

<p>CARNEGIE FORUM 305 WEST PINE STREET LODI, CALIFORNIA</p>	<p>AGENDA LODI PLANNING COMMISSION</p>	<p>REGULAR SESSION WEDNESDAY, SEPTEMBER 11, 2013 @ 7:00 PM</p>
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For information regarding this agenda please contact:

Kari Chadwick @ (209) 333-6711
Community Development Secretary

***NOTE:** All staff reports or other written documentation relating to each item of business referred to on the agenda are on file in the Office of the Community Development Department, located at 221 W. Pine Street, Lodi, and are available for public inspection. If requested, the agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. To make a request for disability-related modification or accommodation contact the Community Development Department as soon as possible and at least 24 hours prior to the meeting date.*

1. ROLL CALL
2. MINUTES – “August 14, 2013”
3. PUBLIC HEARINGS
 - a. Request for Planning Commission approval of a Use Permit to establish a batch plant at 1560 East Pine Street. (Applicant: Reyes Jaramillo; File 13-U-11; CEQA Determination: Categorical Exemption Pursuant to CEQA Guidelines Section 15332 In-Fill Development Projects)

Item 3b has been postponed to a future meeting

- b. Request for Planning Commission Approval of:
 - I) Growth Management Allocation for 232 Low Density Residential Lots; and
 - II) A Vested Subdivision Map for the Proposed Rosegate Subdivision, a 50 acre, 232 lot, single-family residential subdivision
(Applicant: FCB Homes, Inc.; File #'s: 13-S-01 and 13-GM-01; CEQA Status: Project Environmental Impact Report, State Clearinghouse No. 2005092096, Certified on November 15, 2006)

NOTE: The above items are quasi-judicial hearings and require disclosure of ex parte communications as set forth in Resolution No. 2006-31

4. PLANNING MATTERS/FOLLOW-UP ITEMS
 - a. Review of the Draft Climate Action Plan
5. ANNOUNCEMENTS AND CORRESPONDENCE
6. ACTIONS OF THE CITY COUNCIL
7. ACTIONS OF THE SITE PLAN AND ARCHITECTURAL REVIEW COMMITTEE
8. ART IN PUBLIC PLACES
9. COMMENTS BY THE PUBLIC (NON-AGENDA ITEMS)
10. COMMENTS BY THE PLANNING COMMISSIONERS & STAFF (NON-AGENDA ITEMS)
11. ADJOURNMENT

Pursuant to Section 54954.2(a) of the Government Code of the State of California, this agenda was posted at least 72 hours in advance of the scheduled meeting at a public place freely accessible to the public 24 hours a day.

****NOTICE:** Pursuant to Government Code §54954.3(a), public comments may be directed to the legislative body concerning any item contained on the agenda for this meeting before (in the case of a Closed Session item) or during consideration of the item.

Right to Appeal: (Continued)

If you disagree with the decision of the commission, you have a right of appeal. Only persons who participated in the review process by submitting written or oral testimony, or by attending the public hearing, may appeal.

Pursuant to Lodi Municipal Code Section 17.72.110, actions of the Planning Commission may be appealed to the City Council by filing, within ten (10) business days, a written appeal with the City Clerk and payment of \$300.00 appeal fee. The appeal shall be processed in accordance with Chapter 17.88, Appeals, of the Lodi Municipal Code. Contact: City Clerk, City Hall 2nd Floor, 221 West Pine Street, Lodi, California 95240 – Phone: (209) 333-6702.

**LODI PLANNING COMMISSION
REGULAR COMMISSION MEETING
CARNEGIE FORUM, 305 WEST PINE STREET
WEDNESDAY, AUGUST 14, 2013**

1. CALL TO ORDER / ROLL CALL

The Regular Planning Commission meeting of August 14, 2013 was called to order by Chair Kirsten at 7:05 p.m.

Present: Planning Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten

Absent: Planning Commissioners – Heinitz and Jones

Also Present: Community Development Director Konradt Bartlam, Associate Planner Immanuel Bereket, Deputy City Attorney Janice Magdich, and Administrative Secretary Kari Chadwick

2. MINUTES

“July 10, 2013”

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Olson, Kiser second, approved the minutes of July 10, 2013 as written.

3. PUBLIC HEARINGS

- a) Notice thereof having been published according to law, an affidavit of which publication is on file in the Community Development Department, Chair Kirsten called for the public hearing to consider the request of the Planning Commission for approval of a Use Permit to establish a wine production facility at 1023 E Vine Street, Suite G. (Applicant: Erin Taylor, on behalf of Rianza Wines, LLC; File Number: 13-U-10)

Associate Planner Bereket gave a brief PowerPoint presentation based on the staff report. Staff recommends approval of the project as conditioned.

Commissioner Kiser asked if the normal condition for removal of the waste material is a part of the resolution. Associate Planner Bereket confirmed that condition thirteen of the resolution addresses that item.

Hearing Opened to the Public

- Erin and Richard Taylor, applicants, came forward to answer questions. Ms. Taylor stated that they are looking forward to moving the production of the wine to Lodi since they live here.
- Commissioner Slater asked if there would be a tasting room at this location. Ms. Taylor stated that they will only be crushing at this location since they already have a tasting room downtown on Elm Street.
- Chair Kirsten asked where on Elm Street was the tasting room. Ms. Taylor stated that they are located across from the Merlot.

Public Portion of Hearing Closed

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Kiser, Hennecke second, approved the request for a Use Permit to establish a wine production facility at 1023 E Vine Street, Suite G subject to the conditions in the resolution. The motion carried by the following vote:

- Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
- Noes: Commissioners – None
- Absent: Commissioners - Heinitz and Jones

Chair Kirsten recused himself from Item 3b) because he owns property within the sphere of influence of the project.

- b) Notice thereof having been published according to law, an affidavit of which publication is on file in the Community Development Department, Commissioner Olson, Acting Chair, called for the public hearing to consider the request of the Planning Commission for approval of a Use Permit to allow a Type 2 (Winery) Alcoholic Beverage Control license at 13 North School Street. (Applicants: Judi Holly, on behalf of Weibel Family Vineyards; File Number: 13-U-12)

Associate Planner Bereket gave a brief PowerPoint presentation based on the staff report. Staff recommends approval of the project as conditioned.

Hearing Opened to the Public

- Judy Holly, applicant, came forward to answer questions.
- Commissioner Slater asked if the focus was going to be primarily on sparkling wines. Ms. Holly confirmed that the main focus will be on the sparkling wines, but there will also be still wines.

Public Portion of Hearing Closed

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Kiser, Slater second, approved the request for a Use Permit to allow a Type 2 (Winery) Alcoholic Beverage Control license at 13 North School Street subject to the conditions in the resolution. The motion carried by the following vote:

- Ayes: Commissioners – Hennecke, Kiser, Olson and Slater
- Noes: Commissioners – None
- Absent: Commissioners - Heinitz, Jones and Chair Kirsten

Chair Kirsten rejoined the Commission.

- c) Notice thereof having been published according to law, an affidavit of which publication is on file in the Community Development Department, Chair Kirsten called for the public hearing to consider the request of the Planning Commission for approval of a Use Permit to allow a Type-41 On-Sale Beer and Wine Alcoholic Beverage Control License located at 722 West Lodi Avenue. (Applicant: Melissa Ng, on behalf of Zin Bistro; File Number: 13-U-13)

Associate Planner Bereket gave a brief PowerPoint presentation based on the staff report. Staff recommends approval of the project as conditioned.

Hearing Opened to the Public

- Melissa and Walter Ng, applicant, came forward to answer questions. Ms. Ng stated that she and her husband have been operating a catering business, Two Chefs

Events, in Lodi for twelve years. They are looking to branch out and open a Bistro at this location.

- Chair Kirsten asked what is your understanding of a finding of public necessity. Ms. Ng stated that there are only a few restaurants in this area that are open in the evening that also sell beer and wine.
- Commissioner Kiser asked if they were going to be open for lunch and dinner. Ms. Ng stated that they will be open for lunch and dinner. Mr. Ng stated that their plan is to be open for an upper end scale dinner on Thursday, Friday, and Saturday and the rest of the week will be just regular dining choices. Kiser asked if staff will be trained in ABC regulation. Ms. Ng stated that they would.
- Director Bartlam asked if Mr. and Ms. Ng would still be available to cater the rotary lunch on Mondays because he would hate to have to search out another cater. They assured him that they will be able to handle the job.

Public Portion of Hearing Closed

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Kiser, Olson second, approved the request for a Use Permit to allow a Type-41 On-Sale Beer and Wine Alcoholic Beverage Control License located at 722 West Lodi Avenue subject to the conditions in the resolution. The motion carried by the following vote:

Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
 Noes: Commissioners – None
 Absent: Commissioners - Heinitz and Jones

- d) Notice thereof having been published according to law, an affidavit of which publication is on file in the Community Development Department, Chair Kirsten called for the public hearing to consider the request of the Planning Commission for approval of a Use Permit to allow a Type-47 On-Sale Beer, Wine and Distilled Spirits in conjunction with a restaurant operation at 910 South Cherokee Lane. (Applicant: Alberto Ortiz; File Number: 13-U-08)

Chair Kirsten stated that this item has been withdrawn from this agenda and will be re-advertised for a future meeting.

4. PLANNING MATTERS/FOLLOW-UP ITEMS

None

5. ANNOUNCEMENTS AND CORRESPONDENCE

None

6. ACTIONS OF THE CITY COUNCIL

Director Bartlam stated that a memo has been provided in the packet and staff is available to answer any questions.

7. ACTIONS OF THE SITE PLAN AND ARCHITECTURAL REVIEW COMMITTEE

Commissioner Kiser gave a brief report regarding the meeting that occurred earlier this evening. He stated that Lodi Memorial Hospital will be adding a MRI room.

8. ART IN PUBLIC PLACES

Chair Kirsten stated that the last meeting was cancelled. He also added that Deanie Bridle

9. COMMENTS BY THE PUBLIC (NON-AGENDA ITEMS)

None

10. COMMENTS BY STAFF AND COMMISSIONERS (NON-AGENDA ITEMS)

None

11. REORGANIZATION

a. Planning Commission Chair & Vice Chair

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Kiser, Olson second, approved the nomination of Vice Chair Jones for the 2013/14 Planning Commission Chair position. There being no other nominations the motion carried by the following vote:

Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
Noes: Commissioners – None
Absent: Commissioners – Heinitz and Jones

MOTION / VOTE:

The Planning Commission, on motion of Chair Kirsten, Slater second, approved the nomination of Commissioner Kiser for the 2013/14 Planning Commission Vice Chair position. There being no other nominations the motion carried by the following vote:

Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
Noes: Commissioners – None
Absent: Commissioners – Heinitz and Jones

b. Planning Commission Representatives to: SPARC & Art In Public Places

MOTION / VOTE:

The Planning Commission, on motion of Chair Kirsten, Slater second, approved the nomination of Commissioner Kiser for the 2013/14 Planning Commission representative for the Site Plan and Architectural Review Committee position. There being no other nominations the motion carried by the following vote:

Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
Noes: Commissioners – None
Absent: Commissioners – Heinitz and Jones

MOTION / VOTE:

The Planning Commission, on motion of Commissioner Kiser, Slater second, approved the nomination of Commissioner Kirsten for the 2013/14 Planning Commission representative for the Art In Public Places Committee position. There being no other nominations the motion carried by the following vote:

Ayes: Commissioners – Hennecke, Kiser, Olson, Slater and Chair Kirsten
Noes: Commissioners – None
Absent: Commissioners – Heinitz and Jones

12. ADJOURNMENT

There being no further business to come before the Planning Commission, the meeting was adjourned at 7:27 p.m.

ATTEST:

Konradt Bartlam
Planning Commission Secretary

Item 3a

**CITY OF LODI
PLANNING COMMISSION
Staff Report**

MEETING DATE: September 11, 2013

APPLICATION NO: Use Permit: 13-U-11

REQUEST: Request for Planning Commission approval of a Use Permit to establish a batch plant at 1560 East Pine Street. (Applicant: Reyes Jaramillo; File 13-U-11; CEQA Determination: Categorical Exemption Pursuant to CEQA Guidelines Section 15332 In-Fill Development Projects)

LOCATION: 1560 East Pine Street
APN: 049-090-13
Lodi, CA 95240

APPLICANT: Reyes Jaramillo
115 South Stockton
Lodi, CA 95240

PROPERTY OWNER: Richard Galantine
901 South Cherokee Lane
Lodi, CA 95240

RECOMMENDATION

Staff recommends that the Planning Commission approve the request of Reyes Jaramillo, on behalf of Pride Landscape and Concrete, for a Use Permit to establish a batch plant to supplement their landscape business located at 1560 East Pine Street, subject to the conditions in the attached resolution.

PROJECT AREA DESCRIPTION

General Plan Designation: Industrial
Zoning Designation: Industrial
Property Size: 10 -acres (batch plant would occupy approximately 20,000 sq. ft. area)

The adjacent zoning and land use characteristics:

DIRECTION	GENERAL PLAN	ZONE	LAND USE
North	Industrial	Industrial	industrial use
South	Industrial	Industrial	industrial use
East	County	County	Agricultural use
West	County	County	Cemetery

SUMMARY

The applicant, Reyes Jaramillo, on behalf of Pride Landscape, proposes install a small batch plant to complement a nursery and landscape business he operates at 1560 East Pine Street. The business does not include onsite crushing and recycling aggregate products. The batch plant would make ready-mix material for their business. The site is designated for heavy industrial uses, which allows the proposed use subject to a Use Permit review and approval.

BACKGROUND

The property currently has two existing structures on the property, a 1,800 square foot building being used as a storage facility and a 800 square foot shed. The parcel contained previously contained a 4,000 square foot building that was damaged due to fire and was removed earlier this year. The property is mostly undeveloped land being used for nursery purposes. The site is vacant and can be served by City utilities.

PROJECT AND SITE DESCRIPTION

The applicant is proposing to utilize a vacant industrial lot for a ready-mix batch plant located at 1506 East Pine Street. The proposal involves a ready mix concrete batch plant with accessory office, truck and vehicle parking area. The applicant currently operates a nursery and landscape business at this location. The batch plant would complement their business. The equipment used to create the ready-mix material measures approximately 20-ft in height. The adjacent parcel to the east is outside of City limits. Attachment 1 shows the project site in a local setting. There are no sidewalks, curb, gutter or street lights along this frontage. The only machinery involved will ready-mix equipment. The proposed business does not involve retail business and is generally expected to operate Monday through Friday 7:00 am to 6:00 pm every day. The proposed plan is expected to have the following features:

- The tallest component of the plant will be the stack that is approximately 20 feet high.
- No asphalt production will occur.
- 8 full time employee positions will be created
- No crushing/recycling of concrete will occur.

ANALYSIS

The applicant is seeking Use Permit approval to allow a ready mix concrete batch facility at 1506 East Pine Street. The project site abuts San Joaquin County to the east and a cemetery located within the San Joaquin County to the west. The subject property is currently zoned Industrial and the Land Use Designation. With this request, the applicant is proposing to construct the "Stuart Tarmac Concrete Batch Plant" to complement the landscape business he operates out of this location. The site contains 10-acres, but the ready-mix batch plan would occupy less than 10,000 square foot. The site is proposed to include specifically, a batch plant, a detention pond, and five (5) parking spaces to support the proposed uses. This development is subject to all mandatory on- and off-site improvements such as sidewalk, curb, gutter, street lighting, etc. The business does not involve crushing or recycling of concrete, asphalt or aggregate materials. In addition, the business does not involve production, manufacturing or recycling of asphalt or asphalt based products.

The discretionary Use Permit procedure enables Planning and city staff to impose conditions designed to avoid, minimize or mitigate potentially adverse effects of a certain use upon the community or other properties in the vicinity. Staff finds that the proposed ready-mix batch plant is a reasonable request for the property. The lot is zoned Industrial, a zone specifically designated for the most intense types of industrial uses. The property is currently used for landscaping business. The ready-mix batch plant would supplement the existing business.

Although the ready-mix production process will generate some noise and dust, the levels are not significantly higher than those produced by some of the surrounding businesses. The applicant will be required to obtain operational permits from San Joaquin Valley Air Pollution Control District and comply with all applicable air quality regulations. The proposed business would allow the applicant to expand their business.

Staff finds that the proposed Use Permit application, including conditions in the attached resolution, will meet the requirements of the Zoning Ordinance and are consistent with the

General Plan. Staff believes that the Planning Commission can make the required findings to approve the requested Use Permit. The required findings are as followed:

1. *The proposed use is allowed with a Use Permit within the applicable zoning district and complies with all applicable provisions of this Development Code.* **Comment:** The Zoning designation for this property is Industrial, which permits facilities for the sorting, grading, and storage of aggregates as construction materials, such as batch plants subject to a Use Permit per Industrial Zoning District per Lodi Municipal Code Section 17.24.030. It is consistent with the requirements of the Industrial Zoning District. The site is currently being used by the applicant as nursery for their landscape business. The proposed concrete mix plant is classified as an Industrial use – a permitted use within the subject zoning district. The batch plant requires approval of a Use Permit.

