.52	2.35	65.61
95209	39488	0.02216	37.70	11.81	65.09	9.51	64.67	8.32	54.18	0	0	1281.1	70.73	1	3.54	35	44.28	0.375	26.92
95210	39009	0.02290	38.69	12.01	67.67	10.71	67.61	50	68.49	1350936	83.03	869	57.8	3	7.61	24	32.84	1.575	54.26
95211	1545	0.02184	37.45	12.27	69.87	20.71	82.7	0	0	0	0	985	62.59	0	0	0	0	0.15	16.35
95212	25239	0.02632	41.01	11.9	66.38	7.07	58.45	676.2	87.42	1838020	85.49	1223.2	69.36	0	0	5	6.57	0.775	37
95215	23224	0.03074	43.50	12.39	70.91	5.7	55.17	740.9	87.99	2005143	86.4	712.9	52.28	46	76.66	120	77.32	3	74.07
95219	27884	0.02043	35.79	11.36	61.91	7.53	60.09	1556.8	92.8	0	0	1868.3	84.97	3	7.61	47	52.88	1.15	45.74

ZIP Code	Imp. Water Bodies	Imp. Water Bodies Pct	Solid Waste	Solid Waste Pct	Pollution Burden	Pollution Burden Score	Age	Age Pct	Asthma	Asthma Pct	Low Birth Weight	Low Birth Weight Pct	Education	Education Pct	Linguistic Isolation	Linguistic Isolation Pct	Poverty	Poverty Pct	Pop. Char.
95202	12	89.69	1	3.62	55.8	5.6	30.52	86.46	265.5	99.82	7.89	84.63	44.4	92.51	20.9	86.99	83.7	99.44	91.6
95203	16	95.73	14	88.1	74.7	7.5	25.48	48.46	103.9	96.86	7.93	85.26	33.9	86.43	12.4	69.11	53.9	85.62	78.6
95204	18	97.32	0	0	50.2	5	29.15	80.97	59.82	83.14	6.97	61.78	18.1	61.05	7.5	49.59	44.3	72.47	68.2
95205	6	63.87	5	53.97	73.5	7.4	27.72	71.26	73.3	90.71	6.95	60.92	47.9	94.4	23.7	89.37	68.6	96.23	83.8
95206	21	98.83	34	99.22	74.8	7.5	26	53.66	86.17	93.97	7.08	65.6	38.2	89.41	18.4	83.2	51.1	82.65	78.1
95207	12	89.69	0	0	49.5	4.9	28.61	77.83	69.09	89.05	8.04	87.13	20	65.37	10.1	60.79	51.3	82.72	77.1
95209	14	92.71	0	0	44.2	4.4	26.09	55.37	47.07	69.85	8.72	94.23	14.3	51.61	4.3	31.3	26.1	40	57.1
95210	6	63.87	0	0	54.4	5.4	27.62	70.8	57.55	81.23	7.8	83	33.3	85.76	11.7	66.89	58.8	90.37	79.7
95211	5	57.17	0	0	34	3.4	1.88	0.4	40.81	60	NA	NA	0	0	NA	NA	NA	NA	20.1
95212	7	71.67	0	0	54.8	5.5	26.08	55.14	49.745	73.85	8.18	88.53	18.9	62.63	6.4	44.48	37.4	59.94	64.1
95215	9	80.47	4	47.67	67.6	6.8	26.9	63.31	57.11	80.68	6.61	49.84	36.4	87.95	13.8	73.72	50	81.23	72.8
95219	21	98.83	1	3.62	51.8	5.2	25.21	45.2	34	45.35	7.28	70.59	9.3	35.3	6.3	43.82	19.3	24.07	44.1

**S1901 | INCOME IN THE PAST 12 MONTHS (IN 2012 INFLATION-ADJUSTED DOLLARS)
2008-2012 American Community Survey 5-Year Estimates**

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Subject		California									
		Households		Families		Married-couple families		Nonfamily households		Margin of Error	
Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
12,466,331	+/-22,603	8,550,034	+/-24,211	6,151,533	+/-31,569	3,916,297	+/-10,924				
5.5%	+/-0.1	4.2%	+/-0.1	1.8%	+/-0.1	10.1%	+/-0.1				
5.2%	+/-0.1	3.2%	+/-0.1	1.7%	+/-0.1	10.3%	+/-0.1				
9.5%	+/-0.1	8.2%	+/-0.1	5.9%	+/-0.1	13.2%	+/-0.1				
9.1%	+/-0.1	8.4%	+/-0.1	6.8%	+/-0.1	10.9%	+/-0.1				
12.3%	+/-0.1	12.0%	+/-0.1	10.6%	+/-0.1	13.2%	+/-0.1				
17.1%	+/-0.1	17.2%	+/-0.1	17.0%	+/-0.1	16.4%	+/-0.1				
12.4%	+/-0.1	13.2%	+/-0.1	14.5%	+/-0.1	9.8%	+/-0.1				
15.1%	+/-0.1	17.2%	+/-0.1	20.5%	+/-0.1	9.4%	+/-0.1				
6.7%	+/-0.1	8.0%	+/-0.1	10.0%	+/-0.1	3.4%	+/-0.1				
7.1%	+/-0.1	8.6%	+/-0.1	11.2%	+/-0.1	3.3%	+/-0.1				
61,400	+/-154	69,883	+/-252	84,974	+/-273	40,843	+/-217				
85,265	+/-198	94,829	+/-299	110,665	+/-341	59,392	+/-263				
PERCENT IMPUTED											
28.9%	(X)	(X)	(X)	(X)	(X)	(X)	(X)				
(X)	(X)	29.5%	(X)	(X)	(X)	(X)	(X)				

S1901 INCOME IN THE PAST 12 MONTHS (IN 2012 INFLATION-ADJUSTED DOLLARS)
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Subject	Stockton city, California											
	Households			Families			Married-couple families			Nonfamily households		
	Estimate	Margin of Error		Estimate	Margin of Error		Estimate	Margin of Error		Estimate	Margin of Error	
Total	90,469	+/-920	65,805	+/-1,029	41,388	+/-965	24,664	+/-981				
Less than \$10,000	7.3%	+/-0.6	6.7%	+/-0.7	2.5%	+/-0.5	11.9%	+/-1.5				
\$10,000 to \$14,999	7.4%	+/-0.6	5.2%	+/-0.6	2.2%	+/-0.5	15.0%	+/-1.6				
\$15,000 to \$24,999	12.5%	+/-0.8	11.7%	+/-1.0	8.4%	+/-1.1	16.8%	+/-1.6				
\$25,000 to \$34,999	10.5%	+/-0.6	10.5%	+/-0.8	9.2%	+/-1.0	12.5%	+/-1.4				
\$35,000 to \$49,999	14.6%	+/-0.8	14.1%	+/-1.0	13.7%	+/-1.2	14.8%	+/-1.3				
\$50,000 to \$74,999	17.9%	+/-0.9	18.4%	+/-1.2	20.3%	+/-1.3	13.9%	+/-1.4				
\$75,000 to \$99,999	11.7%	+/-0.8	12.7%	+/-0.9	16.3%	+/-1.3	7.3%	+/-1.1				
\$100,000 to \$149,999	11.5%	+/-0.6	12.7%	+/-0.8	16.4%	+/-1.2	5.6%	+/-1.0				
\$150,000 to \$199,999	4.0%	+/-0.5	4.9%	+/-0.6	6.6%	+/-0.8	1.5%	+/-0.7				
\$200,000 or more	2.6%	+/-0.4	3.1%	+/-0.4	4.6%	+/-0.7	0.6%	+/-0.3				
Median income (dollars)	47,246	+/-1,312	51,730	+/-1,317	66,117	+/-2,226	30,450	+/-1,746				
Mean income (dollars)	62,293	+/-1,141	67,564	+/-1,413	82,005	+/-2,059	41,068	+/-1,765				
PERCENT IMPUTED												
Household income in the past 12 months	29.6%	(X)	(X)	(X)	(X)	(X)	(X)	(X)				
Family income in the past 12 months	(X)	(X)	30.2%	(X)	(X)	(X)	(X)	(X)				

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Demographics Report (Stockton, California)

Population (2013)			Population (2018)		
	TOTAL			TOTAL	
Population (2013)	306,084		Population (2018)	317,312	
Sex (2013)		Chart	Sex (2018)		Chart
	TOTAL	%		TOTAL	%
Male	150,114	49.04	Male	155,612	49.04
Female	155,970	50.96	Female	161,699	50.96
Age Distribution (2013)		Chart	Age Distribution (2018)		Chart
	TOTAL	%		TOTAL	%
0-4	24,978	8.16	0-4	26,072	8.22
5-9	24,421	7.98	5-9	188,800	59.5
10-19	49,454	16.16	10-19	48,761	15.37
20-29	47,923	15.66	20-29	49,089	15.47
30-39	38,721	12.65	30-39	41,254	13
40-49	36,183	11.82	40-49	35,837	11.29
50-59	35,611	11.63	50-59	34,645	10.92
60-64	14,853	4.85	60-64	16,570	5.22
65+	33,936	11.09	65+	40,927	12.9
Race Distribution (2013)		Chart	Race Distribution (2018)		Chart
	TOTAL	%		TOTAL	%
White	115,183	37.63	White	119,614	37.7
Black	36,690	11.99	Black	37,999	11.98
American Indian	3,311	1.08	American Indian	3,455	1.09
Asian	64,334	21.02	Asian	66,431	20.94
Pacific Islander	1,903	.62	Pacific Islander	1,960	.62
Other	63,500	20.75	Other	65,884	20.76
Multirace	21,163	6.91	Multirace	21,969	6.92
Hispanic	127,299	41.59	Hispanic	136,444	43
Total Households (2013)		Chart	Total Households (2018)		Chart
	TOTAL	%		TOTAL	%
Households	93,340		Households	97,113	
Families	67,627	72.45	Families	70,713	72.82
Household Income Distribution (2013)		Chart	Household Income Distribution (2018)		Chart
	TOTAL	%		TOTAL	%
<\$10 K	6,116	6.55	<\$10 K	5,848	6.02
\$10-\$20K	10,756	11.52	\$10-\$20K	9,984	10.28
\$20-\$30K	10,504	11.25	\$20-\$30K	8,692	8.95
\$30-\$40K	12,002	12.86	\$30-\$40K	10,228	10.53
\$40-\$50K	10,011	10.73	\$40-\$50K	13,699	14.11
\$50-\$60K	7,404	7.93	\$50-\$60K	7,708	7.94
\$60-\$75K	9,667	10.36	\$60-\$75K	8,974	9.24
\$75-\$100K	10,052	10.77	\$75-\$100K	11,859	12.21
> \$100K	16,829	18.03	> \$100K	20,122	20.72
Labor Force Status (2013)		Chart	Labor Force Status (2018)		Chart
	TOTAL	%		TOTAL	%
Labor Force	133,562		Labor Force	139,819	
Employed	112,341	84.11	Employed	117,607	84.11
Unemployed	21,161	15.84	Unemployed	22,149	15.84
In Armed Forces	60		In Armed Forces	63	
Not In Labor Force	88,662		Not In Labor Force	92,768	
Total Number of Housing (2013)		Chart	Total Number of Housing (2018)		Chart
	TOTAL	%		TOTAL	%
Total Dwellings	100,419		Total Dwellings	103,898	
Owner-Occupied Dwellings	49,982	53.55	Owner-Occupied Dwellings	52,284	53.84
Renter-Occupied Dwellings	43,358	46.45	Renter-Occupied Dwellings	44,829	46.16
Housing Units Occupied	93,340	92.95	Housing Units Occupied	97,113	93.47
Education Attainment (2013)		Chart	Education Attainment (2018)		Chart
	TOTAL	%		TOTAL	%
Population Age 25+	178,165		Population Age 25+	193,459	
< Grade 9	25,962	14.57	< Gr 9	10,689	5.53
Grade 9-12	22,122	12.42	Gr 9-12	28,293	14.62
High School	42,678	23.95	High School	58,532	30.26
Some College	42,933	24.1	Some College	49,495	25.58
Assoc Degree	14,942	8.39	Assoc Degree	15,965	8.25
Bach Degree	19,699	11.06	Bach Degree	19,973	10.32
Grad Degree	9,829	5.52	Grad Degree	10,512	5.43

Size of Household (2013)		Chart		Size of Household (2018)		Chart	
	TOTAL		%		TOTAL		%
1 Person	20,228		21.67	1 Person	21,041		21.67
2 Person	23,389		25.06	2 Person	24,349		25.07
3 Person	15,017		16.09	3 Person	15,618		16.08
4 Person	14,426		15.46	4 Person	15,008		15.45
5 Person	9,578		10.26	5 Person	9,970		10.27
6+ Person	5,305		5.68	6+ Person	5,519		5.68