The batch plant is intended to compliment the landscape business the applicant currently operates. The business does not involve retail activities out of this location. The tallest structure element of the proposed concrete plan (ready mix equipment) will be 20-ft in height, which is within the maximum allowable height of 80 feet. The batch plant would occupy an approximately 10,000 square foot of the 10-acre site. Construction of onsite parking, instillation of driveway, and other improvements will improve the property. The site and all properties to the north and east are either zoned or currently in use as heavy industrial uses. The proposed business would be consistent with surrounding industrial uses.

2. *The proposed use is consistent with the General Plan and any applicable specific plan.* **Comment:** The General Plan land use designation for this area is Industrial, which provides for manufacturing facilities such as a batch plant. The proposed batch plant will be similar, if not smaller, than other batch plant located in the same district.
3. *The location, size, design and operating characteristics of the use or development is compatible with and shall not adversely affect or be materially detrimental to the health, safety, or welfare of persons residing or working in the area, or be detrimental or injurious to public or private property or improvements.* **Comment:** The proposed batch plant is compatible with existing and future industrial land uses. The parcel immediately west of the project site is cemetery. The uses immediately south and north are industrial in nature. C.C.T. Railroad separates the project from parcels to the east, which are vacant agricultural uses. Staff recommends a number of standards to ensure safe and orderly operation of the business. These conditions include on- and off- site development of the project site, such as instillation of new driveways, sidewalk, curb, gutter and street lights along Pine Street, fugitive dust control measures, and etc. In addition, the proposed use will not detrimentally affect residential buildings, churches, schools, hospitals, public playgrounds, and other similar uses. No aspects of the proposed uses has been identified that would create new detrimental impacts.
4. *The location, size, design, and operating characteristics of the proposed use would be compatible with the existing and future land uses in the vicinity.* **Comment:** The proposed use complies with all requirements as set forth for the issuance of this Use Permit, in that the site is adequate in size, shape and topography for the proposed use. Second, the site has sufficient access to streets, adequate in width and pavement type to carry the quantity and quality of traffic generated by the proposed use. Lastly, the proposed use, as conditioned, will not have an adverse effect upon the use, enjoyment or valuation of property in the industrial neighborhood because the proposed use is type of business specifically allowed in the Industrial zoning district.

5. *The proposed project has been reviewed in compliance with the California Environmental Quality Act (CEQA) and the Lodi Environmental Review Guidelines.* **Comment:** The project is found to be categorically exempt according to the California Environmental Quality Act, Article 19 §15332, Class 32, In-fill Development. The project site is less than 5 acres, is surrounded by urban uses, can be served by urban services and is not in an environmentally sensitive location.

The proposed project has been reviewed by other City departments. Each department's requirements have been incorporated into the draft resolution. The proposed project will take material that would ordinarily be considered construction waste and recycle it to a product that can be reused in other construction projects. The project assists the City to meet State mandates related to reduction in waste dumped in landfills. In addition, the proposed project would not only provide additional employment opportunities and help preserve the City of Lodi's economic welfare, but provide economic activity to the neighborhood. The proposed facility will be consistent with the goals and objectives as specified in the General Plan for Industrial businesses and put to use an underutilized building that is in need of economic activity. As such, staff recommends that the Planning Commission approve the project, subject to the conditions outlined in the attached resolution.

ENVIRONMENTAL ASSESSMENTS

The project is found to be categorically exempt according to the California Environmental Quality Act, Article 19 §15332, Class 32, In-fill Development. The project is less than 5 acres, is surrounded by urban uses, can be served by urban services and is not in an environmentally sensitive location.

PUBLIC HEARING NOTICE:

Legal Notice for the Use Permit was published on August 30, 2013. Thirty-six (36) public hearing notices were sent to all property owners of record within a 300-foot radius of the subject property as required by California State Law §65091 (a) 3.

ALTERNATIVE PLANNING COMMISSION ACTIONS:

- Approve the request with attached or alternate conditions
- Deny the request
- Continue the request

Respectfully Submitted,

Concur,

Immanuel Bereket
Associate Planner

Konrad Bartlam
Community Development Director

ATTACHMENTS:

1. Vicinity Map
2. Aerial Photo
3. Site Plan
4. Draft Resolution
 - i. Project Limits

Vicinity Map

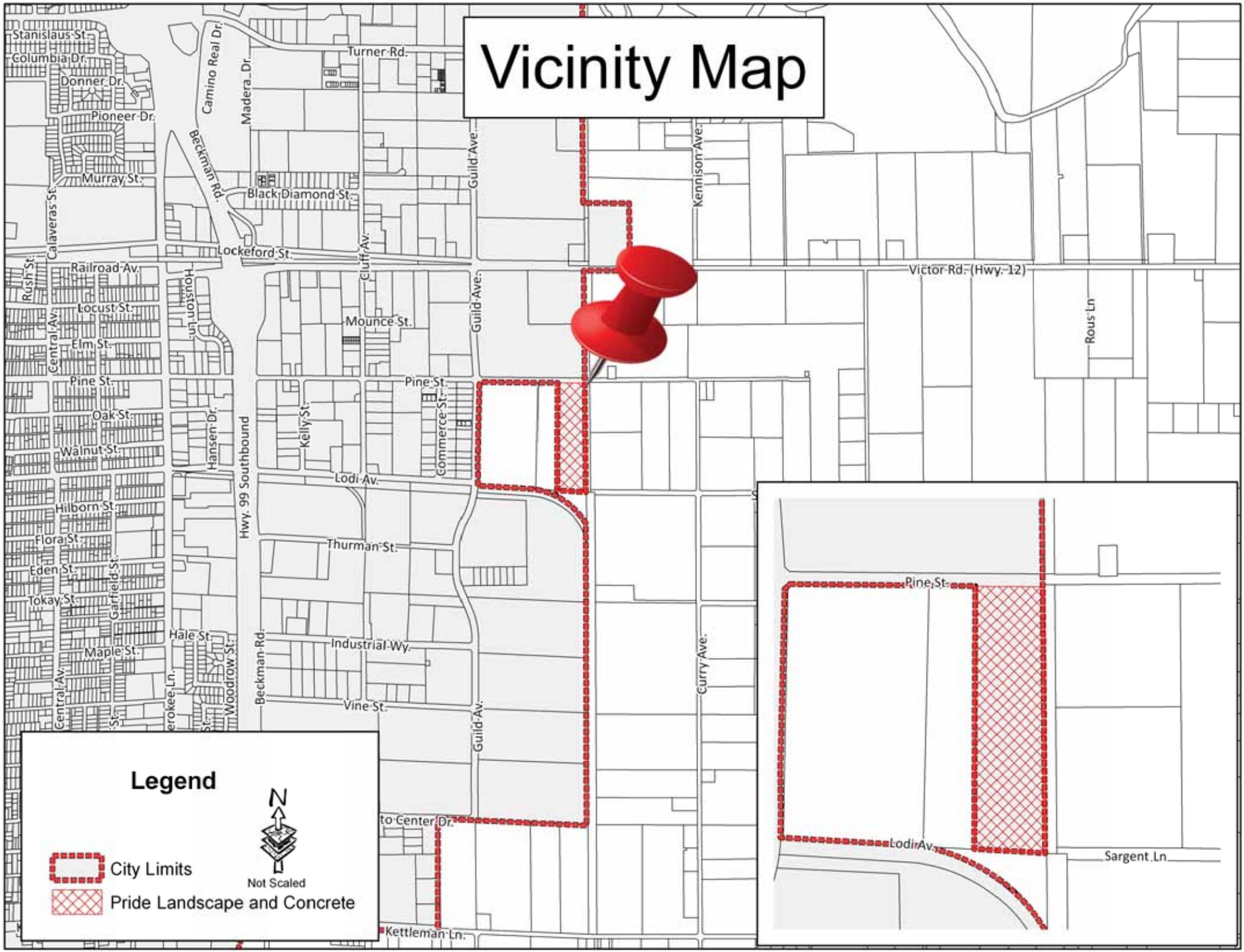
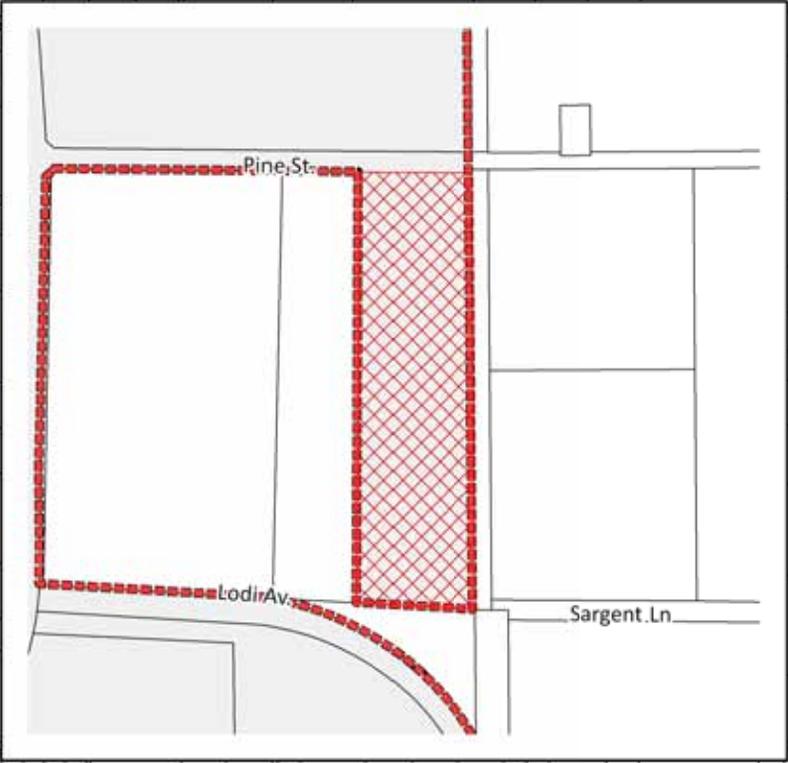


Legend

 City Limits

 Pride Landscape and Concrete

 N
Not Scaled



Aerial Map



Legend



Project Location



City Limits



Not Scaled



PINE

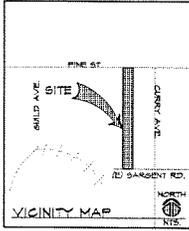
SPUR LINE

CCT

SARGENT

CURRY

PROPOSED PARKING AREA FOR: REYES JARAMILLO 1560 E. PINE STREET LODI, CA 95240

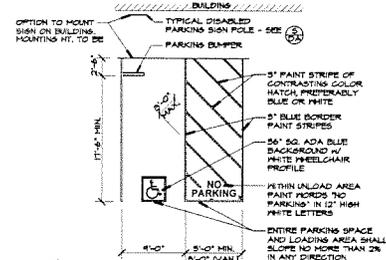
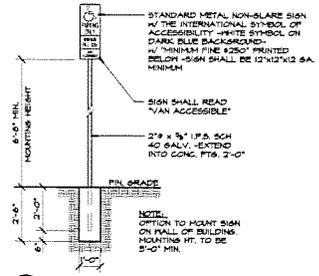
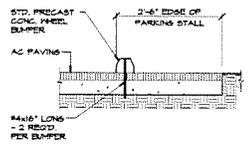
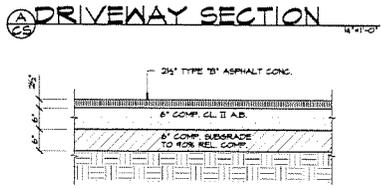
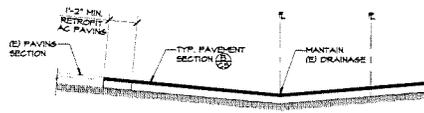
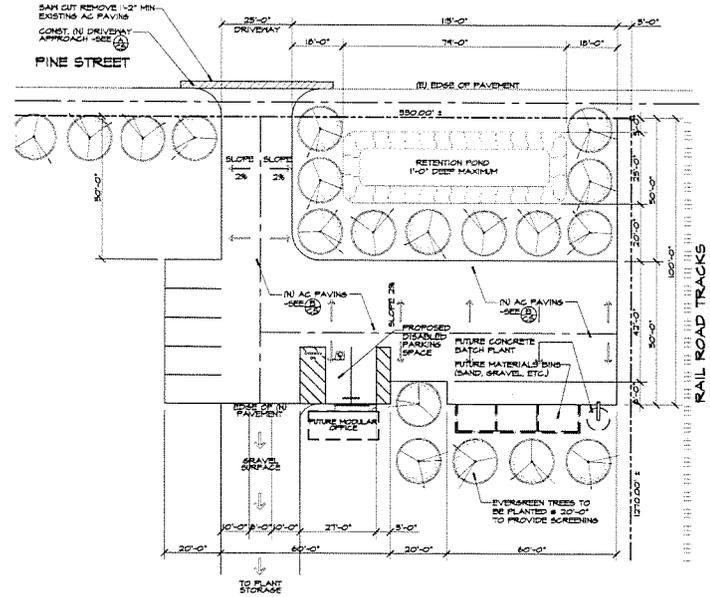
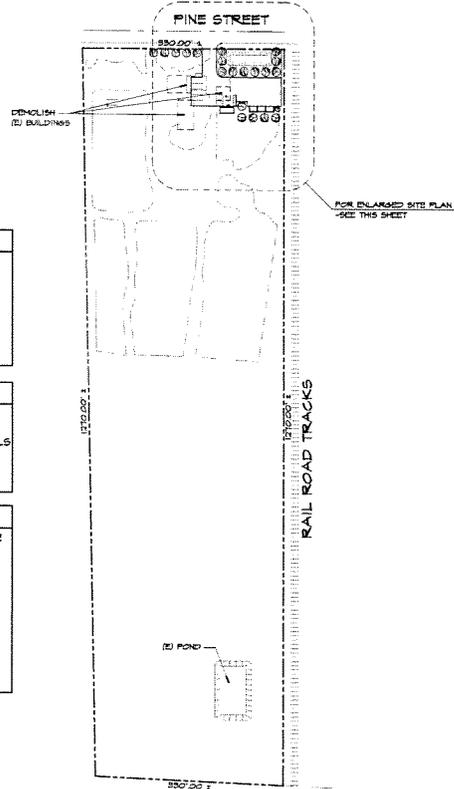


PROJECT DATA:	
PROJECT LEASE	RICHARD JARAMILLO 1560 E. PINE ST. LODI, CA 95240
PROJECT LOCATION	110 S. MAIN ST. LODI, CA 95240
PROJECT DESCRIPTION	PAVE PARKING AREA
APN	044-040-1B

SHEET INDEX:	
CS	COVER SHEET, SITE PLAN, ENLARGED SITE PLAN, BIN DETAIL & SITE DETAILS

- CODE COMPLIANCE**
- ALL WORK PERFORMED SHALL BE IN ACCORDANCE TO THE LATEST EDITION OF APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO:
- 2010 CALIFORNIA BUILDING CODE (CBC)
 - 2010 CALIFORNIA ELECTRICAL CODE (CEC)
 - 2010 CALIFORNIA GREEN BUILDING CODE (CGBC)
 - 2010 CALIFORNIA MECHANICAL CODE (CMC)
 - 2010 CALIFORNIA PLUMBING CODE (CPC)
 - 2010 CALIFORNIA ENERGY CODE (CEC)
 - 2010 CALIFORNIA FIRE CODE (FC)
 - 2010 CALIFORNIA HISTORICAL BUILDING CODE
 - 2010 CALIFORNIA EXISTING BUILDING CODE
 - 2010 CALIFORNIA REFERENCED STANDARDS CODE

- NOTES:**
1. CITY SERVICES ARE NOT AVAILABLE AT THIS SITE.
 2. ALL STORM WATER TO BE RETAINED ON SITE.
 3. ALL EXISTING BUILDINGS TO BE DEMOLISHED.



REVISION	BY

MIKE SMITH ENGINEERING, INC.
4 NORTH MAIN STREET
LODI, CALIFORNIA 95240
PHONE (209) 334-2832

TITLE	COVER SHEET SITE PLANS BIN DETAIL
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PROJECT: PROPOSED PARKING AREA FOR
REYES JARAMILLO
PROJECT @ 1560 E. PINE ST.
LODI, CA 95240

DRAWN	JCS
CHECKED	
DATE	7/5/15
SCALE	AS NOTED
JOB NO.	15052
SHEET	



RESOLUTION NO. P.C. 13-

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF LODI APPROVING THE REQUEST OF REYES JARAMILLO FOR APPROVAL OF A USE PERMIT TO ESTABLISH A BATCH PLANT AT 1560 EAST PINE STREET

WHEREAS, the Planning Commission of the City of Lodi has heretofore held a duly noticed public hearing, as required by law, on the requested Use Permit, in accordance with the Lodi Municipal Code, Section 17.74; and

WHEREAS, the project site is located at 1506 East Pine Street, Lodi, CA 95240 (APN: 049-090-13); and

WHEREAS, the project proponent is Reyes Jaramillo, 115 South Stockton Lodi, CA 95240; and

WHEREAS, the project properties owner of record is Richard Galantine, 901 South Cherokee Lane, Lodi, CA 95240; and

WHEREAS, the property has a General Plan designation of Industrial and is zoned Industrial; and

WHEREAS, the requested Use Permit to establish a mixed-ready Batch Plant facility at 1506 E. Pine Street; and

WHEREAS, pursuant to the California Environmental Quality Act of 1970, and State Guidelines thereto, the project is found to be categorically exempt according to the California Environmental Quality Act, Article 19 §15332, Class 32, In-fill Development. The project limits are less than 5 acres, have been previously disturbed, is surrounded by urban uses, can be served by urban services and is not in an environmentally sensitive location.

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred; and

Based upon the evidence within the staff report and project file the Planning Commission finds:

1. The project is found to be categorically exempt according to the California Environmental Quality Act, Article 19 §15332, Class 32, In-fill Development. The project is less than 5 acres, is surrounded by urban uses, can be served by urban services and is not in an environmentally sensitive location. A Notice of Exemption was prepared for this project in compliance with the California Environmental Quality Act of 1970, as amended, and the Guidelines provided hereunder.
2. It is found that approval of the Use Permit will result in sound planning practice in that the Use Permit will allow for the orderly use of the site.
3. The Zoning designation for this property is Industrial, which permits a batch plant subject to a Use Permit per Lodi Municipal Code Section 17.24.030.
4. The proposed use is consistent with the General Plan. The General Plan land use designation for this area is Industrial, which permits facilities for the sorting, grading, and storage of aggregates as construction materials, such as batch plants.
5. The location, size, design and operating characteristics of the use or development is compatible with and will not adversely affect or be materially detrimental to the health, safety, or welfare of persons residing or working in the area, or be detrimental or injurious to public or private property or improvements. The proposed batch plant is compatible with existing and future land uses because this subject property is located within the Industrial Zoning District. The surrounding uses are primarily industrial uses. In addition, the proposed use will not detrimentally affect residential buildings, churches, schools, hospitals, public playgrounds, and other similar uses because the project site is not proximate to any churches or hospitals;

and does not directly abut residentially zoned properties, parks, or schools. No aspects of the proposed uses has been identified that would create new detrimental impacts.

6. The location, size, design, and operating characteristics of the proposed use would be compatible with the existing and future land uses in the vicinity. The proposed use complies with all requirements as set forth for the issuance of this Use Permit, in that the site is adequate in size, shape and topography for the proposed use, consisting of an existing building. Second, the site has sufficient access to streets, adequate in width and pavement type to carry the quantity and quality of traffic generated by the proposed use. Third, the characteristics of the proposed batch plant are consistent with various industrial uses located within the vicinity of the project site and throughout the Industrial Zoning District. Lastly, the proposed use will not have an adverse effect on the public health, safety, and general welfare in that the proposed operational conditions and the limited size of the use business will mitigate any potential adverse effects to neighboring properties. The proposed business is a permitted use within the Industrial Zoning District, and the batch plant will be located within an industrial parcel. No conflicts with existing and potential uses have been identified.
7. The proposed use will not create an enforcement problem in that the proposed use is primarily industrial in nature and is properly located in the Industrial zoning district and will continue to operate under a suite of San Joaquin Valley Air Pollution Control District and environmental health and safety measures.
8. The proposed use will not create a demand for public services within the City beyond that of the ability of the City to meet in the light of taxation and spending restraints in that the use is private and does not require any additional public services.
9. The proposed use would not have a substantial adverse economic effect on nearby uses because operation of the proposed business in accordance with applicable laws, and under the conditions of this Use Permit, is anticipated to be an economic benefit to the community.
10. The conditional use is subject to and must comply with specific local conditions and additional regulations as deemed necessary by other regulatory or permit authorities. The approval does not relieve the applicant from an obligation to obtain any state or federal permits for concrete recycling facilities.

NOW, THEREFORE, BE IT DETERMINED AND RESOLVED by the Planning Commission of the City of Lodi that Use Permit Application No. 13-U-11 is hereby approved, subject to the following conditions:

1. The property owner and/or developer and/or successors in interest and management shall, at their sole expense, defend, indemnify and hold harmless the City of Lodi, its agents, officers, directors and employees, from and against all claims, actions, damages, losses, or expenses of every type and description, including but not limited to payment of attorneys' fees and costs, by reason of, or arising out of, this development approval. The obligation to defend, indemnify and hold harmless shall include, but is not limited to, any action to arbitrate, attack, review, set aside, void or annul this development approval on any grounds whatsoever. The City of Lodi shall promptly notify the developer of any such claim, action, or proceeding and shall cooperate fully in the defense.
2. The property owner and/or developer and/or successors in interest and management shall operate the project in strict compliance with the approvals granted herein, City standards, laws, and ordinances, and in compliance with all State and Federal laws, regulations, and standards. In the event of a conflict between City laws and standards and a State or Federal law, regulation, or standard, the stricter or higher standard shall control.
3. The applicant shall install public improvements such as curb, gutter, sidewalk, a curb return and repair or replace all damaged or below City standards roadway along the entire Pine Street frontage.
4. All existing driveways shall be replaced with new commercial driveways conforming to City Standard Plans 114.

5. One 24" box evergreen tree shall be planted for every 15-20 lineal feet of street frontage to provide screen. Spacing of the trees is dependant on the species of trees. Trees shall be planted according to City Standards.
6. The ready-mix batch plant shall be limited to the area depicted in Exhibit A attached to this resolution.
7. The applicant shall submit landscape and irrigation plans to the Community Development Department for review and approval. Landscape improvements shall be installed according to the approved plans and shall comply with the City's Water Efficient Landscape Ordinance.
8. The applicant shall install parking spaces for the proposed office building. The parking space shall conform to the City's Parking Standards. All designated vehicle circulation driveways and parking areas depicted on the site plan shall remain clear, open and unobstructed at all times.
9. The facility shall be maintained so as to prevent or control on-site population of vectors using techniques appropriate for protection of human health and the environment and prevent the facility from being a vector breeding area.
10. The Use Permit shall be vested within six (6) months from the effective date of approval. A building permit for the tenant improvements allowed under this Use Permit shall have been obtained within six (6) months from the effective date of the Use Permit or the Use Permit shall expire; provided however that the Use Permit may be extended pursuant to the Lodi Municipal Code.
11. The applicant shall obtain a building permit for the proposed project. All plan submittals shall be based on the City of Lodi Building Regulations and currently adopted 2010 California Building Code (CBC). Please review our policy handouts for specific submittal procedures. The Building and Safety Division may be contacted at 221 West Pine Street, Lodi, CA 95240-2127. Phone number (209)333-6714.
12. Plans shall include all interior and exterior accessibility requirements as specified by the 2010 CBC. **Note:** The 2010 CBC, Section 1133B.1.1.1.1 requires all entrances and ground-floor exit doors to building and facilities shall be accessible to persons with disabilities and shall be connected by an accessible route to the public way and accessible parking spaces. Project plans must illustrate the accessible path of travel from the doors to the accessible parking spaces and the public way or to an area of safe dispersal in compliance with 2010 CBC. Further, plans to specify walkways and sidewalks along accessible routes of travel (1) are continuously accessible, (2) have maximum 1/2" changes in elevation, (3) are minimum 48" in width, (4) have a maximum 2% cross slope, and (5) where necessary to change elevation at a slope exceeding 5% (i.e., 1:20) shall have ramps complying with 2010 CBC, Section 1133B.5. Where a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings or other elements between the pedestrian areas and vehicular areas shall be defined by a continuous detectable warning which is 36" wide, complying with 2010 CBC, Section 1133B.8.5. 2010 CBC, Sections 1133B.1.1.1.1, 1127B.1.
13. The applicant shall obtain an Operational Permit from the Lodi Fire Department, Fire Prevention Bureau. The Operational Permit shall be obtained prior to commencement of sale of business. The Fire Department may be contacted at 25 East Pine Street, Lodi, CA 95240-2127. Phone Number (209) 333-6739.
14. No queuing on public right of way shall be permitted.
15. The site shall be maintained free of litter and any other undesirable materials and shall be cleaned of loose debris on a daily basis. The applicant, operator, manager and successor's interest in management shall be responsible for picking up all litter and waste material within any public or private right-of-way within 300 feet of the tenant space boundaries.
16. Project applicant shall obtain approvals from the Air Quality District and shall maintain a valid Permit to Operate issued by the San Joaquin Valley Air Quality Management District (AQMD) for the duration of the project.

17. All public improvements including, but not limited to, installing curb, gutter, sidewalk, undergrounding of electrical poles and replacement of all damaged or below city standard roadway along Pine Street. Subject to approval by the City Council, the applicant may apply for a deferred improvement agreement for the public improvements at a cost of \$1,947.
18. All new development is required to perform best management practices (BMP) as required in the City Stormwater Development Standard Plans (DSP). The project must include measures to mitigate the pollutants of concern listed in the DSP. The building plans must include the mitigation measures prior to Public Works approval.
19. All new development is required to perform best management practices (BMP) as required in the City Stormwater Development Standard Plans (DSP). The project must include measures to mitigate the pollutants of concern listed in the DSP. The building plans must include the mitigation measures prior to Public Works approval. A copy of the DSP is available from Public Works and is posted on the City's website.
20. All project design and construction shall be in compliance with the Americans with Disabilities Act (ADA). Project compliance with ADA standards is the developer's responsibility.
21. Payment of the following prior to building permit issuance unless noted otherwise:
 - I. Filing and processing fees and charges for services performed by City forces per the Public Works Fee and Service Charge Schedule.
 - II. Development Impact Mitigation Fee at the time of occupancy.
 - III. Regional Transportation Impact Fee (RTIF) at the time of building permit issuance.
22. An encroachment permit issued by the Public Works Department is required for the following work:
 - I. All work within Pine Street right-of-way including, but not limited to, curb, gutter, sidewalk, a curb return, driveway entrances and all damaged or below city standard roadway improvements.
23. All future external lighting, whether installed for security, safety or landscape design purposes, shall be shielded, downcast or shall be positioned in a manner that will not shine or allow light glare to exceed the boundaries of the parcel on which it is placed.
24. The access road, driveway and interior circulation routes shall be maintained in such a manner as to ensure minimum dust generation subject to regulations of the Air Quality Management District (AQMD). Any rock material used for surfacing must comply with AQMD regulations regarding asbestos content. All grading activities shall comply with Regulation 1, Rule 4300 (Fugitive Dust Emissions).
25. This permit is subject to the securing of all necessary permits for the proposed development and eventual use from County, State and Federal agencies having jurisdiction. Any requirements imposed by an agency having jurisdiction shall be considered a condition of this entitlement.
26. In the event that archaeological resources are encountered on the site, further disturbance in the immediate vicinity of the find shall be halted until all requirements of the City of Lodi Municipal Code.
27. Any equipment used for the business shall comply with the Noise Ordinance. If complaints are received and verified by the City regarding noise from equipment associated with the facility, the applicant/operator and/or successors in interest and management shall mitigate and/or make any necessary modifications so noise levels comply with acceptable standards identified in the City's General Plan.
28. Noise levels shall not exceed sixty-five (65) dBA, as measured from the outside wall of the building envelop. The business hours of operation shall be from 7:00 a.m. to 6:00 p.m., Monday through Sunday, unless modified in writing and approved by the Planning Division. All business

related to the facility, including removal recyclable materials shall be within these approved hours.

- 29. In the event the use hereby permitted under this permit is: (a) found to be in violation of the terms and conditions of this permit; (b) found to have been obtained by fraud or perjured testimony; or (c) found to be detrimental to the public health, safety or general welfare, or a public nuisance; this permit shall be subject to the revocation procedures in accordance with the City of Lodi Municipal Code.
- 30. At all times during the conduct of the use(s) allowed by this permit, the use(s) shall maintain and keep in effect valid licensing from appropriate local, state and/or federal agencies as required by law. Should such required licensing be denied, expire or lapse at any time in the future, this permit shall become null and void.
- 31. Any sign(s) shall require a building permit from the Community Development Department. Said sign(s) shall be in full compliance with the City of Lodi Sign Ordinance and any applicable master sign program for the subject site.
- 32. If operation of this use results in conflicts pertaining to parking, noise, traffic, or other impacts, at the discretion of the Community Development Director, this conditional use permit may be referred to the Planning Commission for subsequent review at a public hearing. If necessary, the Commission may modify or add conditions of approval to mitigate such impacts, or may revoke said conditional use permit bound upon applicable findings.
- 33. Any fees due the City of Lodi for processing this Project shall be paid to the City within thirty (30) calendar days of final action by the approval authority. Failure to pay such outstanding fees within the time specified shall invalidate any approval or conditional approval granted. No permits, site work, or other actions authorized by this action shall be processed by the City, nor permitted, authorized or commenced until all outstanding fees are paid to the City.
- 34. No variance from any City of Lodi adopted code, policy or specification is granted or implied by this approval.
- 35. Additional comments and conditions will be provided in conjunction with the approval of a building permit for this project.

Dated: September 11, 2013

I certify that Resolution No. 13- was passed and adopted by the Planning Commission of the City of Lodi at a regular meeting held on September 11, 2013 by the following vote:

AYES: Commissioners:

NOES: Commissioners:

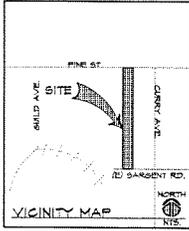
ABSENT: Commissioners:

ATTEST _____
Secretary, Planning Commission

Exhibit A

A. Site Plan

PROPOSED PARKING AREA FOR: REYES JARAMILLO 1560 E. PINE STREET LODI, CA 95240

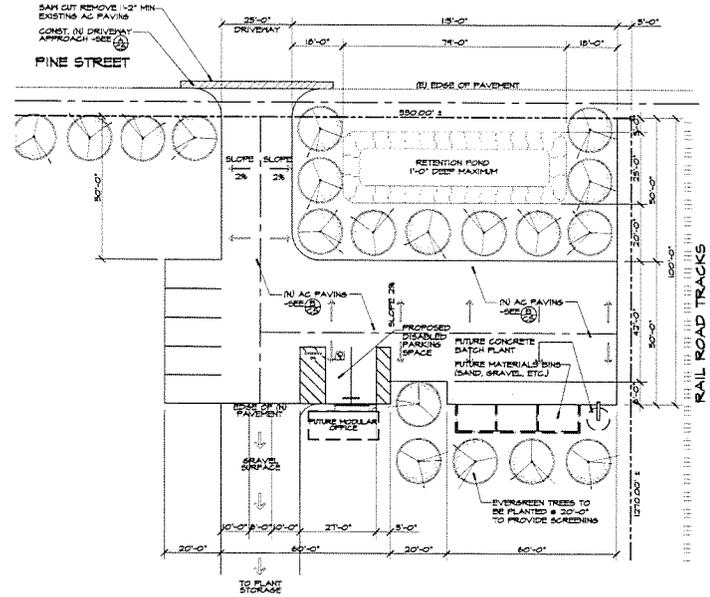
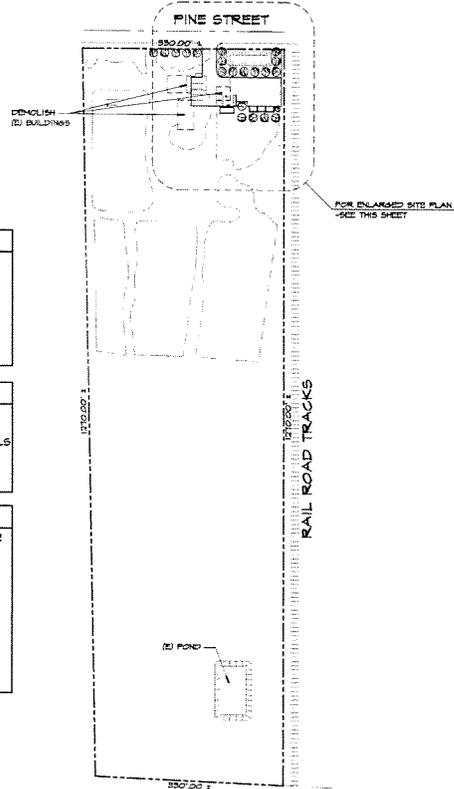


PROJECT DATA:	
PROJECT LEASE	RICHARD JARAMILLO 1560 E. PINE ST. LODI, CA 95240
PROJECT LOCATION	110 S. MAIN ST. LODI, CA 95240
PROJECT DESCRIPTION	PAVE PARKING AREA
APN	044-040-1B

SHEET INDEX:	
CS	COVER SHEET, SITE PLAN, ENLARGED SITE PLAN, BIN DETAIL & SITE DETAILS

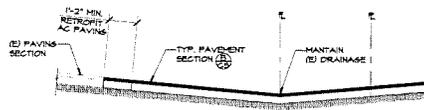
- CODE COMPLIANCE**
- ALL WORK PERFORMED SHALL BE IN ACCORDANCE TO THE LATEST EDITION OF APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO:
- 2010 CALIFORNIA BUILDING CODE (CBC)
 - 2010 CALIFORNIA ELECTRICAL CODE (CEC)
 - 2010 CALIFORNIA GREEN BUILDING CODE (CGBC)
 - 2010 CALIFORNIA MECHANICAL CODE (CMC)
 - 2010 CALIFORNIA PLUMBING CODE (CPC)
 - 2010 CALIFORNIA ENERGY CODE (CEC)
 - 2010 CALIFORNIA FIRE CODE (FC)
 - 2010 CALIFORNIA HISTORICAL BUILDING CODE
 - 2010 CALIFORNIA EXISTING BUILDING CODE
 - 2010 CALIFORNIA REFERENCED STANDARDS CODE

- NOTES:**
1. CITY SERVICES ARE NOT AVAILABLE AT THIS SITE.
 2. ALL STORM WATER TO BE RETAINED ON SITE.
 3. ALL EXISTING BUILDINGS TO BE DEMOLISHED.