Source: Applied Geographic Solutions, 2013

Wages Report for Stockton, CA

Occupation	Median Hourly	Mean Hourly	Median Annual	Mean Annual
All Occupations	\$16.86	\$20.90	\$35,080	\$43,470
Management Occupations	\$41.66	\$47.05	\$86,650	\$97,860
Chief Executives	\$83.58	\$86.25	\$173,840	\$179,390
General and Operations Managers	\$42.81	\$51.11	\$89,050	\$106,300
Legislators	.	.	\$53,810	\$56,750
Marketing Managers	\$49.60	\$55.73	\$103,170	\$115,910
Sales Managers	\$36.53	\$43.09	\$75,990	\$89,630
Public Relations and Fundraising Managers	\$37.87	\$47.45	\$78,770	\$98,690
Administrative Services Managers	\$43.18	\$44.20	\$89,810	\$91,940
Computer and Information Systems Managers	\$49.51	\$50.32	\$102,970	\$104,670
Financial Managers	\$42.11	\$45.46	\$87,580	\$94,560
Industrial Production Managers	\$40.77	\$44.20	\$84,790	\$91,930
Purchasing Managers	\$41.59	\$46.66	\$86,500	\$97,060
Transportation, Storage, and Distribution Managers	\$39.81	\$40.52	\$82,800	\$84,290
Human Resources Managers	\$41.87	\$43.93	\$87,090	\$91,370
Training and Development Managers	\$35.81	\$40.11	\$74,480	\$83,440
Construction Managers	\$41.96	\$42.96	\$87,280	\$89,360
Education Administrators, Preschool and Childcare Center/Program	\$28.57	\$29.67	\$59,430	\$61,700
Education Administrators, Elementary and Secondary School	.	.	\$107,600	\$107,840
Education Administrators, Postsecondary	\$33.55	\$40.98	\$69,780	\$85,230
Education Administrators, All Other	\$34.09	\$37.73	\$70,900	\$78,480
Architectural and Engineering Managers	\$55.67	\$60.44	\$115,800	\$125,700
Food Service Managers	\$22.11	\$23.12	\$45,990	\$48,090
Lodging Managers	\$12.39	\$14.29	\$25,760	\$29,730
Medical and Health Services Managers	\$50.85	\$51.51	\$105,770	\$107,140
Property, Real Estate, and Community Association Managers	\$31.44	\$35.19	\$65,400	\$73,190
Social and Community Service Managers	\$27.46	\$30.26	\$57,110	\$62,930
Managers, All Other	\$47.20	\$47.87	\$98,170	\$99,570
Business and Financial Operations Occupations	\$29.85	\$32.18	\$62,090	\$66,940
Wholesale and Retail Buyers, Except Farm Products	\$27.23	\$27.56	\$56,640	\$57,320
Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$29.45	\$30.84	\$61,260	\$64,150
Claims Adjusters, Examiners, and Investigators	\$30.14	\$30.42	\$62,700	\$63,260
Compliance Officers	\$32.93	\$32.71	\$68,490	\$68,040
Cost Estimators	\$28.02	\$30.64	\$58,280	\$63,730
Human Resources Specialists	\$23.67	\$26.11	\$49,240	\$54,300
Labor Relations Specialists	\$27.95	\$27.94	\$58,130	\$58,110
Logisticians	\$33.89	\$35.56	\$70,500	\$73,960
Management Analysts	\$33.63	\$34.15	\$69,940	\$71,040
Compensation, Benefits, and Job Analysis Specialists	\$30.37	\$30.84	\$63,160	\$64,150
Training and Development Specialists	\$26.20	\$26.74	\$54,490	\$55,610
Market Research Analysts and Marketing Specialists	\$31.06	\$32.29	\$64,600	\$67,150
Business Operations Specialists, All Other	\$32.68	\$34.21	\$67,970	\$71,160
Accountants and Auditors	\$31.32	\$36.35	\$65,140	\$75,620
Appraisers and Assessors of Real Estate	.	.	.	.
Budget Analysts	\$32.90	\$33.40	\$68,430	\$69,470
Credit Analysts	\$22.64	\$25.55	\$47,090	\$53,130
Financial Analysts	\$36.70	\$36.72	\$76,330	\$76,370
Personal Financial Advisors	\$25.48	\$37.67	\$52,990	\$78,350
Insurance Underwriters	\$27.78	\$30.31	\$57,780	\$63,040
Credit Counselors	\$20.77	\$20.77	\$43,200	\$43,210
Loan Officers	\$31.35	\$36.11	\$65,210	\$75,120
Tax Preparers	\$13.36	\$17.40	\$27,790	\$36,180
Financial Specialists, All Other	\$22.94	\$29.26	\$47,700	\$60,860
Computer and Mathematical Occupations	\$31.21	\$32.54	\$64,910	\$67,680
Computer Systems Analysts	\$37.79	\$39.05	\$78,610	\$81,230
Information Security Analysts	\$39.13	\$37.32	\$81,390	\$77,620
Computer Programmers	\$38.63	\$36.47	\$80,350	\$75,860
Software Developers, Applications	\$37.34	\$41.04	\$77,660	\$85,360
Software Developers, Systems Software	\$46.48	\$49.40	\$96,680	\$102,750
Web Developers	\$22.57	\$25.53	\$46,950	\$53,110
Database Administrators	\$31.03	\$30.94	\$64,550	\$64,350
Network and Computer Systems Administrators	\$30.71	\$31.07	\$63,890	\$64,620
Computer Network Architects	\$38.95	\$38.84	\$81,020	\$80,790
Computer User Support Specialists	\$22.48	\$24.37	\$46,770	\$50,700
Computer Network Support Specialists	\$29.48	\$30.97	\$61,330	\$64,420
Computer Occupations, All Other	\$42.47	\$43.25	\$88,340	\$89,950
Architecture and Engineering Occupations	\$37.53	\$37.83	\$78,060	\$78,690
Surveyors	\$43.26	\$42.16	\$89,980	\$87,690
Civil Engineers	\$43.26	\$44.21	\$89,980	\$91,960
Electrical Engineers	\$52.86	\$51.56	\$109,950	\$107,240
Environmental Engineers	\$32.90	\$37.79	\$68,430	\$78,600
Industrial Engineers	\$39.54	\$40.10	\$82,240	\$83,410
Mechanical Engineers	\$35.53	\$36.53	\$73,890	\$75,980
Engineers, All Other	\$45.28	\$43.74	\$94,190	\$90,980
Architectural and Civil Drafters	\$19.74	\$24.80	\$41,060	\$51,590
Mechanical Drafters	\$21.68	\$23.01	\$45,100	\$47,860

Civil Engineering Technicians	\$29.20	\$28.65	\$60,730	\$59,590
Electrical and Electronics Engineering Technicians	\$29.81	\$30.47	\$62,010	\$63,390
Environmental Engineering Technicians	\$20.04	\$22.42	\$41,690	\$46,620
Engineering Technicians, Except Drafters, All Other	\$34.73	\$34.74	\$72,240	\$72,270
Surveying and Mapping Technicians	.	.	.	.
Life, Physical, and Social Science Occupations	\$32.89	\$33.41	\$68,400	\$69,480
Food Scientists and Technologists	\$39.83	\$39.44	\$82,860	\$82,040
Soil and Plant Scientists	\$27.91	\$30.25	\$58,060	\$62,920
Zoologists and Wildlife Biologists	\$35.94	\$35.98	\$74,760	\$74,850
Chemists	\$34.90	\$36.26	\$72,590	\$75,420
Environmental Scientists and Specialists, Including Health	\$33.74	\$34.83	\$70,190	\$72,460
Clinical, Counseling, and School Psychologists	\$39.63	\$38.68	\$82,420	\$80,460
Urban and Regional Planners	\$36.90	\$37.95	\$76,760	\$78,940
Agricultural and Food Science Technicians	\$17.37	\$18.22	\$36,140	\$37,900
Biological Technicians	\$19.01	\$19.03	\$39,540	\$39,580
Chemical Technicians	\$19.51	\$20.37	\$40,580	\$42,360
Environmental Science and Protection Technicians, Including Health	\$20.65	\$21.29	\$42,940	\$44,290
Forensic Science Technicians	\$30.09	\$31.03	\$62,590	\$64,540
Life, Physical, and Social Science Technicians, All Other	\$30.66	\$28.58	\$63,780	\$59,450
Community and Social Service Occupations	\$23.50	\$25.28	\$48,870	\$52,580
Substance Abuse and Behavioral Disorder Counselors	\$24.57	\$22.34	\$51,110	\$46,480
Educational, Guidance, School, and Vocational Counselors	\$29.24	\$30.44	\$60,830	\$63,310
Marriage and Family Therapists	\$25.76	\$28.59	\$53,590	\$59,470
Mental Health Counselors	\$17.66	\$19.82	\$36,740	\$41,220
Rehabilitation Counselors	\$11.78	\$13.02	\$24,510	\$27,070
Counselors, All Other	\$24.47	\$21.60	\$50,900	\$44,930
Child, Family, and School Social Workers	\$32.89	\$29.64	\$68,410	\$61,650
Healthcare Social Workers	\$33.43	\$32.31	\$69,530	\$67,200
Mental Health and Substance Abuse Social Workers	\$25.57	\$26.65	\$53,180	\$55,430
Health Educators	\$27.92	\$30.94	\$58,080	\$64,360
Social and Human Service Assistants	\$14.28	\$15.69	\$29,700	\$32,630
Community Health Workers	\$20.69	\$20.86	\$43,040	\$43,380
Community and Social Service Specialists, All Other	\$23.80	\$23.23	\$49,500	\$48,320
Clergy	\$22.65	\$23.56	\$47,110	\$49,010
Legal Occupations	\$44.89	\$49.17	\$93,380	\$102,270
Lawyers	\$56.94	\$59.33	\$118,440	\$123,400
Paralegals and Legal Assistants	\$23.98	\$25.57	\$49,870	\$53,190
Title Examiners, Abstractors, and Searchers	\$38.17	\$37.29	\$79,400	\$77,560
Education, Training, and Library Occupations	\$24.65	\$26.24	\$51,270	\$54,580
Business Teachers, Postsecondary	.	.	\$70,160	\$83,520
Computer Science Teachers, Postsecondary	.	.	\$83,680	\$94,340
Health Specialties Teachers, Postsecondary	.	.	\$56,380	\$64,860
Nursing Instructors and Teachers, Postsecondary	.	.	\$67,730	\$67,360
Education Teachers, Postsecondary	.	.	.	.
Communications Teachers, Postsecondary	.	.	\$83,580	\$90,250
Vocational Education Teachers, Postsecondary	\$19.19	\$28.48	\$39,920	\$59,230
Preschool Teachers, Except Special Education	\$12.26	\$13.23	\$25,500	\$27,520
Kindergarten Teachers, Except Special Education	.	.	\$67,780	\$68,810
Elementary School Teachers, Except Special Education	.	.	\$65,590	\$66,190
Middle School Teachers, Except Special and Career/Technical Education	.	.	\$61,490	\$60,920
Secondary School Teachers, Except Special and Career/Technical Education	.	.	\$60,600	\$61,380
Career/Technical Education Teachers, Secondary School	.	.	\$79,780	\$74,130
Special Education Teachers, Kindergarten and Elementary School	.	.	\$61,550	\$62,780
Special Education Teachers, Middle School	.	.	\$79,990	\$77,470
Special Education Teachers, Secondary School	.	.	\$60,870	\$59,960
Special Education Teachers, All Other	.	.	\$43,700	\$48,940
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$41.75	\$40.51	\$86,840	\$84,260
Self-Enrichment Education Teachers	\$13.52	\$14.19	\$28,120	\$29,520
Substitute Teachers	\$19.38	\$19.11	\$40,320	\$39,740
Teachers and Instructors, All Other, Except Substitute Teachers	.	.	\$36,200	\$39,620
Librarians	\$29.87	\$29.85	\$62,130	\$62,090
Library Technicians	.	.	.	.
Instructional Coordinators	\$33.55	\$33.34	\$69,790	\$69,350
Teacher Assistants	.	.	\$26,090	\$27,250
Education, Training, and Library Workers, All Other	\$13.64	\$13.72	\$28,380	\$28,540
Arts, Design, Entertainment, Sports, and Media Occupations	\$18.14	\$21.38	\$37,730	\$44,460
Art Directors	\$36.85	\$36.93	\$76,650	\$76,810
Floral Designers	\$14.88	\$14.37	\$30,940	\$29,890
Graphic Designers	\$18.87	\$20.56	\$39,250	\$42,770
Merchandise Displayers and Window Trimmers	\$15.29	\$16.56	\$31,800	\$34,450
Set and Exhibit Designers	\$29.50	\$28.27	\$61,360	\$58,810
Producers and Directors	\$26.19	\$31.94	\$54,480	\$66,440
Coaches and Scouts	.	.	\$34,620	\$42,630
Reporters and Correspondents	\$20.05	\$19.04	\$41,690	\$39,590
Public Relations Specialists	\$23.31	\$23.88	\$48,490	\$49,670
Editors	\$25.82	\$25.28	\$53,700	\$52,580
Interpreters and Translators	\$16.46	\$17.03	\$34,240	\$35,410
Photographers	.	.	.	.
Healthcare Practitioners and Technical Occupations	\$38.10	\$40.47	\$79,240	\$84,180
Dentists, General	\$73.05	\$82.34	\$151,950	\$171,280
Dietitians and Nutritionists	\$34.76	\$34.95	\$72,300	\$72,700
Optometrists	\$58.34	\$77.32	\$121,350	\$160,830