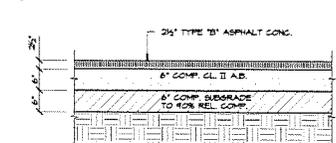


SITE PLAN

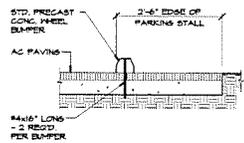
ENLARGED SITE PLAN



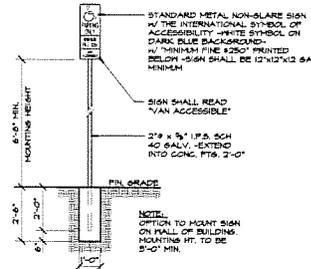
A DRIVEWAY SECTION



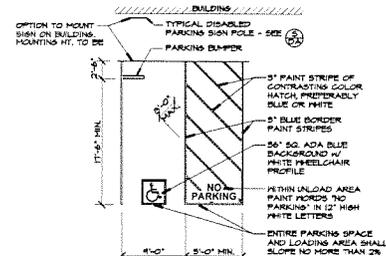
B PAVEMENT SECT.



C WHEEL BUMPER



D DISABLED PARKING SIGN



E DISABLED PARKING SPACE

REVISION	BY

MIKE SMITH ENGINEERING, INC.
4 NORTH MAIN STREET
LODI, CALIFORNIA 95240
PHONE (209) 334-2832

TITLE	COVER SHEET SITE PLANS BIN DETAIL
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PROJECT: PROPOSED PARKING AREA FOR
REYES JARAMILLO
PROJECT @ 1560 E. PINE ST.
LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER
NO. C204595
EXP. 3/31/14
STATE OF CALIFORNIA

DRAWN	JCS
CHECKED	
DATE	7/5/15
SCALE	AS NOTED
JOB NO.	15052
SHEET	

This Item has been postponed to a future meeting

Item 3b.

Item 4a.

**CITY OF LODI
PLANNING COMMISSION
STAFF REPORT**

MEETING DATE: September 11, 2013

APPLICATION NO: Not Applicable

SUBJECT: Climate Action Plan Review

EXECUTIVE SUMMARY

The City of Lodi is preparing a Climate Action Plan (CAP) to serve as the City's roadmap for reducing greenhouse gas (GHG) emissions in City operations and the community at large. The CAP includes a list of emission reducing actions organized by sector (land use and mobility, energy, waste, water, and municipal operations) and time frame for implementation (short-term, 1 - 3 years from CAP adoption; medium term, 3 -5 years from adoption; and long term, 5 -10 years from adoption). Preparation of the CAP is identified as an implementation measure in the General Plan Update. The purpose of this report is to share information with the Commission and the public, and to provide a forum to discuss any issues or concerns related to the Draft Climate Action Plan

BACKGROUND AND PREVIOUS ACTIONS

The Global Warming Solutions Act of 2006 (AB 32) set the stage for the State of California's transition to a sustainable, clean energy future. AB 32 included a number of specific objectives, most notably was the requirement to identify the statewide level of greenhouse gas (GHG) emissions in 1990 to serve as the emissions limit to be achieved by 2020. AB 32 also acknowledged that further reductions would be required in the future. Subsequent legislation, SB 375, facilitates GHG reduction goals through regional transportation analysis and sustainable community strategies.

As the lead agency for implementing AB 32, the California Air Resources Board (CARB) prepared a Climate Change Scoping Plan in 2008 to achieve reductions in GHG emissions in California by 2020. The measures and actions in this scoping plan include direct regulations, alternative compliance mechanisms, incentives and voluntary actions to promote innovative means to reduce energy, water, and resource use. The scoping plan also encourages local agencies to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State's commitment to reduce GHG emissions by approximately 15 percent from current levels. The Air Resources Board has designed the Scoping Plan to ensure that reductions will come from different sectors and throughout the California economy. While the great majority of this state-wide reduction responsibility rests with the state and regional air quality boards, local agencies are essential partners in the overall strategy. Local agencies are now examining their policies and operations to determine how they can reduce their GHG emissions. Many cities in California have adopted Climate Action Plans (CAP) with the primary intention of reducing GHG and to protect the natural environment, increase sustainability efforts, and improve overall quality of life.

On August 18, 2010, the Lodi City Council approved the City of Lodi's participation in the Smart Valley Places Compact, a partnership among cities and other local and regional agencies and organizations from the eight counties of the San Joaquin Valley region. The purpose of this partnership was one, to work together to locally define and implement a regional plan for sustainable development for the San Joaquin Valley; and two, to pursue funding such as the Sustainable Communities Planning Grant Program. Those funds were offered through the Sustainable Communities Partnership, made up of the U.S. Departments of Housing and Urban Development (HUD), Transportation (DOT), and the Environmental Protection Agency (EPA) and were intended to support regional planning efforts that integrate housing, land use, economic and workforce development, transportation, and infrastructure investments in a manner that empowers jurisdictions to consider the interdependent challenges of economic competitiveness and revitalization; social equity, inclusion, and access to opportunity; energy use and climate change; as well as public health and environmental impacts. At their meeting on February 5, 2012, the City Council authorized the City Manager to negotiate an agreement with AECOM (consultant team) for professional services related to the preparation of a CAP and Energy Efficiency and Conservation Strategy. AECOM and the UC Davis Studio 30 began working on this

project to develop a plan and specific strategies to engage Lodi residents, businesses, organizations and key stakeholders in the development of the CAP.

DEVELOPMENT OF THE CLIMATE ACTION PLAN:

The development of the CAP grew out of corroborative city staff, students from the University of California, Davis's Land Use and Natural Resources extension program, the consultant firm, and citizens input. Key stakeholders were identified and engaged in a series of individual meetings and group workshops. Real-estate developers were invited to attend an individual "round-table" discussion. The round-table was attended by representatives of the Building Industry Association of the Delta who provided a regional perspective on development. The developers provided insight into the state of development in Lodi and the potential for measures that addressed new and existing buildings.

Discussions were also held with local businesses and institutions, including Pacific Coast Producers, the Lodi Unified School District (LUSD), Lodi Memorial Hospital, the Wine and Grape Commission and Lodi Citizens in Action. Some representatives expressed an interest in energy efficiency technologies; as a result, this CAP includes measures to engage these organizations in energy retrofit assistance programs and demonstration projects. Other representatives provided insight into constraints to energy efficiency, such as food processing and hospital sanitation requirements, and how to frame the measures in the CAP to alleviate the concerns of some local interest groups.

The Farmer's Market provided a means of engaging residents (adults and children), including a survey on potential energy efficiency measures, alternative transportation and solid waste disposal. Children were engaged with a trivia game involving a spinning wheel with randomly selected questions. To gauge children's understanding of recycling, composting, energy saving behaviors in the home and the environmental benefits of riding their bikes or walking to school.

In 2012, the City and the consultant team worked in partnership with Great Valley Center to prepare a baseline greenhouse gas emissions inventory. The purpose of the baseline emissions inventory is to determine the levels of greenhouse gas emissions that the City of Lodi emits on a municipal operations level and a community-wide level. The city chose 2008 as the base year for the inventory, in order to be consistent with other cities in San Joaquin County which were preparing emissions inventories.

COMMUNITY INVENTORY AND 2008 BASELINE EMISSIONS

The city of Lodi's baseline inventory is ordered by sector. A "sector" is an individual subset of the total greenhouse emission spectrum, composed of emissions relating to an economy, industry, market, or general society. The sectors that were measured in this CAP are: energy, transportation, solid waste, waste water, and water consumption. Each of these sectors is shown separately in the overall emissions spectrum to allow for specific measure development for emissions reductions.

ENERGY

The energy sector consists of electricity and natural gas consumption. Energy use typically represents a large portion of total greenhouse gas emissions and is divided into residential and non-residential uses. The City obtained historical (2008) electricity consumption data from Lodi Electric Utility (LEU) and natural gas consumption data from Pacific Gas and Electric (PG&E). LEU and PG&E provided communitywide data aggregated by land use (i.e., residential and non-residential). Electricity data for kWh used from 2008-2009 was converted into CO₂e using an LEU-specific emission factor. Natural gas data for therms was converted into CO₂e using a PG&E-specific natural gas emission factor.

TRANSPORTATION

The transportation sector provides an estimate of emissions generated from vehicle miles traveled (VMT) by passenger cars and freight trucks. The inventory accounts for two types of trips; any vehicle trips generated by Lodi land uses that stay within the city limits and half of all vehicle trips generated by Lodi land uses that either begin or end outside of Lodi. The inventory does not account for pass-through trips. Based on these trips, annual vehicle miles traveled (VMT) is estimated using existing daily traffic volumes determined during the 2008 General Plan update process, and average trip length assumptions generated from U.S. Census data. Annual VMT is translated into emissions using a transportation-specific emissions factor, which was developed using national data for vehicle fleet mix, fuel economy and average fuel consumption. The transportation sector also accounts for emissions from off-road vehicles.

SOLID WASTE

Solid waste emissions are generated from decomposing organic waste in place and methane management activities. Solid waste generated within the City, as a result of community and municipal activities, is collected by Waste Management and deposited at various landfills. Annual tons of waste generated and typical waste composition data was obtained from Cal Recycle to determine the total emissions.

OBJECTIVES

The Draft CAP establishes a comprehensive community-wide GHG emissions reduction strategy for Lodi with regard to: a) buildings and energy, b) transportation and land use, and c) waste and water. The project objectives, derived from the vision statement, are expressed below.

- Adopt a CAP that will comply with and implement State law, advance citywide sustainability and reflect community values.
- Reduce Lodi's annual community-wide GHG emissions by 15% below 2005 baseline emission levels by 2020.
- Provide clear guidance to City staff and decision-makers regarding when and how to implement key actions to reduce GHG emissions.
- Inspire residents and businesses to participate in community efforts to reduce GHG emissions.

The CAP has always been envisioned as a living document, one that will be enhanced and modified as goals, policies, and regulations and protocols evolve. Therefore the CAP was prepared as a separate document from the General Plan. It is anticipated, however, that the policy framework established in the General Plan Update process will be used to re-evaluate, build-on and strengthen items within the CAP; and of course the CAP will be utilized to establish goals and policies in the General Plan. The Draft CAP also includes implementation actions corresponding to quantified GHG reduction measures. The recommended actions serve as the basis for future programming decisions related to the assignment of staff and expenditure of City funds toward implementing the CAP.

PLANNING COMMISSION ACTIONS:

This is an information item and an opportunity to discuss proposed Climate Action Plan, and to receive input from the Planning Commission and the public. Given that this is a discussion session, the Planning Commission has no cause for action. Staff will present the draft Climate Action Plan document for public hearing in the near future.

ENVIRONMENTAL CONSIDERATIONS:

No project is being proposed at this time. Staff is only presenting details about the Climate Action Plan. Environmental review pursuant to the California Environmental Quality Act (CEQA) will be conducted prior to the adoption and implementation of the Climate Action Plan.

Respectfully Submitted,

Concur,

Immanuel Bereket
Associate Planner

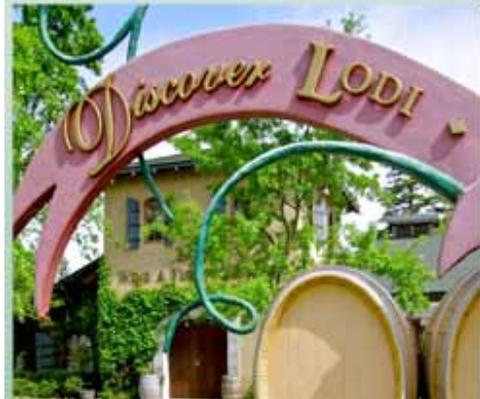
Konradt Bartlam
Community Development Director

Attachment:

1. Draft Climate Action Plan



Draft
Climate Action Plan
For the
City of Lodi





Chapter 1-Introduction: Planning for Energy Efficiency

The City of Lodi is a diverse community that is passionate about maintaining the city's small town atmosphere, preserving its surrounding agricultural lands, and protecting its natural resources. The City developed this Climate Action Plan (CAP) as part of the General Plan process to serve as a guide for a community-wide effort to increase energy and resource efficiency, while following the State of California's guidance regarding the reduction of greenhouse gas (GHG) emissions. The CAP provides a strategic framework for the development of measures, policies and programs across all sectors that aim to reduce greenhouse gas emissions resulting from communitywide and municipal government operations. The strategy presented in this CAP is unique to Lodi's specific community context so as to be both feasible and implementable.



What is a CAP?

A CAP (Climate Action Plan) is a tool that many cities in California are using to quantify their share of statewide GHG emissions and establish action steps toward achieving a local emissions reduction target. A CAP provides a set of strategies intended to guide community efforts to reduce GHG emissions, typically through a combination of statewide and local actions. Figure 1.1 shows the typical steps included in the CAP process

A CAP contains community-specific GHG emission inventories and forecasts to establish a starting point and probable future emissions levels if no action is taken (Step 1). A reduction target is then defined to provide an aspirational goal for improvement (Step 2). Emission reduction measures and implementation programs are then written to help the city meet its goal by achieving the reduction target (Step 3). Upon adoption of the CAP, the jurisdiction takes action to implement the reduction measures (Step 4), monitor their progress towards achievement of the reduction target (Step 5), then evaluate effectiveness, celebrate their successes, and use the monitoring results to make adjustments to CAP measures to improve performance (Step 6). This CAP represents the City's progress on Steps 1-3.

Purpose

This CAP is the City's first step in the development of a long-range, comprehensive plan to move from business-as-usual practices to more efficient use of energy, the transportation network, and water, and reduced waste. The primary objectives of the CAP process are to contribute to the State's climate protection efforts and to provide California Environmental Quality Act (CEQA) review streamlining benefits for development projects within the city limits.

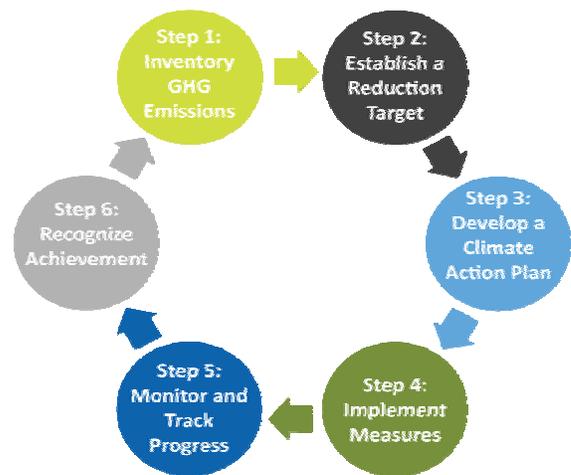


Figure 1.1 Steps in the CAP Process

This CAP provides a summary of Lodi's greenhouse gas emissions inventory and describes how the City will achieve reductions through local actions that contribute to the statewide reduction target defined in Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, CEQA guidelines, and other State guidance.

The CAP aims to:

- + Support the community vision described in Lodi's 2010 General Plan of a centralized, compact urban form, safe and comfortable walking and bicycling facilities, smart street designs, and revitalized building stock

- + Leverage existing programs available through Lodi Electric Utility (LEU) and various state departments and agencies to encourage voluntary implementation of CAP measures
- + Reduce building operating costs through reduced resource consumption; and
- + Provide CEQA streamlining to reduce barriers to new development

Chapter Contents

The CAP consists of five chapters, 1) Introduction, 2) Community Context, 3) Baseline Inventory and Projections, 4) Greenhouse Gas Reduction Strategy, and 5) Implementation. The contents of each chapter are briefly described below:

- + **Chapter 1- Introduction** provides a summary of the CAP development process and describes the City’s rationale for creating the CAP. This chapter also describes the potential impacts Lodi may face as a result of climate change and the benefits that the community will realize upon implementation of the greenhouse gas reduction strategy (defined in Chapter 4). This Chapter also provides a summary of statewide climate change legislation, the CAP’s relationship to the General Plan and the potential for CEQA “tiering”.
- + **Chapter 2- Community Context** describes how Lodi’s unique community context played an integral role in the development of the measures in this CAP. This chapter explains how the climate zone, the age of the existing building stock and the local economy relate to GHG reduction measures found in this CAP. This Chapter also describes how successful implementation of the CAP depends on reducing communication and information barriers for certain demographic groups through targeted outreach efforts.
- + **Chapter 3- Baseline Inventory and Projections** outlines key steps taken to develop the CAP, including the 2008 baseline GHG inventory, projecting future emissions in 2020 and 2030, setting a communitywide GHG reduction target for 2020 and a long-range target for 2030. This chapter also describes the emissions gap between the reduction target and statewide reductions, as well as the local reductions attributable to implementation of statewide climate change policy.
- + **Chapter 4- Greenhouse Gas Reduction Strategy** addresses the five main reduction strategies; building energy efficiency, transportation, water and wastewater, solid waste, and green infrastructure. Each measure contains a description of how the measure reduces emissions and how existing programs

can be leveraged in combination with the development of new efforts to achieve the reductions estimated in this CAP. The measures also provide action steps to achieve implementation, a description of co-benefits associated with the measure and the approximate range in cost to the private and public sectors.

- + **Chapter 5- Implementation** describes the process to monitor the City’s progress toward achieving their GHG reduction target. This chapter identifies monitoring procedures, plan update processes and other steps to ensure successful implementation.

Climate Change Science

The United Nations International Panel on Climate Change (IPCC), defines “climate change” as “a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.”ⁱ The properties of GHGs are such that they retain heat in the atmosphere, which would otherwise escape to space. GHGs accumulate in the atmosphere when they are emitted faster than they can be naturally removed, and that accumulation prompts changes in the climate system. Once emitted into the atmosphere, GHGs influence the Earth’s energy balance for a period of decades to centuries.^{ii iii}

According to trends identified by the United States Global Change Research Program, average global temperatures and sea level have increased over the last fifty years as a result of an increase in greenhouse gasses in the atmosphere and are projected to continue to rise over the next century^{iv}. If the average temperature of the Earth continues to rise, there may be implications on both a global and local level. Potential implications of global climate change include:

- + **Global Impacts:** melting of the polar ice caps may cause infrastructural damage along the coast as the global sea level rises. Increased temperatures may create more erratic weather patterns and an increase in extreme weather systems. Disrupted seasonal patterns, ocean acidification and increased flooding could lead to inundation of aquatic freshwater habitats and affect the status of flora and fauna species worldwide.
- + **Local Impacts:** The Central Valley may experience intense heat waves, reduced precipitation, more frequent drought conditions, early melting of the snow pack in the Sierras and disrupted seasonal patterns which could affect farming practices as well as natural habitats.

The California legislature passed legislation (addressed below) based upon the findings of the IPCC, the U.S. Global Change Research Program, and the National Research Council of the U.S. National Academy of Sciences. The development of CAPs in California, in general, is based upon the actions of the California legislature and its reliance on these findings. For further information on Climate Science, please visit the California Climate Change Portal at <http://www.climatechange.ca.gov/>.

Local Benefits of Addressing GHG Emissions

Planning efforts intended to reduce GHG emissions through resource efficiency and conservation measures often have multiple co-benefits that will improve the quality of life for community members in Lodi. While some co-benefits are qualitative, others are quantifiable improvements over current conditions.

Although the following list is in no way exhaustive of the myriad co-benefits related to climate action planning, this plan references them to illustrate the overlapping benefits of various CAP measures. Overall, these co-benefits:

- + Strengthen local economic development (e.g., CEQA streamlining/tiering, transparent development requirements, job creation);
- + Improve the downtown and neighborhood experience;
- + Protect and preserve agricultural lands by promoting smart growth;
- + Preserve underground aquifers by reducing water use;
- + Improved air quality and resulting public health benefits;
- + Protect and enhance natural habitat; and
- + Potential long-term savings for residents resulting from reduced energy use.

Additional co-benefits are discussed in Chapter 4-Greenhouse Gas Reduction Strategy. Each measure is assigned one or more co-benefits which may incentivize residents to participate in the programs that are proposed in this CAP.

Public Outreach

This CAP was developed in collaboration with students of the University of California, Davis's Land Use and Natural Resources extension program, who played a vital role in planning and organizing the public outreach process. Key stakeholders were

identified and engaged in a series of individual meetings and group workshops.

Real-estate developers were invited to attend an individual "round-table" discussion. The round-table was attended by representatives of the Building Industry Association of the Delta and FCB Homes who were able to provide a regional perspective on development, as well as Tokay Development, a local developer. The developers provided insight into the state of development in Lodi and the potential for measures that addressed new and existing buildings.

Discussions were also held with local businesses and institutions, including Pacific Coast Producers, the Lodi Unified School District (LUSD), Lodi Memorial Hospital, the Wine and Grape Commission and Lodi Citizens in Action. Some representatives expressed an interest in energy efficiency technologies; as a result, this CAP includes measures to engage these organizations in energy retrofit assistance programs and demonstration projects. Other representatives provided insight into constraints to energy efficiency, such as food processing and hospital sanitation requirements, and how to frame the measures in the CAP to alleviate the concerns of some local interest groups.

The Farmer's Market provided a means of engaging residents (adults and children), including a survey on potential energy efficiency measures, alternative transportation and solid waste disposal. Children were engaged with a trivia game involving a spinning wheel with randomly selected questions. To gauge children's understanding of recycling, composting, energy saving behaviors in the home and the environmental benefits of riding their bikes or walking to school.

Several key conclusions, described below, were drawn from the public outreach process, which informed the development of measures within this CAP.

Energy Efficiency

While Lodi Electric Utility (LEU) offers rebates for the purchase of energy efficient appliances and home energy efficiency upgrades, LEU does not currently have a program to provide financial assistance such as loans or grants. Rebates are absorbed rapidly each year and outreach at the farmer's market indicated that additional financial resources would encourage residents to upgrade their homes. Barriers to increasing residential energy efficiency that were identified through public outreach include:

- + Limited understanding of co-benefits;
- + Lack of financing options (i.e. loans and grants);
- + Program awareness; and

- + Language and technological barriers.

LEU's Lodi Energy Efficiency Financing (LEEF) program involves a revolving loan fund that commercial customers can use to finance energy efficiency retrofits, paying off the balance through their monthly utility bill. This program could be expanded to increase retrofit financing options for commercial and industrial customers.

Lodi has historically experienced a slow rate of development with growth occurring at less than 2% over the past several years; a trend which City officials expect will continue over the next 5-7 years. As a result, GHG reductions associated with energy efficient new developments will not be significant by horizon years 2020 and 2030. Reductions will therefore need to be achieved by reinvesting in the existing vacant or underutilized building stock which will not only improve energy efficiency in homes and businesses, but provide more local job opportunities and reduce the number of people commuting by car.

Transportation

While residents agree that Lodi is very walkable and bicycle friendly, most residents commute by car to work outside of Lodi. Residents indicated that they may drive less if:

- + bus service was offered more frequently
- + regional connectivity was enhanced
- + bicycle awareness was promoted to enhance safety

Transportation Demand Management (TDM) programs exist at some businesses and institutions in Lodi, however; participation is typically low.



Figure 1.2 Studio 30 Students and the “Wheel of Awesome”

The “Wheel of Awesome” engaged children at the Farmer’s Market in the CAP process. After spinning the wheel, the children were asked a question that related to various sectors in the CAP, such as “Do you walk or ride your bike to school?” or “Have you ever heard of composting?” These questions helped to gauge the children’s level of awareness of these concepts and informed the development of several outreach and demonstration measures.

Solid Waste

While residents in Lodi typically responded that they “always” recycle, few survey participants were familiar with the term “composting”. The Lodi Unified School District had a composting program in the past and while the program was discontinued due to budgetary issues they would like to re-instate it in the future. Lodi’s local fruit canning and dairy industries send large amounts of organic solid waste to the landfill each year.

Water

As residents transition to tiered rate pricing with Lodi’s Water Meter Program, the City’s new Sustainable Water Use Guide could be leveraged to encourage residential water conservation practices.

While the City requires the installation of recycled water pipes in all new development, there is currently no distribution system in place to deliver the water to its larger commercial customers for irrigation and other non-potable water needs.

Green Infrastructure

Local businesses have expressed interest in partnering with the City for a building-integrated vegetation demonstration project.

Planning Context

Many cities in California are using CAPs to quantify their share of statewide GHG emissions and establish action steps toward achieving a local emissions reduction target. CAPs typically address emissions targets through reduced dependency on fossil fuels and nonrenewable energy sources, and through increases in the efficient use of the energy that is consumed. CAPs also provide a way to connect climate change mitigation (GHG reduction) to climate adaptation, community resilience, and broader community goals.

In Lodi, most GHG emissions come from energy used in buildings and gasoline burned in motor vehicles, with water and waste related emissions contributing relatively smaller proportions. Lodi’s CAP examines the communitywide activities that result in GHG emissions and establishes strategies that help reduce those emissions in future and existing development through both voluntary and mandatory actions.

Many of the strategies included in this plan, in addition to reducing GHGs, will also help make Lodi a more attractive place to live – lowering energy and water bills through conservation, improving bike and pedestrian facilities, improving air quality, and reducing waste generation to extend the lifetime of local landfills.

California Climate Change Actions

Since the 1970's California has been a leader in environmental health and climate change legislation. In 2005 Governor Schwarzenegger signed Executive Order (EO) S-3-05, which recognizes California’s vulnerability to a reduced snowpack, exacerbation of air quality problems, and potential sea-level rise due to a changing climate.

To address these concerns, the governor established targets to reduce statewide GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

In 2006, California became the first state in the country to adopt a Green House Gas reduction target through AB 32. This law codifies the EO S-3-05 requirement to reduce statewide emissions to 1990 levels by 2020. AB 32 resulted in the 2008 adoption by the California Air Resources Board (ARB) of a Climate Change Scoping Plan (Scoping Plan), outlining the State’s plan to achieve emission reductions through a mixture of direct regulations, alternative compliance mechanisms, different types of incentives, voluntary actions, market based mechanisms, and funding. The Scoping Plan addresses similar areas to those contained in this CAP, including transportation, building energy efficiency, water conservation, waste reduction, and green infrastructure.

AB 32 engendered several companion laws, referred to as statewide actions throughout this plan, that represent a significant source of estimated GHG reductions for the City. These actions include:

- + **Renewable Portfolio Standard (RPS)** established increasingly stringent Renewable Portfolio Standard requirements for California utilities
- + **2013 California Title 24** details energy efficiency standards for residential and non-residential development
- + **AB 1109** established efficiency standards for residential and commercial lighting products
- + **SB 7X** required water management districts to reduce per capita water consumption
- + **AB 1493** established emission performance standards for motor vehicles
- + **EO-S-1-07** established performance standards for the carbon intensity of transportation fuels
- + other vehicle efficiency regulations

Additional descriptions of these and other legislative actions are provided below. At the time of plan preparation, the City estimated the GHG emission reductions associated with AB 1493, EO-S-1-07, the Renewable Portfolio Standard (RPS), AB 1109, and other discrete vehicle efficiency programs (see Chapter 3 for GHG emission reductions associated with these programs). In the future, as the regulatory framework surrounding AB 32 grows, it may be possible to evaluate a wider range of statewide reductions.

Renewable Portfolio Standard

SB 1078, SB 107, and EO-S_14_08 have established increasingly stringent RPS requirements for California utilities. RPS-eligible energy sources include wind, solar, geothermal, biomass, and small-scale hydro.

- + **SB 1078** required investor owned utilities to provide at least 20 percent of their electricity from renewable resources by 2020.
- + **SB 107** accelerated the timeframe to take effect in 2010.
- + **EO-S_14_08** increased the RPS further to 33 percent by 2020.

California Title 24

Title 24 of the California Code of Regulations dictates how new buildings and major remodels are constructed in California. Title 24, Part 6 is a component of Title 24 that details energy efficiency standards for residential and non-residential development. It is updated on approximately a three-year cycle. The State will be increasing building energy conservation requirements through adoption of the 2013 Title 24 standards, which will go into effect beginning in 2014. It is estimated that these revisions to the current 2008 Title 24 standards will result in energy consumption reductions of 25% over the current standards.

AB 1109

AB 1109, known as the Lighting Efficiency and Toxics Reduction Act, established requirements for reducing lighting energy usage in indoor residences and state facilities by no less than 50% by 2018, and a 25% reduction in commercial facilities by the same date.



Figure 1.3 Wind Turbines

To achieve these efficiency levels, the California Energy Commission would apply its existing appliance efficiency standards to include lighting products, as well as require minimum lumen/watt standards for different categories of lighting products. The bill expands existing incentives for energy efficient lighting. The bill also requires manufactures to reduce the levels of toxins in lighting products, such as mercury inflorescent and lead in incandescent bulbs.

SB 7X

SB 7x requires the state to achieve a 20 percent reduction in urban per capita water use by the end of 2020. The bill also requires each urban retail water supplier to develop both interim and long term urban water use targets. Alameda County Water District is in the process of setting a plan to help achieve these targets, and has been closely involved in the development of the CAP to see how it can help achieve this water reduction goal. SB 7x also creates a framework for future planning and actions for urban and agricultural users to reduce per capita water consumption 20 percent by 2020.

AB 1493 (Pavley)

California's mobile-source GHG emissions regulation for passenger vehicles was signed into law in 2002. This bill would require the Air Resources Board (ARB) to set emission standards for greenhouse gases, with no mandate for specific technology. In doing so, the ARB is to consider cost-effectiveness, technological feasibility, economic impacts, and mandate maximum flexibility to manufacturers.

EO-S-1-07 - The Low Carbon Fuel Standard (LCFS)

EO-S-01-07 reduces the carbon intensity of California's transportation fuels by at least ten percent by 2020. The LCFS is a performance standard with flexible compliance mechanisms that incentivizes the development of a diverse set of clean, low-carbon transportation fuel options to reduce GHG emissions.

Vehicle Efficiency Regulations

ARB has adopted several regulations to reduce emissions through improved vehicle efficiency. The following two regulations were quantified and included in the CAP calculations.

Tire Inflation Regulation

On September 1, 2010, ARB's Tire Pressure Regulation took effect. The purpose of this regulation is to reduce GHG emissions from vehicles operating with under-inflated tires by inflating

them to the recommended tire pressure rating. The regulation applies to vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or less. Under this regulation, automotive service providers must meet the following requirements:

- + Check and inflate each vehicle's tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service. Indicate on the vehicle service invoice that a tire inflation service was completed and the tire pressure measurements after the service were performed.
- + Perform the tire pressure service using a tire pressure gauge with a total permissible error no greater than + two (2) pounds per square inch (psi).
- + Have access to a tire inflation reference that is current within three years of publication.
- + Keep a copy of the service invoice for a minimum of three years, and make the vehicle service invoice available to the ARB, or its authorized representative upon request.

Heavy-Duty Vehicle GHG Emission

In December 2008, ARB adopted a new regulation to reduce GHG emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. Fuel efficiency is increased through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires. The regulation is expected to reduce approximately 1 million metric tons of carbon dioxide-equivalent emissions statewide by 2020.

Over the 11 years between 2010, when the rule went into effect, and the end of 2020, it is estimated that truckers and trucking companies will save about \$8.6 billion by reducing diesel fuel consumption by as much as 750 million gallons in California, and 5 billion gallons across the nation. The tractors and trailers subject to this regulation must use U.S. Environmental Protection Agency SmartWaycertified tractors and trailers, or retrofit their existing fleet with SmartWayverified technologies. These requirements apply to both California-registered trucks and out-of-state registered trucks that travel to California.