Pharmacists	\$64.58	\$61.21	\$134,330	\$127,320
Family and General Practitioners	\$77.33	\$75.68	\$160,850	\$157,420
Internists, General	.	\$113.55	.	\$236,180
Surgeons	.	\$102.46	.	\$213,110
Physicians and Surgeons, All Other	.	\$88.54	.	\$184,170
Physician Assistants	\$49.09	\$50.01	\$102,110	\$104,010
Occupational Therapists	\$44.85	\$47.69	\$93,280	\$99,190
Physical Therapists	\$42.06	\$43.13	\$87,490	\$89,710
Recreational Therapists	\$21.92	\$26.47	\$45,600	\$55,060
Respiratory Therapists	\$32.66	\$31.53	\$67,940	\$65,590
Speech-Language Pathologists	\$36.47	\$35.46	\$75,870	\$73,760
Veterinarians	.	.	.	.
Registered Nurses	\$45.27	\$43.86	\$94,160	\$91,220
Nurse Midwives	\$50.80	\$51.91	\$105,660	\$107,980
Nurse Practitioners	\$50.36	\$58.27	\$104,760	\$121,200
Medical and Clinical Laboratory Technologists	\$43.97	\$44.03	\$91,460	\$91,590
Medical and Clinical Laboratory Technicians	\$21.43	\$21.64	\$44,570	\$45,000
Dental Hygienists	\$44.07	\$42.05	\$91,670	\$87,460
Cardiovascular Technologists and Technicians	\$39.52	\$37.51	\$82,190	\$78,030
Diagnostic Medical Sonographers	\$40.21	\$39.44	\$83,640	\$82,030
Radiologic Technologists	\$33.82	\$33.73	\$70,340	\$70,150
Emergency Medical Technicians and Paramedics	\$18.79	\$19.81	\$39,080	\$41,200
Dietetic Technicians	\$16.68	\$16.80	\$34,700	\$34,930
Pharmacy Technicians	\$19.50	\$19.81	\$40,550	\$41,210
Surgical Technologists	\$24.58	\$24.96	\$51,120	\$51,910
Veterinary Technologists and Technicians	\$12.82	\$14.23	\$26,660	\$29,600
Ophthalmic Medical Technicians	\$14.79	\$15.21	\$30,760	\$31,640
Licensed Practical and Licensed Vocational Nurses	\$24.82	\$24.74	\$51,630	\$51,460
Medical Records and Health Information Technicians	\$17.60	\$18.30	\$36,610	\$38,070
Opticians, Dispensing	\$16.10	\$16.23	\$33,490	\$33,750
Health Technologists and Technicians, All Other	\$18.35	\$19.35	\$38,180	\$40,250
Occupational Health and Safety Specialists	\$37.03	\$36.18	\$77,030	\$75,240
Healthcare Support Occupations	\$12.95	\$14.13	\$26,940	\$29,390
Home Health Aides	\$10.27	\$10.77	\$21,360	\$22,400
Nursing Assistants	\$12.57	\$13.31	\$26,140	\$27,690
Orderlies	\$16.85	\$16.73	\$35,050	\$34,810
Physical Therapist Assistants	\$26.67	\$26.63	\$55,470	\$55,380
Physical Therapist Aides	\$11.22	\$13.87	\$23,330	\$28,840
Massage Therapists	\$12.32	\$13.88	\$25,640	\$28,870
Dental Assistants	\$15.95	\$15.85	\$33,170	\$32,970
Medical Assistants	\$14.15	\$14.47	\$29,440	\$30,100
Medical Equipment Preparers	\$18.79	\$18.89	\$39,080	\$39,300
Medical Transcriptionists	\$21.83	\$22.24	\$45,410	\$46,250
Pharmacy Aides	\$14.02	\$17.08	\$29,160	\$35,520
Veterinary Assistants and Laboratory Animal Caretakers	\$12.92	\$14.07	\$26,880	\$29,270
Phlebotomists	\$23.17	\$22.56	\$48,190	\$46,920
Healthcare Support Workers, All Other	\$17.14	\$18.39	\$35,650	\$38,260
Protective Service Occupations	\$27.35	\$26.61	\$56,890	\$55,360
First-Line Supervisors of Fire Fighting and Prevention Workers	\$35.69	\$36.21	\$74,240	\$75,310
First-Line Supervisors of Protective Service Workers, All Other	\$18.09	\$20.34	\$37,620	\$42,310
Firefighters	\$22.97	\$24.12	\$47,770	\$50,170
Detectives and Criminal Investigators	\$39.19	\$40.54	\$81,520	\$84,320
Police and Sheriff's Patrol Officers	\$35.90	\$36.44	\$74,660	\$75,800
Security Guards	\$9.50	\$10.22	\$19,750	\$21,260
Crossing Guards	\$11.10	\$11.48	\$23,080	\$23,870
Protective Service Workers, All Other	\$15.82	\$16.51	\$32,900	\$34,330
Food Preparation and Serving Related Occupations	\$9.22	\$10.56	\$19,170	\$21,970
Chefs and Head Cooks	\$17.82	\$20.28	\$37,070	\$42,190
First-Line Supervisors of Food Preparation and Serving Workers	\$13.51	\$14.91	\$28,100	\$31,010
Cooks, Fast Food	\$8.87	\$8.95	\$18,440	\$18,620
Cooks, Institution and Cafeteria	\$13.04	\$14.24	\$27,110	\$29,610
Cooks, Restaurant	\$10.68	\$11.09	\$22,220	\$23,060
Cooks, Short Order	\$11.87	\$11.92	\$24,690	\$24,790
Cooks, All Other	\$12.62	\$12.45	\$26,260	\$25,890
Food Preparation Workers	\$10.70	\$12.58	\$22,260	\$26,170
Bartenders	\$9.04	\$9.74	\$18,810	\$20,250
Combined Food Preparation and Serving Workers, Including Fast Food	\$9.15	\$9.97	\$19,030	\$20,730
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$9.14	\$10.43	\$19,010	\$21,690
Waiters and Waitresses	\$8.91	\$9.36	\$18,540	\$19,460
Food Servers, Nonrestaurant	\$10.77	\$12.05	\$22,410	\$25,070
Dining Room and Cafeteria Attendants and Bartender Helpers	\$8.80	\$8.88	\$18,310	\$18,470
Dishwashers	\$8.96	\$9.01	\$18,640	\$18,750
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	\$8.86	\$9.31	\$18,430	\$19,370
Food Preparation and Serving Related Workers, All Other	\$8.98	\$9.89	\$18,680	\$20,580
Building and Grounds Cleaning and Maintenance Occupations	\$13.26	\$14.32	\$27,580	\$29,790
First-Line Supervisors of Housekeeping and Janitorial Workers	\$16.78	\$17.79	\$34,910	\$37,000
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$25.01	\$26.00	\$52,020	\$54,080
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$14.00	\$14.32	\$29,130	\$29,780
Maids and Housekeeping Cleaners	\$9.35	\$10.76	\$19,440	\$22,370
Pest Control Workers	\$17.38	\$17.94	\$36,140	\$37,320
Landscaping and Groundskeeping Workers	\$12.34	\$13.68	\$25,670	\$28,460
Pesticide Handlers, Sprayers, and Applicators, Vegetation	\$21.61	\$22.05	\$44,950	\$45,850

Tree Trimmers and Pruners	\$12.36	\$13.35	\$25,720	\$27,760
Personal Care and Service Occupations	\$9.92	\$11.16	\$20,630	\$23,210
First-Line Supervisors of Personal Service Workers	\$16.18	\$17.20	\$33,660	\$35,770
Nonfarm Animal Caretakers	\$9.28	\$10.64	\$19,310	\$22,140
Gaming Dealers	\$8.72	\$8.57	\$18,140	\$17,830
Ushers, Lobby Attendants, and Ticket Takers	\$9.47	\$11.51	\$19,700	\$23,940
Amusement and Recreation Attendants	\$8.94	\$9.08	\$18,600	\$18,890
Funeral Attendants	\$9.39	\$10.55	\$19,540	\$21,950
Hairdressers, Hairstylists, and Cosmetologists	\$12.17	\$12.44	\$25,310	\$25,880
Manicurists and Pedicurists	\$8.76	\$8.63	\$18,230	\$17,960
Childcare Workers	\$9.95	\$10.28	\$20,700	\$21,380
Personal Care Aides	\$9.47	\$10.06	\$19,700	\$20,930
Fitness Trainers and Aerobics Instructors	\$19.23	\$19.29	\$40,000	\$40,130
Recreation Workers	\$11.05	\$12.13	\$22,990	\$25,230
Residential Advisors	\$10.87	\$11.88	\$22,620	\$24,710
Sales and Related Occupations	\$12.13	\$16.34	\$25,230	\$33,990
First-Line Supervisors of Retail Sales Workers	\$18.18	\$19.42	\$37,810	\$40,400
First-Line Supervisors of Non-Retail Sales Workers	\$26.29	\$27.99	\$54,670	\$58,220
Cashiers	\$9.60	\$11.07	\$19,960	\$23,020
Counter and Rental Clerks	\$11.83	\$13.19	\$24,610	\$27,440
Parts Salespersons	\$13.00	\$14.22	\$27,050	\$29,570
Retail Salespersons	\$9.83	\$11.93	\$20,460	\$24,820
Advertising Sales Agents	\$24.66	\$25.71	\$51,300	\$53,470
Insurance Sales Agents	\$23.97	\$27.88	\$49,860	\$58,000
Securities, Commodities, and Financial Services Sales Agents	\$19.22	\$22.93	\$39,980	\$47,690
Travel Agents	\$9.89	\$10.47	\$20,580	\$21,790
Sales Representatives, Services, All Other	\$18.82	\$24.06	\$39,150	\$50,040
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$35.05	\$41.89	\$72,910	\$87,140
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$26.36	\$30.60	\$54,830	\$63,640
Demonstrators and Product Promoters	\$11.33	\$12.52	\$23,570	\$26,040
Real Estate Sales Agents	\$24.32	\$24.11	\$50,580	\$50,150
Telemarketers	\$10.98	\$12.70	\$22,840	\$26,410
Sales and Related Workers, All Other	\$19.62	\$19.40	\$40,800	\$40,340
Office and Administrative Support Occupations	\$16.29	\$17.15	\$33,880	\$35,670
First-Line Supervisors of Office and Administrative Support Workers	\$23.65	\$24.62	\$49,200	\$51,200
Switchboard Operators, Including Answering Service	\$13.61	\$13.80	\$28,310	\$28,710
Bill and Account Collectors	\$14.38	\$16.50	\$29,920	\$34,330
Billing and Posting Clerks	\$16.73	\$17.24	\$34,800	\$35,860
Bookkeeping, Accounting, and Auditing Clerks	\$17.09	\$17.73	\$35,550	\$36,890
Payroll and Timekeeping Clerks	\$17.55	\$17.87	\$36,510	\$37,160
Procurement Clerks	\$23.16	\$21.42	\$48,170	\$44,540
Tellers	\$12.25	\$12.65	\$25,480	\$26,300
Credit Authorizers, Checkers, and Clerks	\$17.61	\$18.11	\$36,620	\$37,660
Customer Service Representatives	\$15.89	\$18.06	\$33,050	\$37,560
File Clerks	\$15.75	\$15.04	\$32,760	\$31,290
Hotel, Motel, and Resort Desk Clerks	\$9.71	\$9.98	\$20,190	\$20,760
Interviewers, Except Eligibility and Loan	\$19.99	\$19.70	\$41,590	\$40,970
Library Assistants, Clerical	\$14.10	\$14.22	\$29,320	\$29,590
Loan Interviewers and Clerks	\$16.13	\$16.41	\$33,550	\$34,140
New Accounts Clerks	\$16.01	\$15.57	\$33,300	\$32,390
Order Clerks	\$15.47	\$15.14	\$32,170	\$31,500
Human Resources Assistants, Except Payroll and Timekeeping	\$18.76	\$18.98	\$39,010	\$39,480
Receptionists and Information Clerks	\$12.25	\$12.73	\$25,480	\$26,470
Information and Record Clerks, All Other	\$20.18	\$19.78	\$41,970	\$41,150
Couriers and Messengers	\$12.96	\$12.50	\$26,960	\$26,010
Police, Fire, and Ambulance Dispatchers	\$31.40	\$30.81	\$65,320	\$64,090
Dispatchers, Except Police, Fire, and Ambulance	\$21.35	\$21.86	\$44,410	\$45,460
Postal Service Clerks	\$25.53	\$24.35	\$53,100	\$50,640
Postal Service Mail Carriers	\$27.16	\$25.45	\$56,490	\$52,930
Postal Service Mail Sorters, Processors, and Processing Machine Operators	\$25.52	\$24.57	\$53,090	\$51,100
Production, Planning, and Expediting Clerks	\$20.16	\$21.04	\$41,930	\$43,760
Shipping, Receiving, and Traffic Clerks	\$15.33	\$15.67	\$31,880	\$32,590
Stock Clerks and Order Fillers	\$10.61	\$12.06	\$22,060	\$25,080
Weighers, Measurers, Checkers, and Samplers, Recordkeeping	\$13.92	\$15.24	\$28,960	\$31,690
Executive Secretaries and Executive Administrative Assistants	\$21.94	\$22.81	\$45,630	\$47,430
Legal Secretaries	\$20.97	\$21.16	\$43,620	\$44,020
Medical Secretaries	\$16.38	\$17.62	\$34,060	\$36,640
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$15.97	\$16.58	\$33,210	\$34,490
Computer Operators	\$22.42	\$22.33	\$46,640	\$46,450
Data Entry Keyers	\$12.45	\$13.79	\$25,900	\$28,690
Word Processors and Typists	\$17.66	\$17.80	\$36,740	\$37,030
Insurance Claims and Policy Processing Clerks	\$17.64	\$18.02	\$36,700	\$37,480
Mail Clerks and Mail Machine Operators, Except Postal Service	\$12.57	\$13.12	\$26,150	\$27,290
Office Clerks, General	\$15.79	\$15.82	\$32,830	\$32,910
Office Machine Operators, Except Computer	\$12.88	\$13.52	\$26,800	\$28,120
Office and Administrative Support Workers, All Other	\$15.24	\$16.47	\$31,690	\$34,260
Farming, Fishing, and Forestry Occupations	\$8.90	\$9.43	\$18,510	\$19,620
First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$20.32	\$22.03	\$42,270	\$45,820
Graders and Sorters, Agricultural Products	\$8.95	\$9.09	\$18,610	\$18,910
Agricultural Equipment Operators	\$10.53	\$10.93	\$21,900	\$22,740
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$8.80	\$8.72	\$18,300	\$18,140