Relationship to the General Plan

Lodi is among many other cities and counties in California that are addressing the State's greenhouse gas reduction goals in their general plans. The City's policy commitment includes encouraging higher density, mixed-use and infill development in

appropriate locations, energy efficiency, and renewable energy development that contribute to GHG reduction strategies contained in the CAP. Since GHG emissions are a cross-cutting issue addressed by many General Plan elements, the CAP as a whole is generally considered an implementation measure for the General Plan. This structure allows the City to update the CAP on an ongoing, as-needed basis to ensure that the City's climate protection efforts reflect both current legislation and emerging best practices.

Relationship to the California Environmental Quality Act

Local governments may prepare a Plan for Reduction of Greenhouse Gases that is consistent with AB 32 goals. By preparing such a plan, the city can streamline CEQA review of subsequent plans and projects consistent with the GHG reduction strategies and target in the plan. To meet the standards of a qualified GHG reduction plan, Lodi's CAP must achieve the following criteria (which parallel and elaborate upon criteria established in State CEQA Guidelines Section 15183.5[b][1]):

- + Completing a baseline emissions inventory and projecting future emissions
- + Identifying a community-wide reduction target
- + Preparing a CAP to identify strategies and measures to meet the reduction target
- + Identifying targets and reduction strategies in the General Plan and evaluating the environmental impacts of the CAP in the General Plan EIR
- + Monitoring effectiveness of reduction measures and adapting the plan to changing conditions
- + Adopting the CAP in a public process following environmental review

This approach allows jurisdictions to analyze and mitigate the significant effects of GHGs at a programmatic level, by adopting a plan for the reduction of GHG emissions. Later, as individual projects are proposed, project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review in their cumulative impacts analysis. Project-specific environmental documents prepared for projects consistent with the General Plan and CAP may rely on the programmatic analysis of GHGs contained in an EIR that would be certified for the City's future General Plan and CAP. Chapter 5 provides a discussion of the criteria and process the

City will use to determine if a future project is consistent with the CAP.

A project-specific environmental document that relies on this CAP for its cumulative impacts analysis must identify specific CAP measures applicable to the project, and how the project incorporates the measures. If the measures are not otherwise binding and enforceable, they must be incorporated as mitigation measures applicable to the project. If substantial evidence indicates that the GHG emissions of a proposed project may be cumulatively considerable, notwithstanding the project's compliance with specific measures in this CAP, an EIR must be prepared for the project.

ⁱ Intergovernmental Panel on Climate Change. (2007). Climate Change 2007: Synthesis Report. Retrieved from: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

ⁱⁱ 74 Fed. Reg. 66514

ⁱⁱⁱ Section retrieved from https://en.wikipedia.org/wiki/Regulation_of_greenhouse_gases_under_the_Clean_Air_Act; October 2012

^{iv} United States Global Change Research Program (2009). Global Climate Change Impacts in the US. Retrieved from: <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>; January 2013



Chapter 2-Community Context

This Climate Action Plan has been developed within the context of Lodi's distinct local characteristics. The climate, building stock, demographics, and local economy establish the capacity for emissions reductions opportunities in Lodi. Thus the measures in this CAP were designed to be context specific with implementation strategies based on targeted outreach to engage all demographic groups. This chapter provides an overview of the community characteristics that factored into the measure development process identifies potential barriers to participation of residents and provides a discussion of how actions in this CAP are designed to reduce these barriers, enabling successful implementation.

reducing interior building temperatures and demands on the HVAC system.



Climate Zone [UG1]

Lodi is located in California's agriculturally-rich Central Valley, bounded by the Sacramento-San Joaquin River Delta to the west and the San Joaquin Valley to the east. Lodi is a compact city with situated just south of the Mokelumne River in on a gridded street network surrounded by agricultural lands. Industrial uses are primarily concentrated in the eastern side of the City, defined by the rail road line and Highway 99. Large commercial uses are concentrated along the highway and other major corridors, such as Kettleman Lane to the south. The newly revitalized downtown area is in the very core of the City, located among historic neighborhoods and smaller retail stores. The remainder of the urban area is primarily dedicated to residential developments.

Lodi's climate has a direct relationship to energy use in homes and businesses. Lodi typically experiences cool, rainy winters and hot, dry summers. While inland California experiences greater temperature swings than the temperate coastal areas, Lodi's proximity to the Delta and the San Francisco Bay results in more moderate temperatures than other cities in the valley.

Strategies to increasing energy efficiency in the built environment are central to reducing energy consumption associated with heating and cooling systems during the hot summer and cold winter. One such measure acts to encourage the replacement of conventional roofs with cool roofs, which use reflective materials to deflect the heat of the sun, in turn

Other measures which help to mitigate summer heat include planting large deciduous street trees and planting residential shade trees to protect the southern and western walls of a home from the sun, reducing heat absorption and cooling costs. Building integrated vegetation can also lower energy use as green roofs and green walls act to decrease interior building temperatures by absorbing the sun's energy before it reaches the building envelope.

Each of these measures will reduce greenhouse gas emissions and utility costs for service users. Due to Lodi's unique climate and geography, certain measures will be more successful at reducing emissions than others, but all measures will ultimately improve the quality of life for Lodi's community members.

Building Inventory

The majority of Lodi's housing stock, 68%, consists of single-family homes while 20% consists of multi-family developments. Of the total housing stock, 66% was built prior to 1980, which marked the implementation of Title 24, California's Green Building Code. Homes of this vintage are excellent candidates for building energy retrofits and weatherization as they often suffer from inefficiencies due to outdated heating and cooling systems, poor insulation, single pane windows, cracks in the building foundation and other gaps in the building envelope.

Table 2.1 Tenure by Units in Structure

Housing Type	2000		2011		% Change
	Number	Percent	Number	Percent	
Owner-Occupied	11,264	54.4	12,159	54	8
Single-Family	10,662	51.5	11,179	50	5
2 to 4 Units	162	0.8	171	1	6
5 or More Units	90	0.4	458	2	409
Mobile Homes	343	1.7	351	2	2
Renter-Occupied	9,430	45.6	10,156	46	8
Single-Family	3,616	17.5	4,016	18	11
2 to 4 Units	1,527	7.4	1,405	6	-8
5 or More Units	4,193	20.3	4,557	20	9
Mobile Homes	94	0.5	178	1	89
Total	20,694	100	22,315	100	8

Source: ACS Three-Year Estimate, 2011.

Energy efficiency retrofits can achieve significant greenhouse gas reductions for Lodi as building energy is responsible for over 50% of the communitywide greenhouse gas emissions. Several measures in this CAP are aimed at achieving reductions through promoting retrofit assistance programs, which are available to both single family and multi-family property owners and residents.

As of 2008 there was over 6 million square feet of non-residential space in Lodi, composed of primarily industrial food processing facilities. Opportunities for commercial retrofit financing could be expanded to gain additional reductions through energy efficiency improvements.

Renter Occupied Housing

While 50% of Lodi’s building stock is composed of single-family detached homes that are owner occupied, as shown in Table 2.1, another 20% are single family homes that are renter occupied and renters occupy a majority of the multi-family housing. Furthermore, Table 2.2 indicates that renters occupy half of the housing stock that was built before the enactment of Title 24 in 1980. In general, renters are less likely to pursue opportunities for energy efficiency improvements, even though they may qualify for free weatherization programs that improve the comfort of their home while reducing utility bills [JG2].

“Renters are less likely to pursue opportunities for energy efficiency improvements; even though they may qualify for free weatherization programs that improve the comfort of their home while reducing utility bills.”

Table 2.2 Tenure by Year Structure Built

Year Built	Owner Occupied		Renter Occupied		Total
	Number	percent	Number	Percent	
Total Units	12,159	54	10,156	46	22,315
2005 or later	242	1	58	0	300
2000 to 2004	1,144	5	385	2	1,529
1990 to 1999	1,535	7	905	4	2,440
1980 to 1989	2,529	11	2,140	10	4,669
1970 to 1979	1,735	8	1,913	9	3,648
1960 to 1969	1,403	6	2,217	10	3,620
1950 to 1959	1,848	8	1,377	6	3,225
1940 to 1949	877	4	511	2	1,388
1939 or earlier	846	4	650	3	1,496
Sum pre-1980	6,709	30	6,668	30	13,377

Source: ACS Three-Year Estimate, 2011.

Table 2.3-Households by Income Category

Income Category	SJ County Income Limits	Number	Percent
Extremely-Low (≤30% AMI)	Less than \$19,600	2407	11
Very-Low (30%≤50% of AMI)	\$19,600-32,700	3013	14
Low (50% ≤ 80% of AMI)	\$32,701-52,300	3923	18
Moderate and Above (≥ 80% AMI)	\$52,301-78,500	12972	58
Total		22,315	100

1. Number of households per range is an approximate value based on 2011 Census data.

Source: ACS Three-Year Estimate 2011; HCD 2011

Demographics

The majority of the measures in this CAP are voluntary and written to promote participation of Lodi’s residents and businesses. As outreach to and participation of all members of the community is a primary objective of this plan, some of the measures are designed to emphasize the engagement of groups in Lodi that might have difficulty accessing the information and resources in this CAP. The measures are designed to help the City work towards reducing barriers to participation for marginalized groups in order to ensure implementation of the CAP. The following population groups are possible candidates for targeted outreach efforts.

Low Income Households

Table 2.3, above, describes the household income characteristics of Lodi residents. Approximately 41% of the households in Lodi are considered low income, very-low income or extremely low income. The high cost of whole-house energy efficiency improvements prevents many low-income residents from investing in retrofits, even though they would save money in the long run on their utility bills. The Federal Weatherization Assistance Program uses local service providers to install cost-effective energy efficiency improvements, such as high efficiency light bulbs, new windows and new insulation, in low income households to reduce utility bills and improve overall comfort and safety. Barriers to energy efficiency for low income residents include a lack of program awareness, as well as informational and technical barriers.

Some measures in this CAP promote the use of alternative transportation by improving bicycle and pedestrian connectivity and increasing service of the City’s bus system. Since low income residents are more likely to rely on an alternative means of transportation, enhancing local and regional transit connectivity

would not only reduce GHG emissions associated with single-occupancy vehicle trips, but also provide these residents with greater access to job centers.

Senior ^[VT3]Households

While the majority of Lodi’s residents are middle-aged adults, many are nearing the age of retirement, represented by a 50% increase in population between the ages of 55 to 59 by 2011, and a 53% increase in residents between 60 to 64 years of age. Seniors citizens may have difficulty applying for retrofit programs, but could see significant utility bill savings, especially if they live in older homes.

Targeted outreach efforts can engage seniors with technical assistance, information on available rebates and financial assistance to encourage their participation in energy efficiency retrofit programs. Many seniors live older homes and could reduce their energy cost with energy efficiency improvements. For various reasons, seniors may face challenges in participating in such programs, such as lack of knowledge about energy efficiency programs, reluctance to incur debt (even zero interest rate deferred loans), and the need for help applying for assistance and working with contractors.

Table 2.4-Age Characteristics and Trends

Age	2000		2011		% Change
	Number	Percent	Number	Percent	
Under 5 years	4,495	8	4,276	7	-5
5 to 9 years	4,581	8	4,596	8	0
10 to 14 years	4,448	8	4,946	8	11
15 to 19 years	4,184	8	4,713	8	13
20 to 24 years	3,855	7	4,401	7	14
25 to 34 years	7,605	14	7,901	13	4
35 to 44 years	8,427	15	8,035	13	-5
45 to 54 years	6,896	12	8,180	13	19
55 to 59 years	2,421	4	3,627	6	50
60 to 64 years	1,946	3	2,972	5	53
65 to 74 years	3,694	7	4,147	7	12
75 to 84 years	3,146	6	2,889	5	-8
Total	56,999	100	64,720	100	

Source: ACS Three-Year Estimate, 2011.



Lodi's General Plan has several policies to encourage mixed-use and transit-oriented developments as the City grows to accommodate future populations. Higher density developments near downtown and other commercial areas create dynamic and walkable communities that have become increasingly appealing to the elderly who may be looking to drive less while downsizing from their larger detached single family homes.

Non Native English Speakers

While Lodi's population has grown at 10% in the last few years, the demographic makeup of the community has also changed. Spanish speaking immigrants compose the majority of the non-native English speakers in Lodi and have grown as a group by 42% between 2000 and 2007.

This CAP emphasizes the importance of reaching out to and engaging all demographic groups in the community who may have difficulty accessing the resources in this CAP due to communication, information and technical barriers. Community and social events provide an excellent channel for engaging various ethnic groups. Without their involvement, the CAP will not reach its mandated emissions reductions projections.

Age	Number	2000		2011		% Change (2000 to 2005-2007)
		Percent	Number	Percent		
White	36,200	64	34,081	55	-6	
Latino Hispanic Origin	15,464	27	21,941	35	42	
Asian or Pacific Islander	2,860	5	4,000	6	40	
Native American	309	<1	341	1	10	
African American	260	<1	1,001	2	285	
Other	1,906	3	1,095	2	-43	
Total	56,999	100	62,459	100	10	

Source: ACS Three-Year Estimate, 2011.

Local Economy

Employment opportunities in Lodi are primarily centered on agricultural operations and industrial manufacturing companies. Other employers include the hospital, school district and local retailers. Employment opportunities in Lodi have grown in the last few years, due in part to the development of the Reynolds Ranch property on the southeast end of town which is now occupied by three large commercial retail employers.

Agricultural and food processing facilities in Lodi could contribute hugely to GHG reductions through diverting organic waste from landfills, which releases methane as it decomposes. Industrial manufacturing companies should be encouraged to undergo energy audits and upgrade to more advanced technologies to increase efficiency across their production system. In addition, these companies could develop transportation demand management programs to promote carpooling among employees and provide increased services for employees that may use alternative transit to reach work.

Lodi's proximity to two major freeways provides access to various job centers, but a lack of regional transit connectivity requires many residents to use personal cars for their daily commutes. Over half of the residents in Lodi, or 57%, commute daily for job purposes, which is slightly less than the County average of 59% commute trips. As a result, a large portion of emissions can be attributed to single-occupancy vehicle trips, which can only be reduced by enhanced fuel efficiency or the use of alternative transportation for commuters. While the downtown transit center provides some regional connectivity through Amtrak, further reducing emissions attributed to commuting will require additional alternative transportation options to further connect Lodi residents to regional employment centers.

Place of Work	Persons	Percent
Lodi Employed Residents		
Worked in Lodi	10,525	43
Worked Outside Lodi	13,694	57
San Joaquin County Employed Residents		
Worked in San Joaquin County	96,497	41
Worked Outside San Joaquin County	136,121	59

Source: ACS Three-Year Estimate, 2011.





Chapter 3-Green House Gas Inventory

The City of Lodi has prepared this CAP to identify long-term strategies to mitigate its contribution of greenhouse gas (GHG) emissions. This chapter identifies trends in community wide GHG emissions to establish a baseline emissions level in the year 2008. Baseline emissions are determined using activity data collected from energy, water and waste collection service providers, as well as information collected as part of the General Plan process. Future emissions levels are then projected for the years 2020 and 2030, based on estimated future. This chapter also establishes a GHG emissions reduction target and explains how local, state and federal actions will contribute to the

2008 Baseline Inventory

The purpose of the 2008 baseline inventory is to identify current emission sources, relative source contributions, and to understand the overall nature and magnitude of communitywide GHG emissions. The inventory is then used to assist policy makers in effectively implementing cost-effective GHG-reduction policies, actions and measures. An accurate inventory is necessary to understand which sectors contribute the largest portion of emissions, have the greatest reduction potential and can be most effectively influenced by policies and actions implemented by the City. This inventory contains both a community and municipal inventory which contribute to the total emissions.

The International Panel on Climate Change (IPCC) identifies six primary GHG compounds, including carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) as the predominant GHGs found in non-industrial processes. Since each type of GHG has a different capacity for trapping heat, all emissions are presented in units of metric tons of carbon dioxide equivalent per year (MT CO₂e/yr), which allows all emissions to be normalized to a single unit of measure.

Community Inventory

2008 Baseline Emissions

The city of Lodi's baseline inventory is ordered by sector. A "sector" is an individual subset of the total greenhouse emission spectrum, composed of emissions relating to an economy, industry, market, or general society. The sectors that were measured in this CAP are: energy, transportation, solid waste, waste water, and water consumption. Each of these sectors is shown separately in the overall emissions spectrum to allow for specific measure development for emissions reductions.

Energy

The energy sector consists of electricity and natural gas consumption. Energy use typically represents a large portion of total greenhouse gas emissions and is divided into residential and non-residential uses. The City obtained historical (2008) electricity consumption data from Lodi Electric Utility (LEU) and natural gas consumption data from Pacific Gas and Electric (PG&E). LEU and PG&E provided communitywide data aggregated by land use (i.e., residential and non-residential). Electricity data for kWh used from 2008-2009 was converted into CO₂e using an LEU-specific emission factor. Natural gas data for therms was converted into CO₂e using a PG&E-specific natural gas emission factor.

Table 3.1 Baseline Emissions 2008

Emissions Sector	MT CO ₂ e	%
Energy Consumption	295,649	58
<i>Residential Electricity</i>	61,295	12
<i>Residential Natural Gas</i>	52,548	10
<i>Non-Residential Electricity</i>	118,486	23
<i>Non-Residential Natural Gas</i>	63,320	13
Transportation	148,624	29
<i>On-Road Vehicles</i>	141,124	28
<i>Off-Road Vehicles and Equipment</i>	7,500	1
Solid Waste	54,305	11
Water Consumption	5,231	1
Wastewater Treatment	3,649	1
Municipal	6,717	1
Total	514,175	100*

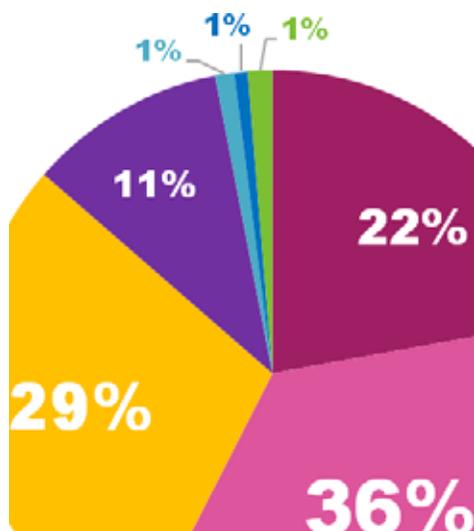
* Individual percentages may not add to 100 due to rounding.

Transportation

The transportation sector provides an estimate of emissions generated from vehicle miles traveled (VMT) by passenger cars and freight trucks. The inventory accounts for two types of trips; any vehicle trips generated by Lodi land uses that stay within the city limits and half of all vehicle trips generated by Lodi land uses that either begin or end outside of Lodi. The inventory does not account for pass-through trips. Based on these trips, annual vehicle miles traveled (VMT) is estimated using existing daily traffic volumes determined during the 2008 General Plan update process, and average trip length assumptions generated from U.S. Census data. Annual VMT is translated into emissions using a transportation-specific emissions factor, which was developed using national data for vehicle fleet mix, fuel economy and average fuel combustion. The transportation sector also accounts for emissions from off-road vehicles.

Solid Waste

Solid waste emissions are generated from decomposing organic waste in place and methane management activities. Solid waste generated within the City, as a result of community and municipal activities, is collected by Waste Management and deposited at various landfills throughout the region. Annual tons of waste generated and typical waste composition data was obtained from Cal Recycle to determine the total emissions.



RESIDENTIAL ENERGY
 NON-RESIDENTIAL ENERGY
 TRANSPORTATION
 SOLID WASTE
 WATER
 WASTEWATER
 MUNICIPAL

TOTAL MTCO₂e

514,175

Figure 3.1: Communitywide Emissions by Sector

Wastewater Treatment

Wastewater treatment plants generate as a byproduct of the processes used to break down organic materials in the untreated water. The City provided activity data describing the volume of wastewater treated annually by the White Slough Sewer District. The inventory includes both direct emissions, resulting from the wastewater treatment processes, and indirect emissions, resulting from electricity used to power the wastewater treatment plant. Direct emissions were calculated using the volume of wastewater treated annually. Indirect emissions were determined using state averages for energy intensities in kWh/MG for wastewater collection and treatment. An LEU specific emissions factor was used to convert electricity intensity data to CO₂e.

Water Consumption

Unlike the wastewater sector, emissions from the water sector come from the electricity used to treat, convey, and distribute potable water. Total electricity consumption associated with both municipal operations and communitywide land uses was obtained from the City. Emissions were determined using the LEU-specific emissions factor.

Municipal Operations

Emissions from municipal operations are included as a sector in the communitywide total. A separate municipal inventory was conducted and is further described in the next section of this chapter.

Community Inventory Results

The community baseline inventory is composed of the five previously described emissions sectors. The majority of Lodi's communitywide emissions originated from energy (58%) and transportation (29%), which collectively accounted for approximately 87% of the total emissions inventory. Solid waste accounted for around 11% of communitywide emissions. Wastewater treatment and water consumption combined made up less than 2% of emissions. Municipal emissions collectively amounted to less than 1% of the total communitywide emissions.

Table 3.1 provides a summary of the communitywide inventory, presenting subsectors within energy and transportation that were calculated separately during the inventory process. On-road vehicle use is the largest contributor of any subsector, at 28% of total community-wide emissions. The next largest contributor is non-residential electricity use at 23%, followed by non-residential natural gas (13%), residential electricity (12%), and residential natural gas (10%).

well as the transmission and distribution of purchased

Municipal Inventory

2008 Baseline Emissions

The baseline municipal emissions inventory follows Local Government Operations Protocols (LGOP) guidance which uses different emissions sources, including; buildings and facilities, the municipal vehicle fleet, wastewater treatment facilities, employee commutes, power generation facilities, public lighting, solid waste, the municipal transit fleet, and water delivery. While municipal operations are a small portion of the communitywide emissions, the City has the power to directly affect its own emissions, thereby setting a good example for programs and policies in the private sector.

Buildings and Facilities

Emissions from the City's buildings and facilities result from the consumption of electricity, natural gas and other fuels. Emissions associated with municipal building and facility operations were quantified using data obtained from PG&E and Lodi Electricity Utility (LEU).

Mobile Fleet

The City's vehicle fleet emissions were quantified using fuel consumption data for gasoline, diesel and compressed natural gas (CNG), to operate fire response vehicles, landscape maintenance vehicles, passenger cars, light trucks, and sport utility vehicles (SUVs).

Wastewater Treatment

Wastewater treatment facilities generate methane and nitrous oxide, as a byproduct of the treatment process, as well as emissions from electricity and on-site natural gas consumption. Data relating to electricity consumption was obtained from PG&E. Data relating to backup generators and fuel consumption was obtained from Public Works.

Employee Commute

The municipal inventory also includes emissions resulting from employee commute trips, which are predominantly fueled by gasoline, with only a few vehicles using diesel.

Power Generation

Emissions from power generation facilities result from the combustion of natural gas and coal to generate electricity, as

Table 3.2 Municipal Emissions 2008

Emissions Sector	MT CO ₂ e	%
Buildings and Facilities	1,941	29%
<i>Electricity</i>	<i>103</i>	<i>2%</i>
<i>Natural Gas</i>	<i>1,838</i>	<i>27%</i>
Mobile Fleet	1,612	24%
<i>Gasoline</i>	<i>1,173</i>	<i>17%</i>
<i>Diesel</i>	<i>354</i>	<i>5%</i>
<i>Refrigerants</i>	<i>84</i>	<i>1%</i>
<i>CNG</i>	<i>2</i>	<i>0%</i>
Wastewater Treatment	1,519	23%
Employee Commute	739	11%
Power Generation	653	10%
Streetlights	145	2%
Solid Waste	55	1%
Transit Fleet	50	1%
Water Delivery	3	0%
<i>Stormwater Management</i>	<i>2</i>	<i>0%</i>
<i>Water Delivery Pumps</i>	<i>1</i>	<i>0%</i>
Total	6,717	100%*

electricity.

* Individual percentages may not add to 100 due to rounding.

The City operates its own utility which procures electricity through the Northern California Power Agency (NCPA); therefore, only emissions related to transmission and distribution lines are included in the City's inventory.

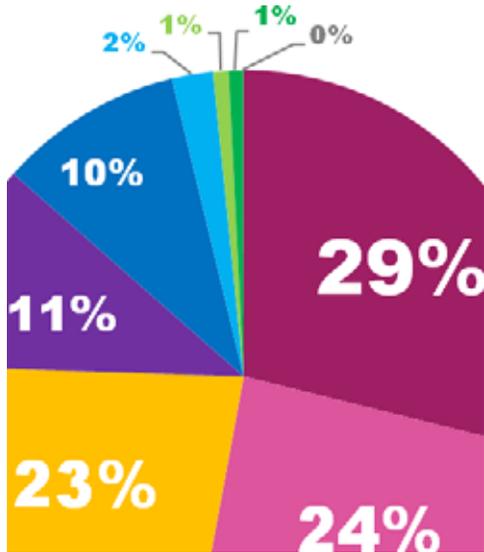
Streetlights

The City of Lodi also consumes electricity to operate public lighting infrastructure, including traffic signals and streetlights. Data from local utility providers was used to calculate emissions from the City's streetlights.

Solid Waste

Emissions from municipal solid waste are an estimate of methane generation that will result from the anaerobic decomposition of organic waste sent to landfill, including paper

and food waste from offices and facilities, construction waste from public works, and plant debris from the parks departments.



- BUILDINGS AND FACILITIES**
- MOBILE FLEET**
- WASTEWATER TREATMENT**
- EMPLOYEE COMMUTE**
- POWER GENERATION**
- STREETLIGHTS**
- SOLID WASTE**
- TRANSIT FLEET**
- WATER DELIVERY**

TOTAL MTCO₂e

6,717

Figure 3.2: Municipal Emissions by Sector

Transit Fleet

Lodi’s transit fleet includes buses and shuttles that run on compressed natural gas (CNG), an alternative fuel that produces significantly lower emissions than gasoline.

Water Delivery

The distribution of potable water for drinking and irrigation purposes generates emissions through electricity and natural gas consumption. Lodi relies entirely on groundwater to supply its potable water needs and must use electricity to power pumps which bring the water from underground aquifers to the surface. Data relating to electricity and fuel consumption were obtained from PG&E.

Municipal Inventory Results

The municipal baseline inventory accounts for emissions from nine separate sources. Similar to the community inventory, the majority of municipal emissions originated from energy use by buildings and facilities (29%) and the City’s mobile fleet (24%). Wastewater treatment accounted for 22% of communitywide emissions, city employee commute accounted for 11% and power generation facilities, another 10%. The four remaining emissions sources amounted to less than 5% and include streetlights, solid waste, the City’s transit fleet and water delivery.

Table 3.2 provides a summary of the emissions sources for the municipal inventory. Of the largest emissions source, buildings and facilities, natural gas consumption comprised a strong majority at 27% of the total emissions. As for the mobile fleet, a majority of the emissions were the result of vehicles powered by gasoline.

Emissions Sector	BASELINE 2008		BUSINESS-AS-USUAL 2020		BUSINESS-AS-USUAL 2030	
	MT CO2e	%	MT CO2e	%	MT CO2e	%
Energy Consumption	295,649	57	410,129	57	505,529	56
<i>Electricity</i>	179,781	35	249,396	35	307,408	34
<i>Natural Gas</i>	115,867	23	160,733	22	198,121	22
Transportation	148,624	29	212,329	29	276,901	29
<i>On-Road Vehicles</i>	141,124	28	201,925	28	264,077	30
<i>Off-Road Vehicles</i>	7,500	1	10,404	1	12,824	1
Solid Waste	54,305	11	75,333	10	92,856	10
Water Consumption	5,231	1	7,257	1	8,945	1
Wastewater Treatment	3,649	1	5,061	1	6,239	1
Municipal	6,717	1	8,075	1	9,207	1
Total	514,175	100	718,184	100	899,677	100

Table 3.3: Emission Inventory and Projections

Business-As-Usual Projections

Community Emissions

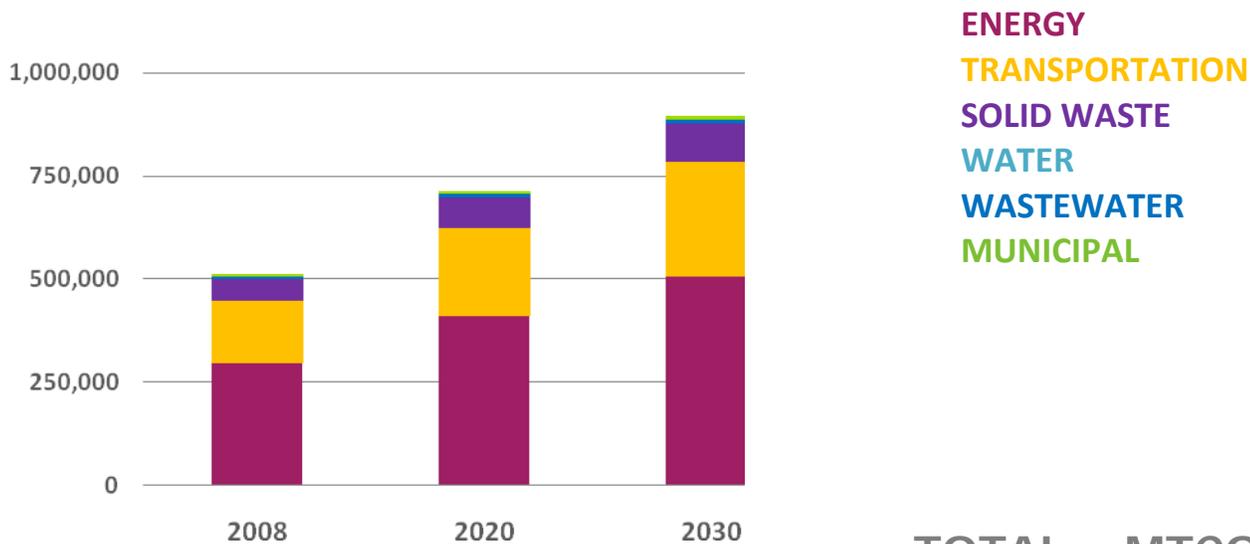
The baseline inventory was used to project the communitywide GHG emissions to the horizon years 2020 and 2030 under a business-as-usual scenario. Emission projections estimate future emissions levels and provide insight regarding the scale of reductions necessary to achieve an emissions target. GHG reduction measures developed for the CAP are applied to the 2020 and 2030 emissions levels to determine if the City will achieve its GHG reduction targets. Business-as-usual projections coincide with the statewide greenhouse gas reduction target for the year 2020, set by AB 32, as well as the City’s General Plan horizon year 2030. As the CAP is a supporting document for the General Plan, estimating emissions to 2030 will allow for “integral implementation” of the CAP alongside the General Plan.

The business-as-usual scenarios assume that historical and current GHG-generating practices and trends for energy consumption, transportation, solid waste, wastewater, and water consumption will continue through 2030. The business-as-usual projections do not include locally-realized GHG reductions from implementation of statewide GHG reduction programs or the local CAP measures described in Chapter 4.

Emissions projections are based on service population, which is expected to increase by 39% in 2020 and another 25% in 2030 (75% total).

Emissions projections are based on the estimated increase in service population. Service population measures the number of jobs and population as an indicator of current and potential resource consumption in a community. Estimates used to project emissions for this plan are consistent with estimates determined during the General Plan update process, which assume service population will increase by 39% in 2020 and another 25% in 2030 (75% total). The business-as-usual projections use service population growth assumptions across all sectors in this CAP as an indicator of potential growth in Lodi.

The projections have been developed for planning purposes, and due to the complexity of each emissions sector, are subject to change. As 2020 approaches, the City will reevaluate its emissions projections and reduction target to incorporate progress toward long-term GHG reductions, and will repeat this process as 2030 approaches as well.



TOTAL MTCO₂e

718,184 by 2020

899,677 by 2030

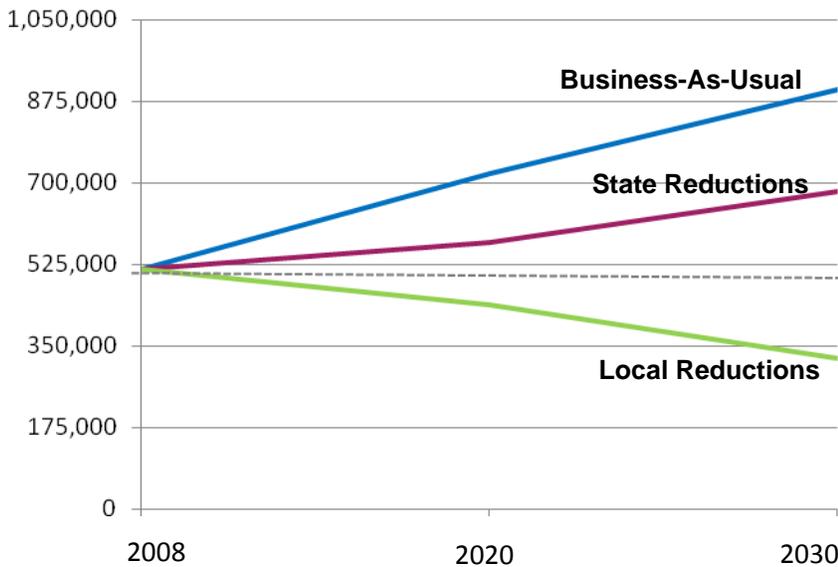
Figure 3.3: Communitywide Emission by Sector

Municipal Emissions

The growth of City government is related to the population growth within its jurisdiction; however, City government is unlikely to grow at the same rate. Rather, City operations increase in response to demand for resident services, but tend to avoid over-expansion. Therefore, growth in the City’s municipal operations was projected to occur at a more conservative rate of 65% of the population growth from year 2008 to 2020, and 2020 to 2030. All emissions sectors were projected to increase equally, while in reality, changes in the City’s priorities and implementation of the CAP will shift the emission ratios and total mass emissions. In the future, updates to the City’s municipal emissions inventory should be evaluated considering the economic state of the City during the baseline year to better understand the connections between other factors.