Farmworkers, Farm, Ranch, and Aquacultural Animals	\$9.26	\$10.48	\$19,260	\$21,790
Agricultural Workers, All Other	\$20.49	\$19.70	\$42,620	\$40,980
Construction and Extraction Occupations	\$24.65	\$25.01	\$51,270	\$52,020
First-Line Supervisors of Construction Trades and Extraction Workers	\$32.91	\$32.67	\$68,460	\$67,960
Stonemasons	\$24.79	\$22.20	\$51,560	\$46,170
Carpenters	\$22.72	\$23.97	\$47,260	\$49,850
Carpet Installers	\$16.22	\$17.67	\$33,740	\$36,750
Tile and Marble Setters	\$21.31	\$22.23	\$44,330	\$46,240
Cement Masons and Concrete Finishers	\$27.98	\$26.68	\$58,200	\$55,500
Construction Laborers	\$17.60	\$19.65	\$36,600	\$40,880
Paving, Surfacing, and Tamping Equipment Operators	\$25.72	\$25.98	\$53,500	\$54,030
Operating Engineers and Other Construction Equipment Operators	\$30.00	\$28.83	\$62,400	\$59,960
Drywall and Ceiling Tile Installers	\$23.57	\$26.55	\$49,020	\$55,230
Electricians	\$28.16	\$29.47	\$58,570	\$61,290
Painters, Construction and Maintenance	\$18.70	\$24.20	\$38,890	\$50,330
Pipelayers	\$26.58	\$26.61	\$55,280	\$55,350
Plumbers, Pipefitters, and Steamfitters	\$32.13	\$30.80	\$66,830	\$64,070
Roofers	\$23.89	\$22.12	\$49,700	\$46,010
Sheet Metal Workers	\$28.20	\$27.21	\$58,660	\$56,590
Structural Iron and Steel Workers	\$30.33	\$26.02	\$63,080	\$54,120
Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	\$13.48	\$14.18	\$28,030	\$29,490
Helpers--Carpenters	\$16.20	\$15.86	\$33,690	\$32,980
Helpers--Electricians	\$11.11	\$12.92	\$23,110	\$26,880
Construction and Building Inspectors	\$35.54	\$36.43	\$73,930	\$75,770
Fence Erectors	\$21.14	\$21.00	\$43,980	\$43,680
Construction and Related Workers, All Other	\$23.96	\$22.04	\$49,830	\$45,830
Installation, Maintenance, and Repair Occupations	\$20.76	\$22.17	\$43,190	\$46,100
First-Line Supervisors of Mechanics, Installers, and Repairers	\$30.82	\$32.32	\$64,100	\$67,220
Computer, Automated Teller, and Office Machine Repairers	\$15.68	\$17.68	\$32,620	\$36,770
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$28.36	\$26.64	\$58,980	\$55,400
Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$29.61	\$29.81	\$61,580	\$62,010
Electronic Equipment Installers and Repairers, Motor Vehicles	\$17.39	\$17.35	\$36,170	\$36,090
Aircraft Mechanics and Service Technicians	\$17.85	\$20.55	\$37,140	\$42,750
Automotive Body and Related Repairers	\$20.94	\$21.35	\$43,550	\$44,410
Automotive Service Technicians and Mechanics	\$16.99	\$17.90	\$35,350	\$37,220
Bus and Truck Mechanics and Diesel Engine Specialists	\$22.46	\$22.43	\$46,730	\$46,650
Farm Equipment Mechanics and Service Technicians	\$21.70	\$21.78	\$45,130	\$45,300
Mobile Heavy Equipment Mechanics, Except Engines	\$24.64	\$24.30	\$51,240	\$50,540
Motorboat Mechanics and Service Technicians	\$19.44	\$18.60	\$40,430	\$38,690
Tire Repairers and Changers	\$12.92	\$14.00	\$26,880	\$29,120
Control and Valve Installers and Repairers, Except Mechanical Door	\$33.60	\$32.91	\$69,890	\$68,450
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$27.86	\$31.31	\$57,950	\$65,120
Industrial Machinery Mechanics	\$23.97	\$23.32	\$49,860	\$48,500
Maintenance Workers, Machinery	\$17.36	\$18.98	\$36,110	\$39,480
Millwrights	\$25.32	\$26.41	\$52,670	\$54,920
Telecommunications Line Installers and Repairers	\$32.86	\$31.73	\$68,360	\$65,990
Medical Equipment Repairers	\$14.77	\$19.10	\$30,710	\$39,740
Maintenance and Repair Workers, General	\$18.37	\$19.56	\$38,200	\$40,680
Locksmiths and Safe Repairers	\$17.49	\$18.44	\$36,390	\$38,360
Helpers--Installation, Maintenance, and Repair Workers	\$10.78	\$12.65	\$22,420	\$26,300
Installation, Maintenance, and Repair Workers, All Other	\$14.65	\$19.23	\$30,470	\$40,000
Production Occupations	\$14.31	\$16.37	\$29,760	\$34,050
First-Line Supervisors of Production and Operating Workers	\$26.02	\$27.71	\$54,120	\$57,630
Electrical and Electronic Equipment Assemblers	\$13.34	\$14.19	\$27,740	\$29,520
Structural Metal Fabricators and Fitters	\$18.64	\$18.53	\$38,760	\$38,550
Team Assemblers	\$12.42	\$14.27	\$25,840	\$29,680
Assemblers and Fabricators, All Other	\$10.84	\$11.57	\$22,540	\$24,060
Bakers	\$12.67	\$15.04	\$26,350	\$31,290
Butchers and Meat Cutters	\$17.52	\$17.92	\$36,430	\$37,260
Meat, Poultry, and Fish Cutters and Trimmers	\$11.33	\$11.69	\$23,570	\$24,320
Food Batchmakers	\$15.63	\$16.46	\$32,510	\$34,240
Food Cooking Machine Operators and Tenders	\$19.40	\$18.82	\$40,360	\$39,140
Computer-Controlled Machine Tool Operators, Metal and Plastic	\$12.33	\$15.67	\$25,640	\$32,600
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	\$27.43	\$29.28	\$57,050	\$60,910
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	\$16.59	\$16.97	\$34,510	\$35,300
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$14.22	\$15.07	\$29,580	\$31,360
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$13.48	\$13.89	\$28,040	\$28,890
Machinists	\$19.86	\$19.15	\$41,310	\$39,820
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$11.86	\$12.61	\$24,660	\$26,230
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$16.76	\$17.90	\$34,870	\$37,220
Welders, Cutters, Solderers, and Brazers	\$19.58	\$19.85	\$40,720	\$41,290
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	\$17.41	\$17.37	\$36,220	\$36,130
Layout Workers, Metal and Plastic	\$19.69	\$18.27	\$40,960	\$38,000
Printing Press Operators	\$21.50	\$21.05	\$44,720	\$43,790
Laundry and Dry-Cleaning Workers	\$10.34	\$10.88	\$21,510	\$22,620
Pressers, Textile, Garment, and Related Materials	\$10.93	\$11.13	\$22,740	\$23,140

Sewing Machine Operators	\$11.63	\$12.40	\$24,180	\$25,790
Tailors, Dressmakers, and Custom Sewers	\$10.67	\$11.60	\$22,190	\$24,130
Cabinetmakers and Bench Carpenters	\$11.89	\$12.81	\$24,720	\$26,640
Woodworking Machine Setters, Operators, and Tenders, Except Sawing	\$13.24	\$13.39	\$27,530	\$27,840
Power Plant Operators	\$48.89	\$49.28	\$101,700	\$102,510
Stationary Engineers and Boiler Operators	\$31.57	\$26.88	\$65,670	\$55,900
Water and Wastewater Treatment Plant and System Operators	\$32.10	\$30.75	\$66,770	\$63,970
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	\$24.18	\$24.37	\$50,300	\$50,680
Grinding and Polishing Workers, Hand	\$18.76	\$17.95	\$39,020	\$37,330
Mixing and Blending Machine Setters, Operators, and Tenders	\$16.04	\$16.15	\$33,370	\$33,590
Cutters and Trimmers, Hand	\$14.18	\$15.72	\$29,500	\$32,690
Cutting and Slicing Machine Setters, Operators, and Tenders	\$13.68	\$14.62	\$28,460	\$30,400
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	\$16.42	\$16.53	\$34,160	\$34,370
Inspectors, Testers, Sorters, Samplers, and Weighers	\$19.13	\$20.11	\$39,780	\$41,820
Dental Laboratory Technicians	\$14.74	\$16.00	\$30,650	\$33,280
Packaging and Filling Machine Operators and Tenders	\$9.36	\$11.85	\$19,480	\$24,650
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	\$12.58	\$13.38	\$26,170	\$27,830
Painters, Transportation Equipment	\$18.48	\$19.02	\$38,450	\$39,550
Photographic Process Workers and Processing Machine Operators	\$14.84	\$15.31	\$30,870	\$31,850
Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	\$14.34	\$13.67	\$29,830	\$28,420
Molders, Shapers, and Casters, Except Metal and Plastic	\$14.24	\$14.76	\$29,610	\$30,710
Paper Goods Machine Setters, Operators, and Tenders	\$18.18	\$16.51	\$37,820	\$34,330
Helpers--Production Workers	\$11.87	\$12.40	\$24,690	\$25,790
Production Workers, All Other	\$21.90	\$19.32	\$45,550	\$40,190
Transportation and Material Moving Occupations	\$16.74	\$16.91	\$34,830	\$35,180
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	\$22.78	\$23.90	\$47,370	\$49,710
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	\$25.88	\$26.36	\$53,830	\$54,820
Bus Drivers, School or Special Client	\$16.27	\$16.07	\$33,830	\$33,430
Driver/Sales Workers	\$17.09	\$16.76	\$35,550	\$34,860
Heavy and Tractor-Trailer Truck Drivers	\$19.84	\$19.84	\$41,270	\$41,260
Light Truck or Delivery Services Drivers	\$16.13	\$17.41	\$33,550	\$36,210
Taxi Drivers and Chauffeurs	\$11.64	\$12.29	\$24,220	\$25,570
Motor Vehicle Operators, All Other	\$24.95	\$23.35	\$51,890	\$48,560
Parking Lot Attendants	\$12.99	\$13.63	\$27,020	\$28,360
Automotive and Watercraft Service Attendants	\$10.89	\$11.25	\$22,650	\$23,390
Transportation Inspectors	\$27.39	\$29.77	\$56,970	\$61,910
Transportation Workers, All Other	\$10.80	\$12.47	\$22,470	\$25,940
Conveyor Operators and Tenders	\$24.43	\$22.42	\$50,820	\$46,640
Crane and Tower Operators	\$24.70	\$25.70	\$51,380	\$53,450
Industrial Truck and Tractor Operators	\$17.44	\$16.93	\$36,270	\$35,220
Cleaners of Vehicles and Equipment	\$9.87	\$11.35	\$20,530	\$23,620
Laborers and Freight, Stock, and Material Movers, Hand	\$13.20	\$14.58	\$27,460	\$30,330
Machine Feeders and Offbearers	\$15.21	\$14.80	\$31,640	\$30,790
Packers and Packagers, Hand	\$9.29	\$10.81	\$19,330	\$22,480
Refuse and Recyclable Material Collectors	\$21.30	\$20.94	\$44,300	\$43,550
Tank Car, Truck, and Ship Loaders	.	.	.	.
Material Moving Workers, All Other	\$14.01	\$16.54	\$29,130	\$34,400

Source: Bureau of Labor Statistics on May, 2012

News

STOCKTON AREA TOPS POLL OF NATION'S MOST OBESE REGIONS

By **David Siders**

March 05, 2010

Record Staff Writer

STOCKTON - Miserable (Forbes), illiterate (Central Connecticut State University) and, it came out most recently, fat.

Tied for being the most obese metropolitan area in the United States are Stockton and Montgomery, Ala., according to a Gallup Poll. More than a third of adults here are obese, the survey said.

"Why not?" Stockton Vice Mayor Kathy Miller said. "What a dog pile. Let's think of another horrible list that they can slap on Stockton."

It is unfair, she said.

"I get tired of it."

About 35 percent of residents in the Stockton metropolitan area, which includes all of San Joaquin County, are obese, licking the national average by more than eight percentage points, according to the survey, conducted by Gallup and Healthways, a Tennessee-based health care manager.

Stockton and Montgomery were followed on the fat index by the Visalia/Porterville area. Beefy Bakersfield was seventh.

The rankings were based on telephone interviews in 2009, in which Gallup and Healthways asked adults nationwide about height and weight, then calculated body mass index, a measure comparing the two that doesn't account for things such as a person's muscle mass.

Researchers in San Joaquin County have previously documented the impact of poverty and other factors on obesity, a condition associated with numerous health problems.

According to the Gallup Poll, 54.8 percent of Stockton-area adults frequently eat fruits and vegetables, and just more than half frequently exercise. About 25 percent of area residents smoke, 11 percent have diabetes, 40 percent have high blood pressure and 28.5 percent have high cholesterol, the survey said.

Contact reporter David Siders at (209) 943-8580 or dsiders@recordnet.com.

Body mass index

[VISIT HIS BLOG](#)

Body mass index, or BMI, is a comparison of a person's weight and height. The Centers for Disease Control and Prevention considers BMI to be a fairly reliable indicator of fatness for most people.

The CDC has a BMI calculator at www.cdc.gov/healthyweight/assessing/bmi/



San Joaquin County

COMMUNITY HEALTH NEEDS ASSESSMENT 2013



EXECUTIVE SUMMARY

healthiersanjoaquin.org

People who want to make changes
and get healthy struggle because they
continue to live in unhealthy and
non-supportive environments.



San Joaquin County CHNA

EXECUTIVE SUMMARY



Project Overview

Every three years federal and state laws require that nonprofit hospitals conduct a community health needs assessment (CHNA) to identify priority health needs in the communities the hospitals serve. In accordance with these legislative requirements, members of the San Joaquin County Community Health Needs Assessment Collaborative (SJC2HAC) completed a CHNA that encompasses all of San Joaquin County. Between June 2012 and February 2013 Valley Vision, Inc., a nonprofit

community consulting organization dedicated to improving the quality of life for residents across Northern California, completed the CHNA using a participatory process.

For the purposes of this CHNA, a health need was defined as: "a poor health outcome and its associated driver." A health driver was defined as: "a behavioral, environmental, and/or clinical factor, as well as more upstream social economic factors, that impact health."

The objective of the CHNA was:

To provide necessary information for participating members of the San Joaquin County Community Health Assessment Collaborative to create implementation plans, identify communities and specific groups within these communities which experience health disparities, especially as these disparities relate to chronic disease, and further identify contributing factors that create both barriers and opportunities for these populations to live healthier lives.

Demographics/Socioeconomic Info: San Joaquin County

San Joaquin County is located in the Central Valley of Northern California and is home to approximately 700,000 residents. The largest incorporated city in the county is Stockton, which is home to almost half of the county's residents. The racial and ethnic makeup of county residents includes Whites (68.7%), African American (8.2%), Native American (2.0%), Asian (15.5%), Pacific Islander (0.7%), and two or more races (4.9%). Residents of Hispanic or Latino origin (any race) included 39.4% of all residents.

Central California was hit hard in the recent recession, and San Joaquin County fared worse than the state average on many measures of economic distress. Unemployment for the county was 14.4% compared to the state rate of 10.1%. The County earned a nation-wide reputation for its high number of home foreclosures, and as of March 2013, 22% of all homes were in some stage of foreclosure compared to the state rate of 14% and national rate of 12%. Like other counties in California's fertile central valley, San Joaquin relies heavily on agriculture.

According to the US Census (2011), almost 40% of all county residents spoke a language other than English at home, and nearly one in four over the age of 25 did not have a high school diploma. Median household income was almost \$53,764 compared to the state at \$61,632. In some areas of the county, nearly 46% of adults did not have health insurance.

Data

A community-based participatory research design was used to conduct the assessment, which involved collecting both primary and secondary data. Primary data included input from more than 180 members of community, which included expert interviews with 45 key informants, and focus group interviews with 137 community members. Input was also gathered at meetings of the Healthier San Joaquin Community Coalition and the annual Community Health Forum, held in November 2012. In addition, a community health assets survey collected basic information for more than 300 assets in the greater San Joaquin County area.

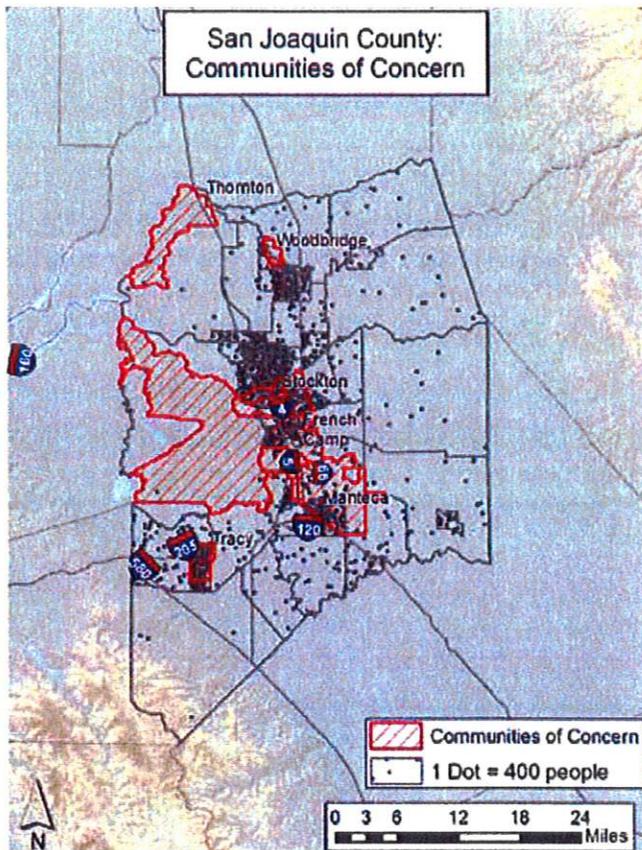
Secondary data included health outcome data, socio-demographic data, and behavioral and environmental data at the ZIP code or census tract level. Health outcome data included emergency department (ED) visits, hospitalization, and mortality rates related to heart disease, diabetes, stroke, hypertension, chronic obstructive pulmonary disease, asthma, accidents and mental health conditions. Socio-demographic data included race and ethnicity, poverty (female-headed households, families with children, people over 65 years of age), education attainment, health insurance status, and housing arrangement (own or rent). Behavioral and environmental data such as crime rates, access to parks, availability of healthy food, and leading causes of death helped describe general living conditions.

Communities of Concern

ZIP codes that consistently fell in the top 20% highest rates for poor health outcomes and mortality were identified and then triangulated with primary and socio-demographic data to identify specific Communities of Concern. The 10 Communities of Concern in San Joaquin County, listed below, are home to more than 257,000 county residents. The ZIP code Communities of Concern in Stockton, Manteca, and Tracy were more densely populated urban areas. The ZIP code communities in French Camp, Thornton, and Woodbridge all had smaller populations and represent rural communities.

ZIP Code	Community/Area	Population*
95202	Stockton/Downtown	6,934
95203	Stockton/Downtown	17,137
95204	Stockton/Central	27,786
95205	Stockton/Southeast	38,069
95206	Stockton/Southwest	65,004
95231	French Camp	4,374
95258	Woodbridge	4,018
95336	Manteca	42,675
95376	Tracy	49,859
95686	Thornton	1,405
Total Population		257,261

(Source: US Census Bureau, 2010)



The figure above shows a map of each community of concern. Red lines denote each ZIP code listed above. To help display where the majority of residents live within each ZIP code, a population density map is included.*

The table below notes the socio-demographic characteristics of each Community of Concern, and compares these to state and national benchmarks where applicable.

Health Outcomes

Age-adjusted rates of ED visits and hospitalizations for several chronic health conditions were analyzed. Visits due to heart disease, diabetes, stroke, and hypertension were consistently higher in the Communities of Concern compared to other ZIP codes in the health service area. In general, African Americans and Whites had the highest rates for these health conditions compared to other racial and ethnic groups. Mortality data for each of these health conditions consistently showed rates in the Communities of Concern above county and state benchmarks.

Environmental and Behavioral – Health Drivers

Analysis of environmental indicators showed that many of the Communities of Concern had conditions that were barriers to active lifestyles, such as elevated crime rates and a traffic climate unfriendly to bicyclists and pedestrians. Furthermore, these communities frequently had higher percentages of residents who were obese or overweight. Access to healthy food outlets was often limited, while the concentration of fast food and convenience stores was high. Analysis of the health behaviors of these residents also showed many behaviors that correlated to poor health, such as having a diet that was limited in fruit and vegetable consumption and limited physical activity.

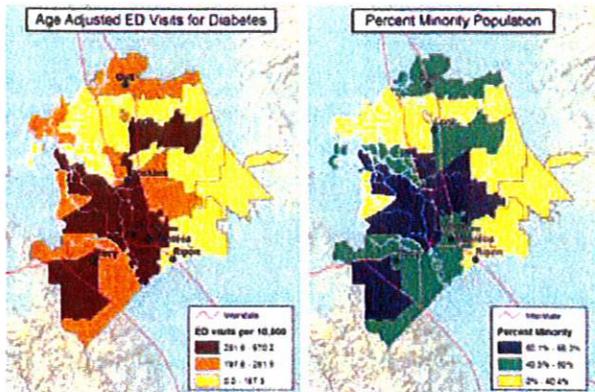
The figure below provides an example of social characteristics for residents living in Communities of Concern and how these relate to health in San Joaquin County. The ZIP code map on the left displays the frequency in which community residents visited any emergency department due to diabetes for all of 2011. In the



	% Households in poverty over 65 headed	% Families in poverty w/ kids	% Families in poverty female headed	% over 25 with no high school diploma	% Non-White Hispanic	% pop over age 5 with limited Eng	% Unemployed	% No health insurance	% Residents Renting
95202	31.8	56.2	69.7	50.9	85.3	21.3	32.8	45.5	93.9
95203	19.6	30.9	44.4	35.3	78.0	15.8	17.9	40.6	57.4
95204	11.8	21.1	41.8	18.3	60.2	5.0	12.4	29.2	42.8
95205	13.7	34.3	53.9	51.6	86.3	19.0	23.7	41.6	49.0
95206	16.2	25.5	46.9	36.4	88.3	16.5	22.9	25.8	31.2
95231	15.0	37.5	27.4	44.7	70.2	10.9	37.2	34.0	46.6
95258	7.0	6.2	12.9	17.6	34.6	4.4	8.5	16.3	22.8
95336	4.7	8.8	21.5	18.6	48.7	3.7	9.7	16.1	36.9
95376	12.0	6.8	19.1	17.0	62.0	6.5	8.2	13.8	31.0
95686	-	-	-	-	-	-	-	-	-
State	-	-	-	19.4¹	-	-	9.8²	21.63	-
National	8.74	15.15	31.26	12.97	-	8.78	7.99	16.310	-

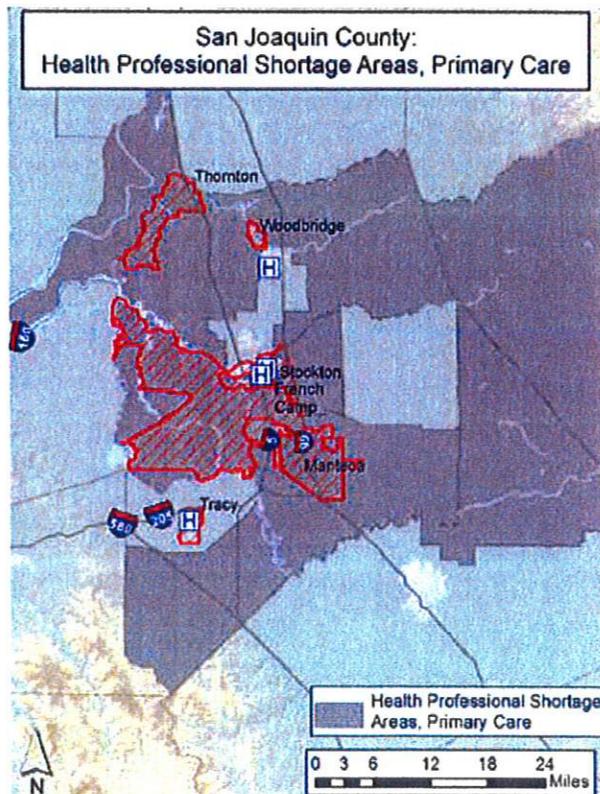
(Source: Dignity Health Community Benefit, CNI data, 2011)

map each ZIP code is assigned a color to show frequency; darker colors note that residents of these ZIP codes visited the emergency department due to diabetes more frequently



than residents living in the lighter colored ZIP codes. The ZIP code map on the right uses the same color ramping to show the distribution of people of color in the County. By examining the map one can see the relationship between emergency department visits due to diabetes and one's race or ethnicity.

Further, the map below displays portions of the County that have been designated a "Health Professional Shortage Area" by the Bureau of Health Professionals in 2011. Note that each ZIP code community of concern was also a Health Professional Shortage Area. Community residents often spoke of difficulty in finding a physician when needed.



Priority Health Needs

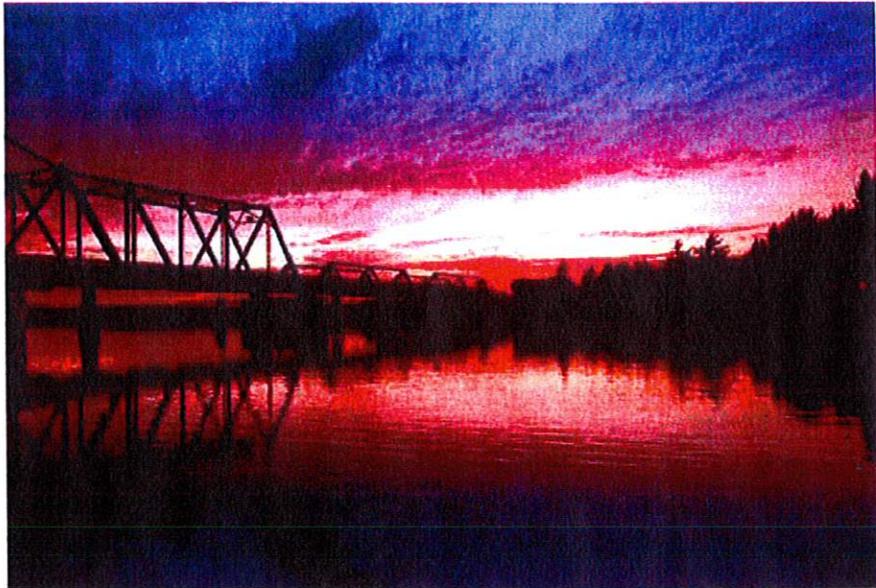
Priority health needs were determined through in depth analysis of qualitative and quantitative data, and then confirmed by socio-demographic data. As noted earlier, a health need was defined as a poor health outcome and its associated driver. A health need was included as a priority if it was represented by rates exceeding established quantitative benchmarks or was consistently mentioned in the qualitative data. After examining key findings from all data sources, a consolidated list of priority health needs for the Communities of Concern in San Joaquin County emerged:



- Lack of access to primary and preventative health care services
- Lack of or limited access to health education
- Lack of or limited access to dental care
- Limited cultural competence in health and related systems
- Limited or no nutrition literacy/access to healthy and nutritious foods, food security
- Limited transportation options
- Lack of safe and affordable places to be active

What's Next?

To fulfill state and federal requirements, each of the participating hospitals will use the information gathered through the CHNA to develop implementation plans that address some or all of the community's priority health needs. The CHNA is also intended to provide information to the community at large in the hope that individuals and organizations can work together to help all residents of San Joaquin County lead healthier lives.



a c k n o w l e d g e m e n t s

The community health assessment research team is thankful to all who contributed to the CHNA. We are deeply grateful for the key informants who offered their time and expertise to inform both the direction and outcomes of the study. Additionally, many community residents volunteered their time as focus group participants to give our research team a first-hand perspective of living in communities of San Joaquin County with limited access to basic healthcare services. We also wish to acknowledge the members of the San Joaquin County Community Health Assessment Collaborative (SJC2HAC):

Community Medical Centers, Inc.
Dameron Hospital
First 5 San Joaquin
Health Plan of San Joaquin
Kaiser Permanente
Lodi Memorial Hospital
San Joaquin County Public Health
St. Joseph's Behavioral Health Center
St. Joseph's Medical Center
Sutter Tracy Community Hospital

To get a copy of the full CHNA report, visit <http://healthiersanjoaquin.org>



Health Outcomes - Overall Rank

Rank	County
1	Marin (MR)
2	Placer (PL)
3	Santa Clara (ST)
4	San Mateo (SE)
5	Yolo (YO)
6	El Dorado (EL)
7	Orange (OR)
8	Colusa (CO)
9	Nevada (NE)
10	San Benito (SN)
11	San Luis Obispo (SP)
12	Sonoma (SM)
13	Santa Cruz (SC)
14	Santa Barbara (SR)
15	Ventura (VE)
16	Mono (MN)
17	San Diego (SD)
18	Alameda (AL)
19	Contra Costa (CN)
20	Plumas (PU)
21	Monterey (MT)
22	Tuolumne (TO)
23	San Francisco (SF)
24	Napa (NA)
25	Glenn (GL)
26	Mariposa (MI)
27	Riverside (RI)
28	Los Angeles (LO)
29	Calaveras (CA)
30	Sacramento (SA)
31	Lassen (LS)
32	Solano (SO)
33	Sutter (SU)
34	Imperial (IM)
35	Amador (AM)
36	Stanislaus (SL)
37	Madera (MA)
38	Sierra (SI)
39	Merced (MC)
40	Trinity (TR)
41	Kings (KI)
42	San Joaquin (SJ)
43	Mendocino (ME)
44	San Bernardino (SB)
45	Butte (BU)
46	Fresno (FR)
47	Shasta (SH)
48	Humboldt (HU)
49	Tulare (TU)
50	Yuba (YU)
51	Modoc (MO)
52	Inyo (IN)
53	Del Norte (DE)
54	Kern (KE)
55	Tehama (TE)
56	Siskiyou (SY)
57	Lake (LA)
NR	Alpine (AP)

San Joaquin (SJ)

	San Joaquin County	Error Margin	California	National Benchmark*	Rank (of 57)
Health Outcomes					
Mortality					
Premature death	7,088	6,872-7,304	5,570	5,317	42
Morbidity					
Poor or fair health	21%	19-24%	19%	10%	43
Poor physical health days	3.8	3.3-4.3	3.7	2.6	
Poor mental health days	3.9	3.3-4.5	3.6	2.3	
Low birthweight	6.9%	6.7-7.1%	6.8%	6.0%	
Health Factors					
Health Behaviors					
Adult smoking	18%	15-21%	14%	13%	52
Adult obesity	30%	27-33%	24%	25%	
Physical inactivity	21%	19-24%	18%	21%	
Excessive drinking	18%	15-21%	17%	7%	
Motor vehicle crash death rate	14	13-15	10	10	
Sexually transmitted infections	542		404	92	
Teen birth rate	47	46-48	37	21	
Clinical Care					
Uninsured	19%	18-21%	21%	11%	36
Primary care physicians**	1,690:1		1,341:1	1,067:1	
Dentists**	1,945:1		1,417:1	1,516:1	
Preventable hospital stays	63	61-66	52	47	
Diabetic screening	82%	80-85%	81%	90%	
Mammography screening	63%	60-65%	62%	73%	
Social & Economic Factors					
High school graduation**	79%		76%		52
Some college	50%	48-51%	60%	70%	
Unemployment	16.8%		11.7%	5.0%	
Children in poverty	25%	22-28%	23%	14%	
Inadequate social support	28%	24-33%	25%	14%	
Children in single-parent households	33%	32-35%	31%	20%	
Violent crime rate	840		472	66	
Physical Environment					
Daily fine particulate matter	11.6	11.4-11.8	11.7	8.8	38
Drinking water safety	1%		2%	0%	
Access to recreational facilities	5		9	16	
Limited access to healthy foods**	4%		3%	1%	
Fast food restaurants	54%		48%	27%	

* 90th percentile, i.e., only 10% are better.

** Data should not be compared with prior years due to changes in definition.

Note: Blank values reflect unreliable or missing data

2013

Monthly Labor Force Data for Cities and Census Designated Places (CDP)
 March 2014 - Preliminary
 Data Not Seasonally Adjusted

Area Name	Labor Force	Employment	Unemployment		Census Ratios	
			Number	Rate	Emp	Unemp
San Joaquin County	298,700	259,600	39,100	13.1%	1.000000	1.000000
August CDP	3,900	3,100	900	22.3%	0.011748	0.022440
Country Club CDP	5,100	4,600	500	10.7%	0.017668	0.014025
Escalon city	3,500	3,100	400	12.0%	0.011840	0.010753
Farmington CDP	100	100	0	20.2%	0.000275	0.000468
French Camp CDP	800	800	0	4.4%	0.003121	0.000935
Garden Acres CDP	4,600	3,500	1,100	24.0%	0.013584	0.028518
Kennedy CDP	1,500	1,100	500	30.1%	0.004084	0.011688
Lathrop city	5,700	5,100	600	10.6%	0.019687	0.015428
Lincoln Village CDP	2,500	2,400	100	3.6%	0.009270	0.002338
Linden CDP	600	500	100	18.0%	0.001927	0.002805
Lockeford CDP	2,100	1,600	500	24.4%	0.006103	0.013090
Lodi city	32,000	28,800	3,200	9.9%	0.110963	0.080879
Manteca city	27,600	24,500	3,100	11.4%	0.094305	0.080411
Morada CDP	2,200	2,100	100	6.5%	0.008077	0.003740
North Woodbridge CDP	800	800	100	6.6%	0.002983	0.001403
Ripon city	6,000	5,500	500	9.1%	0.021064	0.014025
South Woodbridge CDP	1,700	1,500	200	10.9%	0.005736	0.004675
Stockton city	125,400	105,500	19,900	15.8%	0.406452	0.508181
Taft Mosswood CDP	700	500	200	32.6%	0.001744	0.005610
Tracy city	33,100	30,400	2,700	8.1%	0.116975	0.068724

CDP is "Census Designated Place" - a recognized community that was unincorporated at the time of the 2000 Census.

Notes:

- 1) Data may not add due to rounding. All unemployment rates shown are calculated on unrounded data.
- 2) These data are not seasonally adjusted.

Methodology:

Monthly city and CDP labor force data are derived by multiplying current estimates of county employment and unemployment by the employment and unemployment shares (ratios) of each city and CDP at the time of the 2000 Census. Ratios for cities of 25,000 or more persons were developed from special tabulations based on household population only from the Bureau of Labor Statistics. For smaller cities and CDP, ratios were calculated from published census data.

City and CDP unrounded employment and unemployment are summed to get the labor force. The unemployment rate is calculated by dividing unemployment by the labor force. Then the labor force, employment, and unemployment are rounded.

This method assumes that the rates of change in employment and unemployment, since 2000, are exactly the same in each city and CDP as at the county level (i.e., that the shares are still accurate). If this assumption is not true for a specific city or CDP, then the estimates for that area may not represent the current economic conditions. Since this assumption is untested, caution should be employed when using these data.

Schools within Stockton City Limits

LEA Name	Low Grade	High Grade	CALS PADS 2012			October 2012			October 2012			October 2012			October 2012
			Enrollment (K-12)	Meal Count (K-12)	Free Percent (K-12)	FRPM Eligible (K-12)	Unduplicated Count (K-12)	FRPM Total Percent (%)	Free Percent (%)	FRPM Eligible (%)	Unduplicated Count	FRPM Total Percent (%)	Free Percent (%)	FRPM Eligible (%)		Unduplicated Count
Lodi Unified	09	12	198	120	60.61	69.19	137	174	102	58.62	119	68.39	119	68.39	
Lodi Unified	09	12	2741	919	33.53	42.1	1154	2687	902	33.57	1135	42.24	1135	42.24	
Lodi Unified	KK	08	576	346	60.07	73.78	425	572	342	59.79	421	73.6	421	73.6	
Lodi Unified	KK	06	581	370	63.68	77.28	449	558	360	64.52	436	78.14	436	78.14	
Lodi Unified	KK	06	675	475	70.37	78.96	533	672	474	70.54	531	79.02	531	79.02	
Lodi Unified	07	08	655	260	39.69	52.06	341	655	260	39.69	341	52.06	341	52.06	
Lodi Unified	KK	08	766	475	62.01	78.59	602	758	469	61.87	596	78.63	596	78.63	
Lodi Unified	KK	08	742	282	38.01	49.19	365	736	280	38.04	363	49.32	363	49.32	
Lodi Unified	KK	08	655	340	51.91	65.65	430	649	337	51.93	426	65.64	426	65.64	
Lodi Unified	KK	08	730	373	51.1	58.77	429	721	367	50.9	421	58.39	421	58.39	
Lodi Unified	KK	08	813	140	17.22	22.26	181	807	139	17.22	180	22.3	180	22.3	
Lodi Unified	03	05	8	6	75	75	6	8	6	75	6	75	6	75	
Lodi Unified	06	12	699	186	26.61	37.2	260	694	184	26.51	257	37.03	257	37.03	
Lodi Unified	KK	06	808	501	62	76.11	615	793	494	62.3	604	76.17	604	76.17	
Lodi Unified	07	08	920	467	50.76	62.07	571	920	467	50.76	571	62.07	571	62.07	
Lodi Unified	KK	06	834	322	38.61	51.44	429	825	317	38.42	423	51.27	423	51.27	
Lodi Unified	09	12	1770	1204	68.02	78.02	1381	1715	1168	68.1	1339	78.08	1339	78.08	
Lodi Unified	KK	06	494	297	60.12	76.52	378	484	292	60.33	370	76.45	370	76.45	
Lodi Unified	KK	06	412	134	32.52	41.5	171	364	120	32.97	153	42.03	153	42.03	
Lodi Unified	09	12	1859	888	47.77	60.68	1128	1819	863	47.44	1102	60.58	1102	60.58	
Lodi Unified	09	12	240	66	27.5	39.58	95	239	66	27.62	95	39.75	95	39.75	
Lodi Unified	KK	06	315	230	73.02	80.63	254	313	229	73.16	252	80.51	252	80.51	
Lodi Unified	04	08	297	83	27.95	38.05	113	297	83	27.95	113	38.05	113	38.05	
Lodi Unified	KK	06	435	367	84.37	90.11	392	432	364	84.26	389	90.05	389	90.05	
Lodi Unified	KK	06	548	459	83.76	89.78	492	545	458	84.04	490	89.91	490	89.91	
Lodi Unified	KK	03	551	486	88.2	95.28	525	538	474	88.1	512	95.17	512	95.17	
Lodi Unified	KK	06	537	415	77.28	85.85	461	531	412	77.59	457	86.06	457	86.06	
Lodi Unified	KK	06	445	388	87.19	95.51	425	445	388	87.19	425	95.51	425	95.51	
Lodi Unified	07	08	410	315	76.83	84.88	348	410	315	76.83	348	84.88	348	84.88	
Lodi Unified	KK	06	487	381	78.23	89.53	436	482	377	78.22	431	89.42	431	89.42	
Lodi Unified	KK	06	531	448	84.37	94.35	501	528	446	84.47	499	94.51	499	94.51	
Lodi Unified	04	06	676	288	83	93.66	325	347	288	83	325	93.66	325	93.66	
Lodi Unified	KK	06	676	284	39.05	52.07	352	670	260	38.81	348	51.94	348	51.94	
Lodi Unified	KK	05	378	159	42.06	58.47	221	375	158	42.13	218	58.13	218	58.13	
Lodi Unified	KK	06	574	217	37.8	52.79	303	573	217	37.87	302	52.71	302	52.71	
Manteca Unified	09	12	1184	606	51.18	62.58	1159	1159	595	51.34	728	62.81	728	62.81	
Manteca Unified	KK	08	796	486	61.06	70.35	560	785	482	61.4	556	70.83	556	70.83	
Manteca Unified	KK	08	1161	719	61.93	74.25	862	1156	718	62.11	860	74.39	860	74.39	
Manteca Unified	KK	08	977	555	56.81	67.14	656	969	551	56.86	652	67.29	652	67.29	
Manteca Unified	KK	08	974	630	64.68	73.82	619	939	604	64.32	693	73.8	693	73.8	
Stockton Unified	09	12	2109	NULL	67.82	77.76	NULL	2053	NULL	67.82	NULL	77.76	NULL	77.76	
Stockton Unified	KK	05	382	NULL	82.93	89.98	NULL	377	NULL	82.93	NULL	89.98	NULL	89.98	
Stockton Unified	KK	08	594	NULL	80.7	92	NULL	593	NULL	80.7	NULL	92	NULL	92	
Stockton Unified	KK	08	911	NULL	79.65	87.33	NULL	902	NULL	79.65	NULL	87.33	NULL	87.33	
Stockton Unified	KK	08	559	NULL	89.18	97.67	NULL	553	NULL	89.18	NULL	97.67	NULL	97.67	
Stockton Unified	KK	08	967	NULL	82.31	92.65	NULL	957	NULL	82.31	NULL	92.65	NULL	92.65	
Stockton Unified	KK	08	925	NULL	85.7	93.49	NULL	911	NULL	85.7	NULL	93.49	NULL	93.49	
Stockton Unified	KK	08	840	NULL	86.09	94.96	NULL	836	NULL	86.09	NULL	94.96	NULL	94.96	

Schools within Stockton City Limits

LEA Name	School Name	Low Grade	High Grade	CALPADS		October 2012		October 2012		October 2012		October 2012		October 2012		October 2012
				Enrollment	Meal Count	Free (%)	Eligible (K-12)									
Stockton Unified	Valentine Peyton Elementary	KK	08	884	534	60.41	633	71.61	879	530	60.3	629	629	71.66	71.66	
Stockton Unified	Edward C. Merlo Institute of Environmental Studies	09	12	242	NULL	81.25	NULL	83.93	230	NULL	81.25	NULL	NULL	83.93	83.93	
Stockton Unified	Dr. Lewis Dolphin Stallworth Sr. Charter	KK	12	172	NULL	83.82	NULL	91.91	160	NULL	83.82	NULL	NULL	91.91	91.91	
Stockton Unified	Aspire Langston Hughes Academy	06	12	609	478	78.49	551	90.48	608	477	78.45	550	550	90.46	90.46	
Stockton Unified	Spanos (Alex G.) Elementary	KK	08	504	NULL	92.37	NULL	97.6	495	NULL	92.37	NULL	NULL	97.6	97.6	
Stockton Unified	Stockton Unified Early College Academy	09	12	331	166	50.15	192	58.01	326	164	50.31	189	189	57.98	57.98	
Stockton Unified	Stockton High	09	12	201	104	51.74	107	53.23	145	74	51.03	77	77	53.1	53.1	
Stockton Unified	Stockton Collegiate International Elementary	KK	05	405	190	46.91	254	62.72	401	188	46.88	252	252	62.84	62.84	
Stockton Unified	Stockton Collegiate International Secondary	06	12	388	170	43.81	239	61.6	387	169	43.67	238	238	61.5	61.5	
Stockton Unified	Primary Years Academy	KK	05	226	122	53.98	148	65.49	220	116	52.73	142	142	64.55	64.55	
Stockton Unified	Health Careers Academy	09	12	243	NULL	80.49	NULL	89.43	243	NULL	80.49	NULL	NULL	89.43	89.43	
Stockton Unified	Pacific Law Academy	09	12	221	NULL	62.38	NULL	72.28	218	NULL	62.38	NULL	NULL	72.28	72.28	
Stockton Unified	TEAM Charter	KK	05	261	201	77.01	235	90.04	240	184	76.67	215	215	89.58	89.58	
Stockton Unified	Jane Frederick High	09	12	263	171	65.02	173	65.78	221	145	65.61	146	146	66.06	66.06	
Stockton Unified	Weber Institute	09	12	399	NULL	73.51	NULL	83.12	386	NULL	73.51	NULL	NULL	83.12	83.12	
Stockton Unified	Edison High	09	12	1909	NULL	79.11	NULL	87.03	1828	NULL	79.11	NULL	NULL	87.03	87.03	
Stockton Unified	Franklin High	06	12	2145	NULL	68.99	NULL	76.41	2098	NULL	68.99	NULL	NULL	76.41	76.41	
Stockton Unified	Stagg Senior High	09	12	1576	NULL	68.46	NULL	74.81	1540	NULL	68.46	NULL	NULL	74.81	74.81	
Stockton Unified	Adams Elementary	KK	08	530	NULL	87.9	NULL	91.81	508	NULL	87.9	NULL	NULL	91.81	91.81	
Stockton Unified	August Elementary	KK	08	654	NULL	91.54	NULL	98.69	650	NULL	91.54	NULL	NULL	98.69	98.69	
Stockton Unified	Cleveland Elementary	KK	08	668	NULL	85.43	NULL	94.88	660	NULL	85.43	NULL	NULL	94.88	94.88	
Stockton Unified	El Dorado Elementary	KK	08	557	NULL	87.88	NULL	92.88	555	NULL	87.88	NULL	NULL	92.88	92.88	
Stockton Unified	Elmwood Elementary	KK	08	856	NULL	80.49	NULL	92.35	834	NULL	80.49	NULL	NULL	92.35	92.35	
Stockton Unified	King Elementary	KK	08	940	NULL	87.9	NULL	94.26	933	NULL	87.9	NULL	NULL	94.26	94.26	
Stockton Unified	Filmore Elementary	KK	08	874	NULL	83.07	NULL	91.02	852	NULL	83.07	NULL	NULL	91.02	91.02	
Stockton Unified	Grunsky Elementary	KK	08	530	NULL	88.5	NULL	96.92	511	NULL	88.5	NULL	NULL	96.92	96.92	
Stockton Unified	Harrison Elementary	KK	08	620	NULL	84.18	NULL	99.49	610	NULL	84.18	NULL	NULL	99.49	99.49	
Stockton Unified	Hazelton Elementary	KK	08	724	NULL	90.14	NULL	95.65	718	NULL	90.14	NULL	NULL	95.65	95.65	
Stockton Unified	Hoover Elementary	KK	08	542	NULL	82.55	NULL	90.36	534	NULL	82.55	NULL	NULL	90.36	90.36	
Stockton Unified	Kennedy Elementary	KK	08	497	NULL	84.66	NULL	93.65	493	NULL	84.66	NULL	NULL	93.65	93.65	
Stockton Unified	Madison Elementary	KK	08	715	NULL	81.28	NULL	88.64	700	NULL	81.28	NULL	NULL	88.64	88.64	
Stockton Unified	McKinley Elementary	KK	08	798	NULL	84.57	NULL	92.28	775	NULL	84.57	NULL	NULL	92.28	92.28	
Stockton Unified	Monroe Elementary	KK	08	476	NULL	79.7	NULL	88.05	468	NULL	79.7	NULL	NULL	88.05	88.05	
Stockton Unified	Montezuma Elementary	KK	08	642	NULL	86.7	NULL	93.91	635	NULL	86.7	NULL	NULL	93.91	93.91	
Stockton Unified	Nightingale Charter	KK	08	307	NULL	86.77	NULL	94.15	305	NULL	86.77	NULL	NULL	94.15	94.15	
Stockton Unified	Pulliam Elementary	KK	08	654	NULL	81.34	NULL	86.47	645	NULL	81.34	NULL	NULL	86.47	86.47	
Stockton Unified	Roosevelt Elementary	KK	08	509	NULL	82.58	NULL	87.78	505	NULL	82.58	NULL	NULL	87.78	87.78	
Stockton Unified	Taft Elementary	KK	08	413	NULL	87.27	NULL	93.41	410	NULL	87.27	NULL	NULL	93.41	93.41	
Stockton Unified	Taylor Leadership Academy	KK	08	537	NULL	93.53	NULL	98.75	512	NULL	93.53	NULL	NULL	98.75	98.75	
Stockton Unified	Tyler Skills Elementary	KK	08	517	NULL	78.9	NULL	91.83	513	NULL	78.9	NULL	NULL	91.83	91.83	
Stockton Unified	Van Buren Elementary	KK	08	577	NULL	92.54	NULL	95.38	570	NULL	92.54	NULL	NULL	95.38	95.38	
Stockton Unified	Victory Elementary	KK	08	533	NULL	84.02	NULL	89.69	512	NULL	84.02	NULL	NULL	89.69	89.69	
Stockton Unified	Wilson Elementary	KK	08	359	291	81.06	301	83.84	354	287	81.07	297	297	83.9	83.9	
Stockton Unified	Walton Development Center	KK	12	96	NULL	69.57	NULL	95.66	70	NULL	69.57	NULL	NULL	95.66	95.66	
Stockton Unified	Commodore Stockton Skills	KK	08	1048	599	57.16	716	68.32	1039	593	57.07	708	708	68.14	68.14	
Stockton Unified	Kohl Open Elementary	KK	08	234	87	37.18	115	49.15	234	87	37.18	115	115	49.15	49.15	
Stockton Unified	District Special Education	KK	12	40	19	47.5	19	47.5	35	17	48.57	17	17	48.57	48.57	
Stockton Unified	George Washington Elementary	KK	08	262	NULL	90.57	NULL	94.72	258	NULL	90.57	NULL	NULL	94.72	94.72	
Stockton Unified	Rio Calaveras Elementary	KK	08	1019	674	66.14	782	76.74	1008	668	66.27	774	774	76.79	76.79	

Schools within Stockton City Limits

LEA Name	School Name	Low Grade	High Grade	CALPADS October 2012		October 2012		October 2012		October 2012		October 2012		October 2012	
				Enrollment (K-12)	Meal Count (K-12)	Free (K-12)	Eligible (K-12)	FRPM Total (K-12)	Unduplicated (K-12)	Free (K-12)	Eligible (K-12)	FRPM Total (K-12)	Unduplicated (K-12)	Free (Ages 5-17)	Eligible (Ages 5-17)
Stockton Unified	San Joaquin Elementary	KK	08	864	NULL	75.84	86.82	NULL	86.82	NULL	75.84	86.82	NULL	86.82	86.82
Stockton Unified	Dolores Huerta Elementary	KK	08	557	NULL	88.49	95.04	NULL	95.04	NULL	88.49	88.49	NULL	88.49	95.04

Total Schools 100
 At least 75% eligible for FRPM 64 64.00%

Jodi Almassy - FW: **ATP Cycle 1 Grant Applications - City of Stockton**

From: "Clark, Virginia@CCC" <Virginia.Clark@CCC.CA.GOV>
To: "Jodi.Almassy@stocktongov.com" <Jodi.Almassy@stocktongov.com>
Date: 5/14/2014 11:43 AM
Subject: FW: ATP Cycle 1 Grant Applications - City of Stockton
CC: "calocalcorps@gmail.com" <calocalcorps@gmail.com>, "Garcia, Ray@CCC" <Ray.Garcia@CCC.CA.GOV>, "Mijares, Marie@CCC" <Marie.Mijares@CCC.CA.GOV>

Jodi

The [CCC Stockton](#) is interested in participating in 3 of your 20 ATP projects:

#3 San Joaquin Trail

#4 March Lane/EBMUD Bicycle & Pedestrian Trail Green scape Phase 2

#17 Calaveras River Bike Path Rehabilitation

Virginia Clark
Region Deputy, Region 1

California Conservation Corps
(916) 341-3147
fx(877) 834-4177
virginia.clark@ccc.ca.gov



PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Visit our web site at www.ccc.ca.gov for more information about the California Conservation Corps

Visit our web site at www.WatershedStewards.com for more information about the Watershed Stewards Program

Jodi Almassy - RE: ATP Projects - City of Stockton

From: Nicholas Mueller <nmueller@sjcoe.net>
To: Jodi Almassy <Jodi.Almassy@stocktongov.com>
Date: 5/12/2014 11:43 AM
Subject: RE: ATP Projects - City of Stockton

No problem I will review again this week, I am on a tight deadline with another project but as stated below the two I mentioned are the ones SJRCC would like to partner on with the city.

Thanks,
Nick

From: Jodi Almassy [mailto:Jodi.Almassy@stocktongov.com]
Sent: Monday, May 12, 2014 8:07 AM
To: Nicholas Mueller
Subject: Re: ATP Projects

Nick: Yes, we are going to hand deliver to Sacramento that day. We'd like to be able to insert the Corps' responses a couple days prior if possible. Thanks - jA

>>> Nicholas Mueller <nmueller@sjcoe.net> 5/7/2014 8:46 AM >>>
Jodi,

After initial review SJRCC would only be able to participate in 2 of the 20 projects listed on your matrix. Project number 3, San Joaquin Trail and project number 4 March Lane/EBMUD phase 2 projects. I will review again and let you know. You have in till May 21 to turn this in correct?

Nick

ATTACHMENT J

SUPPORTING WEB ADDRESSES

CMAQ calculations – http://www.fhwa.dot.gov/environment/air_quality/cmaq/research/safetealu_phase_1/appendix_d.cfm

2012 Regional Congestion Management Program (<http://www.sjcog-rcmp.org/>)

SWITRS database <http://tims.berkeley.edu/>

TIMS SRTS - California Department of Public Schools Database
<http://www.cde.ca.gov/ds/si/ds/pubschls.asp>.

City of Stockton Climate Action Plan -
<http://www.stocktongov.com/government/boardcom/clim.html>

EPA – value of greenhouse gas reduction -
<http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>

US Forest Service – CUFR Tree Carbon Calculator - <http://www.fs.fed.us/ccrc/topics/urban-forests/ctcc/>

Social cost of air pollution (<http://www.vtpi.org/tca/tca0510.pdf>)

Maintenance cost per mile - (<http://www.irfnews.org/wp-content/uploads/LU-UMD2.pdf>),

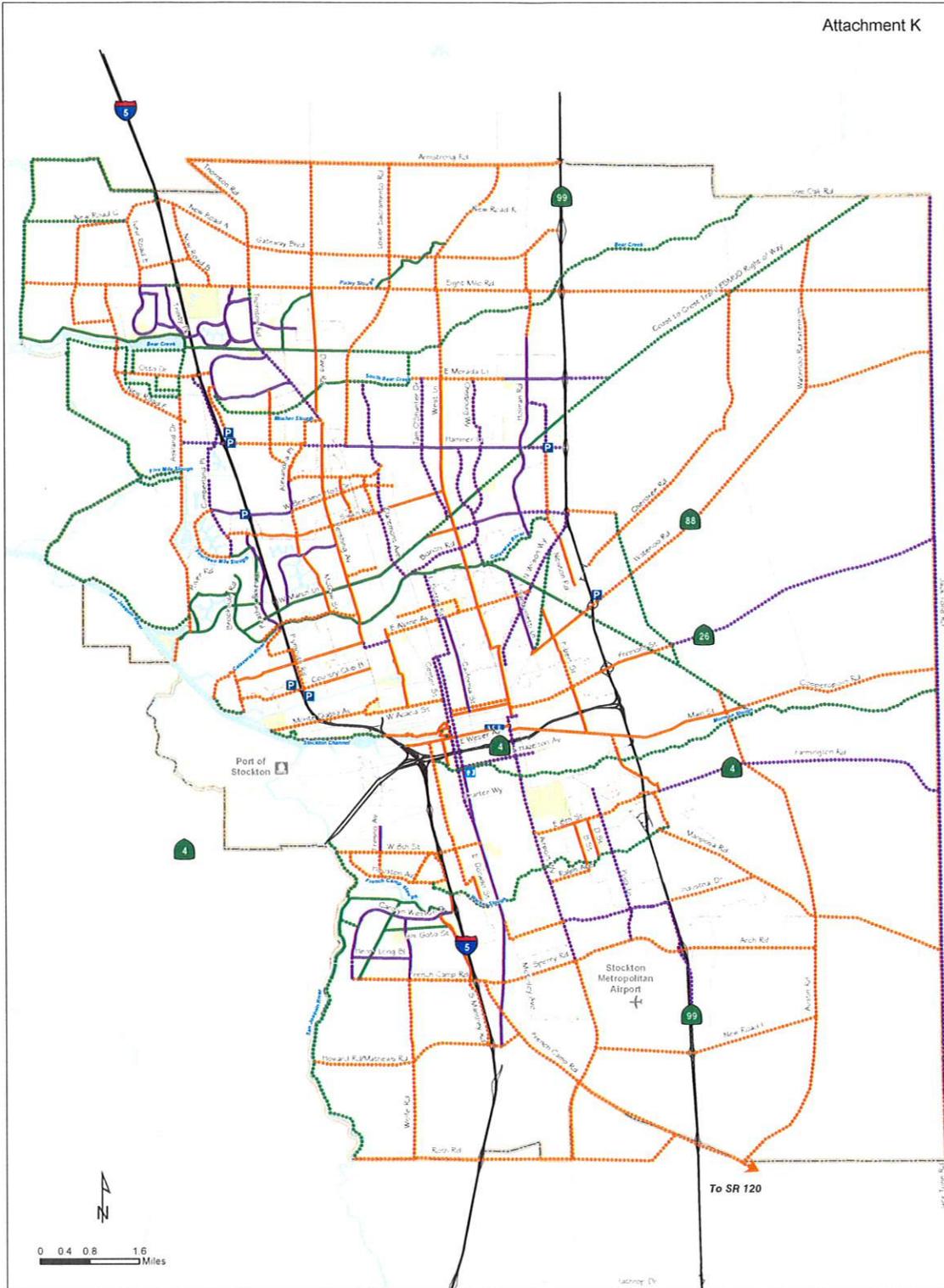
Average mpg for vehicles - (<http://www.project.org/info.php?recordID=384>)

Value per statistical life
(<https://www.law.upenn.edu/institutes/regulation/papers/RobinsonValues.pdf>)

CDC health costs - (<http://www.hsph.harvard.edu/nutritionsource/staying-active-full-story/>).

Fatality Analysis Reporting System - <http://www.nhtsa.gov/FARS>

City of Stockton Bicycle Master Plan 2007 -
<http://www.stocktongov.com/files/BicycleMasterPlan.pdf>



- LEGEND**
- Class I Bike Path
 - Class II Bike Lane
 - Class III Bike Route
 - Future Class I Bike Path
 - Future Class II Bike Lane
 - Future Class III Bike Route
 - ACE Station
 - Amtrak Station
 - Park and Ride
 - Park
 - Plan Boundary
 - City Limits

FIGURE 6 - RECOMMENDED BIKEWAY NETWORK, AS OF JUNE 2007

N:\Projects\10311914\October2007\Fig06_rec_bike_net.mxd



October 2007

CITY OF STOCKTON PUBLIC WORKS DEPT

Construction Engineering Estimate

Project: **BMP Update**Project No.

Federal No.

Months 15

Weeks 62

Name	Title	Salary & Benefits	Hrs/week	Total Weeks	Total Est. Hours Charge to Project	Total Salary Estimate
	Assistant Engineer	\$75	15	62	930	\$ 69,750
	Associate Engineer	\$75	10	62	620	\$ 46,500
	Engineering Manager	\$83	2	62	124	\$ 10,292
	City Engineer	\$95	1	62	62	\$ 5,890
	Traffic Engineer	\$90	2	20	40	\$ 3,600
	Director	\$120	1	20	20	\$ 2,400
Total PW Engineering/CM						\$ 138,432
	Analyst	\$80	2	20	30	\$ 2,400
	Supv. Off Asst	\$50	3	20	60	\$ 3,000
	Grant Coordinator	\$50	3	20	60	\$ 3,000
	Office Spec	\$48	3	20	60	\$ 2,880
Total PW Admin						\$ 11,280
Total PW Salary Costs						\$ 149,712
PW Vehicle (\$650/mo)						\$ 50,050
TOTAL PUBLIC WORKS						\$ 200,000

Attachment L

Consultant Contract

Outreach/Meeting Coordinator	\$60	100	\$	6,000
Senior Associate Public Outreach Coordinator	\$50	300	\$	15,000
Project Manager	\$75	700	\$	52,500
Project Manager	\$75	700	\$	52,500
Principal	\$80	100	\$	8,000
Principal	\$90	70	\$	6,300
Transportation Engineer	\$80	100	\$	8,000
Sr. Eng. Technician	\$65	400	\$	26,000
Sr. Associate	\$55	80	\$	4,400
Traffic Designer	\$60	70	\$	4,200
Traffic Designer	\$60	70	\$	4,200
Administrator	\$50	80	\$	4,000
Administrator	\$50	80	\$	4,000
Civil Engineer	\$80	40	\$	3,200
Graphics	\$50	300	\$	15,000
Writer	\$50	300	\$	15,000
AutoCAD Draftsman	\$55	300	\$	16,500
Word Processing	\$40	300	\$	12,000
TOTAL CONSULTANT				\$ 256,800
Printing			\$	85,000
Postage			\$	6,000
Misc.				2438.00
Total				<u>550,238.00</u>

I	A	B	C
2	WORK PLAN		
3	STRATEGIC GROWTH COUNCIL/Department of Conservation - Sustainable Communities Planning Grant Award		
5	Grantee: City of Stockton	Grant Number:	
6	Jurisdiction: City of Stockton	Department: Public Works	
7	Project Title: Update of City of Stockton Bicycle (and Pedestrian) Master Plan		
9	Tasks/Milestones	Responsible	Timetable
10	Task 1 Project Planning and Coordination		
11	1.1 Assemble Technical Advisory Committee (TAC)	City	Month 1
12	1.2 TAC Kickoff Meeting	City	Month 1
13	1.3 Project Management Plan/Scope of Work for Request for Proposals	TAC Committee (Committee)	Month 2
14	1.4 Request for Proposals	City	Month 3
15	1.5 Choose Consultant	Committee	Month 4
16	1.6 Contract with Consultant	City	Month 5
17	1.4 Stakeholder Database	City	All Months
18	1.5 Ongoing Coordination	City	All Months
19	Deliverables: TAC List, Minutes Kickoff Meeting, Project Management Plan, Request for Proposals. Stakeholder contact list.		
20	Task 2 Field Study and Research		
21	2.1 Study existing network, address deficiencies of proposed network segments	Consultant/Committee	Month 6
22	2.2 Analyze feasibility of alternate connecting segments	Consultant/City	Month 6
23	2.3 Field Survey (bike ride on existing and proposed routes)	Consultant/Committee	Month 6
24	2.4 Paired Comparison Matrix Survey of Representative Stakeholders	Consultant	Month 6
25	2.5 General Public Survey, needs and ideas	Consultant	Month 6 & 7
26	2.6 Review of recommendations from 1994 not yet implemented - what would it take to accomplish?	Consultant/Committee	Month 7
27	2.7 City Policy and Code Review; Public Works Procedures Review	Consultant/City	Month 7
28	2.8 Multimodal Transportation Analysis	Consultant	Month 7
29	2.9 List of connection blockers (bridges, RR xings) and possible ways to mitigate	Consultant/Committee	Month 7
30	2.10 Produce weighting priorities from Matrix Survey and Public Survey results	Consultant/Committee	Month 8
31	2.11 Identify Activity Centers, especially Employment Centers, and Residential Areas	Consultant/Committee	Month 8

	A	B	C
1	WORK PLAN		
2	STRATEGIC GROWTH COUNCIL/Department of Conservation - Sustainable Communities Planning Grant Award		
3	Grant Number: _____ Department: Public Works		
4	Grantee: City of Stockton		
5	Jurisdiction: City of Stockton		
6	Project Title: Update of City of Stockton Bicycle (and Pedestrian) Master Plan		
7	Tasks/Milestones		
8	Responsible		
9	Timetable		
32	Deliverables: Table of Deficiencies, Table of Possible Segments, Report of Field Survey, PC Matrix Report, General Public Survey Report, Table of Unmet Recommendations, Report of Policy and Code Review, Multimodal Report, List of Blockers, List of Weighted Priorities, List of Activity Centers		
33	Task 3 Network Design		
34	3.1 Use weighting priorities to identify and prioritize possible network segments	Consultant	Month 8
35	3.2 Map residential, activity, and employment areas	Consultant	Month 8
36	3.3 Map network alternatives for public review, noting segments that would require removal of parking to make room for bicycle facilities	Consultant	Month 9
37	Deliverables: List of prioritized segments, Target Area Map, 3 Network Alternative Maps		
38	Task 4 Education and Outreach		
39	4.1 Publicity Materials Creation and Distribution	Consultant	Month 9
40	4.2 Public Workshops (4 - 6)	Consultant/City	Month 9 & 10
41	4.3 Presentation to City Council	Consultant/City	Month 9
42	4.4 Survey of Schools/School Districts re bicycle education	Consultant	Month 10
43	4.5 Survey of Schools re needs	Consultant	Month 10
44	4.6 Website with fact sheet and contact information	Consultant	Month 9
45	4.7 Hotline to answer questions	Consultant	Month 5
46	4.8 Press Releases and possible short news videos	Consultant	TBD
47	Deliverables: Publicity Materials, Distribution Lists, project fact sheet, flyers, posters, school survey results, public meeting reports		
48	Task 5 Master Plan, Procedure, and Code Development		
49	5.1 Review Active Transportation Program requirements	Consultant	Month 10
50	5.2 Detailed Outline of New Master Plan	Consultant	Month 10
51	5.3 Select preferred network - identify segments	Consultant/Committee	Month 11
52	5.4 Estimates for construction and maintenance	Consultant	Month 10
53	5.5 Maps, Figures, Tables, for New Master Plan	Consultant	Month 11

	A	B	C
1	WORK PLAN		
2	STRATEGIC GROWTH COUNCIL/Department of Conservation - Sustainable Communities Planning Grant Award		
3	Grant Number:		
5	Department: Public Works		
6	Grantee: City of Stockton		
7	Jurisdiction: City of Stockton		
8	Project Title: Update of City of Stockton Bicycle (and Pedestrian) Master Plan		
9	Tasks/Milestones	Responsible	Timetable
54	5.6 Draft any needed code or procedure changes	Consultant	Month 11
55	5.7 Review of Detailed Outline	City	Month 12
56	5.8 Draft New Master Plan	Consultant	Month 12
57	5.9 Review New Master Plan	City	Month 13
58	5.10 Revise New Master Plan	Consultant	Month 13
59	Task 6 Plan Finalization		
60	6.1 CEQA documentation	City	Month 11
61	6.2 Planning Commission Hearing	Consultant/City	Month 12
62	6.3 Prepare Staff Report to present to Council	City	Month 13
63	6.4 Present New Master Plan to City Council	Consultant/City	Month 14
64	6.5 Present New Master Plan to Public	Consultant/City	Month 14
65	6.6 Task list and schedule for implementation	City	Month 15