2020 and 2030 Communitywide Projections

Table 3.3 provides a summary of Lodi’s 2020 business-as-usual projected emissions, which are anticipated to be 718,184 MT CO₂e in 2020, while emissions in 2030 are anticipated to reach 899,677 MT CO₂e. Under this scenario, GHG emissions would increase across all sectors from 2008 to 2020 and 2020 to 2030. Municipal emissions, included in Table 3.3, are incorporated into the communitywide total. By 2020 business-as-usual municipal emissions are anticipated to be 8,075 MT CO₂e, while emissions in 2030 are anticipated to reach 9,207 MT CO₂e.



EMISSIONS REDUCTIONS

15% by 2020

37% by 2030

Emissions Efficiency Goal

In 2006, the Global Warming Solutions Act (AB 32) was enacted that mandated California to reduce state-wide GHG emissions to 1990 levels by 2020. In response, the California Air Resources Board (ARB) developed state-wide GHG inventories along with the Climate Change Scoping Plan, which outlines the strategies the State will implement to meet the 2020 target.

The Climate Change Scoping Plan emphasizes local governments as essential partners for achieving the state-wide goal, and recommends that local governments reduce emissions to 15% below baseline levels by 2020. For local governments, general plan updates and CAPs provide opportunities to achieve GHG emissions reductions that may be harder to reach through project-by- project review.

The City has set an emissions reduction target that supports the recommendations of ARB and will aim to reduce their communitywide emissions 15% by 2020. The City will continue to implement measures in this CAP beyond 2020 to support progress towards the State’s longer term goal, aiming to achieve a 37% reduction in emissions by 2030. Achieving the City’s reduction target will result from actions taken within the community, but also from anticipated state and federal actions.

State and Federal Reductions

A large portion of Lodi’s anticipated emission reductions will come from statewide reductions. This CAP assumes that emissions within the energy and transportation sectors will be reduced through statewide efforts described in Chapter 1.

These actions provide important reductions that are applied toward Lodi’s communitywide emissions reduction targets, reducing the total amount of emissions to be addressed locally through community actions. Significant reductions are also anticipated from federal fuel efficiency improvements to passenger vehicles and light-duty trucks. The City will monitor the effectiveness of state and federal legislation to ensure that the anticipated level of local reductions is achieved, and to ensure that all applicable statewide reductions are accounted for in the CAP.

Community Actions

The greenhouse gas reduction strategy presented in the next chapter of this CAP will serve as a framework for achieving the City’s reduction target through local actions. Each greenhouse gas reduction measure includes action steps, which serve to guide the implementation process and insure the City achieves the estimated reductions in the future. Where possible, the action steps were quantified based on realistic assumptions of participation rates, based on historic trends and future expectations. The **XX** quantified greenhouse gas reduction measures would result in communitywide emissions reductions of **XXX,XXX** MT CO2e/yr.





Chapter 4-Greenhouse Gas Reduction Strategy

This chapter defines the local strategies that will be implemented by the city in order to achieve its goal of reducing 2008 greenhouse gas emissions 15% by 2020 and 37% by 2030. The measures included in this chapter affect issues within the city's direct influence and are designed to fill the gap between the city's reduction targets and the estimated statewide reductions described in Chapter 3. Measures were developed by (a) evaluating existing community conditions; (b) identifying emission reduction opportunities within the community; and (c) reviewing best practices from other jurisdictions and organizations.

Leverage Local and Regional Opportunities

Measures in this CAP were designed to foster existing local initiatives and implement policies and programs in the 2010 General Plan while leveraging regional partnerships. Existing city programs were identified and opportunities for program expansion were considered. The greenhouse gas reduction potential of existing programs contributes to the total reductions, while action steps to expand these programs contribute additional reductions to help meet the city’s target. Where there were no existing programs offered by the city, local and regional initiatives were identified as a platform for cross-promotion or new program development.

Measure Structure

Measures are organized by strategy areas (e.g., energy, transportation), and while most measure are designed to achieve quantifiable GHG reductions, the direct emissions reduction benefits of some measures cannot be accurately quantified. The measures that are not quantified have been identified in this CAP as supporting measures.

Each measure includes: a description providing policy background; action steps to guide implementation; a relative cost analysis; city departments and government agencies with primary responsibility; a description of qualitative and quantitative co-benefits; and an indication of the measure’s GHG reduction potential relative to other measures within the strategy area.

Strategy Areas

Measures are grouped into five strategy areas that represent the primary ways to reduce communitywide GHG emissions in Lodi. Strategy areas are as follows:

- **Energy Efficiency** recommends ways to increase energy efficiency in existing buildings and systems; and increase the use of renewable energy.
- **Transportation** encourages alternatives to driving alone by car; promotes transit as a viable transportation mode; and greater travel efficiency.
- **Solid Waste** increases organic waste diversion to decrease methane emissions.
- **Water** recommends actions to support state mandated goals to reduce water consumption and the energy required to collect, store, distribute, and treat water and wastewater.
- **Green Infrastructure** uses urban vegetation to off-set the urban heat island effect, thereby reducing building energy use.

Measure Description

Each measure begins with a description of how GHG emissions are reduced and provides important background information regarding the city’s rationale and policy direction. Additionally, some descriptions highlight the city’s actions to date and then provide guidance for expanding existing programs.

Actions and Performance

Action steps are provided in a table following each measure description. Actions identify specific steps that the city will take to implement the measure. Performance metrics are also provided so that the city may track progress towards achieving the reductions described in this CAP.

Relative Public and Private Cost

The relative cost associated with measure implementation and participation is provided for the city (i.e., public) and residents / businesses (i.e., private). The cost analysis uses assumptions of labor hours and capital costs for code enforcement, program development, planning, and outreach efforts. In instances where the CAP is simply documenting GHG reductions associated with ongoing or planned city programs (e.g., implementation of the Urban Water Management Plan), the public cost estimates only reflect those additional actions recommended in the CAP (e.g., expanded public outreach efforts). Public costs are estimated as total cost to implement through 2020 (as opposed to annual costs), while private costs are estimated as one-time installation or participation costs.

These assumptions were used to assign a cost range to each measure, represented by the symbols shown in Figure 4.1 below. Where implementation does not require the city to increase funding above baseline levels, the measure is considered cost neutral. Supporting information on cost estimates is provided in Appendix C.

ICON	RANGE
0	COST NEUTRAL PUBLIC: \$0.00 PRIVATE: \$0.00
\$	VERY LOW PUBLIC: \$10,000 and below PRIVATE: below \$100
\$\$	LOW PUBLIC: \$10,001 - \$20,000 PRIVATE: \$101 - \$200
\$\$\$	MEDIUM PUBLIC: \$20,001 - \$100,000 PRIVATE: \$201 - \$1,000
\$\$\$\$	HIGH PUBLIC: above \$100,000 PRIVATE: above \$1,000

Figure 4.1: Relative Cost Analysis Range

Responsible Agencies

Each measure is assigned to a city department, public agency, or non-governmental nonprofit organization that will be responsible for implementing action steps. The following agencies are assigned responsibility for implementing this CAP:

- Lodi Electric Utility Department
- Community Development Department:
 - Planning Division
 - Building Division
 - And Neighborhood Services Division
- Parks, Recreation, and Cultural Services
- Public Works
- San Joaquin County Human Services Agency (HSA)
- Tree Lodi
- Lodi Chamber of Commerce

Community Co-benefits

Beyond reducing GHG emissions as described in Chapter 2, many recommended CAP actions have the potential to provide additional benefits for the community. These co-benefits represent an improvement in the quality of life in Lodi and contribute to improved environmental quality. Some co-benefits are quantifiable, such as the amount of energy that is saved, while others are qualitative and will be realized to varying degrees.

The co-benefits which are quantifiable are listed below, and use the following metrics:

- Electricity Savings: kilowatt hours per year (kWh/yr)
- Natural Gas Savings: therms/yr
- Waste Reduction: tons/yr
- Vehicle Miles Traveled Reduction: miles/yr

Qualitative benefits, which are not quantified, include:

- Utility Bill Savings
- Improved Air Quality
- Improved Water Quality
- Reduced Stormwater Runoff
- Reduced Heat Island Effect
- Improved Public Health

In the future, methodologies may be developed that allow the value of these co-benefits to be quantified.

Greenhouse Gas Reductions

Reduction potential values are provided with each measure that identifies the estimated annual GHG emission reductions anticipated in 2020 and 2030 in MT CO₂e/yr. Each quantified measure also includes a donut chart that describes the percentage of reductions that result from the measure relative to the total reductions for the strategy area.

Greenhouse Gas Reduction Potential

Table 4.1 summarizes the CAP's GHG reduction potential. The majority (43%) of reductions come from energy efficiency improvements. Transportation strategies provide 37% of reductions. Waste reduction and management strategies make up the remaining 20% of reductions.

Table 4.1: Reductions from Quantified Local Measures		2020 (MT CO ₂ e/yr)	2030 (MT CO ₂ e/yr)
Energy Efficiency			
Energy Efficiency Retrofits			
E-1.1	LEU* Energy Conservation Programs	7,474	13,919
E-1.2	Energy Efficiency Financing	175	262
E-1.3	Low-Income Weatherization	175	262
Building Systems Efficiency			
E-2.1	Energy Management Systems	1,339	4,437
E-2.2	Commercial Building Commissioning	1,698	2,094
E-2.3	Building Shade Trees	34	56
E-2.4	Streetlight Upgrades	1,568	1,568
Renewable Energy Generation			
E-3.1	Solar Photovoltaic Systems	3,735	6,518
E-3.2	Solar Water Heaters	188	235
Subtotal		16,386	29,352
Transportation			
Transportation Strategy			
T-1.1	Telecommuting and Alternative Work Schedules	3,080	4,134
T-1.2	Reduced Parking Minimum Requirements	527	240
T-1.3	Carsharing	85	109
T-1.4	Transit Improvements	13,717	18,571
T-1.5	Ridesharing	1,558	2,099
Subtotal		18,967	25,153
Solid Waste			
Waste Diversion			
SW-0.0	Methane Capture**	7,458	7,748
SW-1.1	Organic Waste Diversion	1,671	5,511
Subtotal		9,129	13,260
Communitywide Subtotal		44,481	67,765
Statewide Reductions			
Energy Efficiency			
Renewable Portfolio Standard (RPS)		31,424	38,733
California Energy Code (i.e., Title 24 Part 6)		6,171	11,313
Transportation			
AB 1493 (Pavley I)		44,674	92,650
AB 1493 (Pavley II)		3,284	3,488
EO-S-1-07 Low Carbon Fuel Standard (LCFS)		19,222	24,832
Water			
SB 7x Water Conservation		1,271	1,523
Subtotal Statewide Reductions		106,046	172,539
TOTAL REDUCTION POTENTIAL		150,527	240,304

* Lodi Electric Utility

** Methane Capture is included as a reduction, but it is assumed the city will not need to take any action. See the discussion on Solid Waste for more information.

ENERGY EFFICIENCY

In 2008, the city's consumption of electricity for appliances, lighting and cooling, and combustion of natural gas for heating, cooking, and other processes within residential, commercial, and industrial buildings generated 58% (295,649 MT CO₂-e) of Lodi's total GHG emissions. Of the total energy consumption in Lodi, residential energy use accounted for 39% (113,843 MT CO₂-e) whereas non-residential energy use accounted for 61% (181,806 MT CO₂-e). The CAP's energy efficiency measures are primarily focused on the efficient use of electricity, though some measures will also result in natural gas savings. Measures include retrofits of existing residential and commercial buildings, building system efficiency upgrades, streetlight upgrades, building shade tree planting, and increasing renewable energy use.

The total GHG emission reduction potential of the energy efficiency strategy is 16,386 MT CO₂e/yr in 2020 and 29,352 MT CO₂e/yr in 2030.

E-1.1 LEU ENERGY CONSERVATION PROGRAMS

Promote existing Lodi Electric Utility energy conservation programs for residential and commercial properties.

About 2/3 of houses in Lodi were built prior to the adoption of California’s Title 24 energy efficiency requirements in 1978, and 79% of the building stock that is projected to exist in Lodi in 2020 has already been constructed. Lodi stands to realize a large portion of its emissions reductions from building retrofits. While energy efficiency retrofits reduce building-related greenhouse gas emissions, residents can also benefit from noticeable savings on their utility bills and improved comfort of their home or business. Since 1998, Lodi Electric Utility (LEU) has spent more than \$8.3 million in Public Benefits Charge funds on energy efficiency programs, resulting in an 18% peak demand reduction and 16% energy reduction. LEU’s energy conservation programs include:

- **Appliance Rebate** for the purchase of an energy efficient refrigerator, clothes washer or dishwasher;
- **Home Improvement Rebate** for replacing insulation, installing attic fans, whole house fans, shade screens or window tinting, radiant barriers or replacing HVAC air conditioning systems;
- **HVAC System Test Rebate** for performing high-end duct system testing to measure air flow, air return and system balance;
- **Commercial/Industrial Rebates** for building envelope improvements and system efficiency upgrades;
- **Commercial Energy Efficiency Financing** up to \$150,000 in financing for energy efficiency improvements, to be repaid on the participant’s monthly utility bill; and
- **Energy Assessments** on-line and on-site for residential and commercial customers.

LEU will continue to implement its energy conservation programs, and increase participation through a comprehensive public outreach campaign. The city will conduct targeted outreach to demographic groups who may be less likely to retrofit their home.

ACTION STEPS	A	Maintain the LEU website with information about current energy efficiency rebates and incentives. Add local energy efficiency improvement success stories. Leverage Energy Upgrade California outreach and educational materials.
	B	Provide training to Building Division counter staff regarding available sources of rebates/incentives and printed pamphlets or FAQ sheets.
	C	Identify demographic groups for targeted outreach efforts; develop promotional materials in several languages for distribution at community events.
	D	Partner with San Joaquin County Human Services Agency to develop a program which provides direct assistance to individuals in identifying programs, applying for rebates and working with contractors.

METRIC	1	2020: Achieve net annual energy savings of 20,989 MWh 2030: Achieve net annual energy savings of 39,091 MWh
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COST	PUBLIC	\$\$\$	PRIVATE	Varies	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department
						San Joaquin County Human Services Agency

CO-BENEFITS	2020	20,989,268 kWh/yr	QUALITATIVE	Improved Air Quality	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction
	2030	39,091,231 kWh/yr				Improved Public Health	Utility Bill Savings
						Reductions by 2030:	CH 4: Greenhouse Gas Reduction Strategy
						13,919 MT CO ₂ e/yr	

E-1.2 ENERGY EFFICIENCY FINANCING

Collaborate with other San Joaquin agencies to create a regional PACE program.

A property-assessed clean energy (PACE) financing program is enabled through AB 811 legislation. This bill allows land-secured loans for homeowners and businesses who install energy efficiency projects and clean-energy generation systems. Senate Bill 555 reinforced implementation opportunities for PACE programs by expanding the scope of activities allowed within a community facilities district, as defined by the Mello-Roos Community Facilities Act of 1982. A PACE program permits property owners within participating districts to finance the installation of energy- and water-efficiency improvements in their home or business through a lien against their property that is repaid through their property tax bill. If the property is sold, payment responsibility transfers to the new owners, allowing building owners to avoid up-front installation costs while at the same time requiring little or no investment of local government general funds. In some instances, the new lender may require repayment of the existing lien, in which case the remaining PACE loan is repaid from the proceeds of the property sale.

The city will partner with other interested San Joaquin County jurisdictions to create a Property Assessed Clean Energy (PACE) financing program for commercial and residential energy efficiency retrofits.

ACTION STEPS	A	Develop a regional PACE program through collaboration with other San Joaquin County cities.
	B	Develop an outreach program describing available PACE financing options. Work with LEU to identify large energy users and focus outreach efforts.

METRIC	1	2020: 4% of existing single-family units install a medium retrofit package (retrofit packages are described in Appendix B) 2030: 6% of existing single-family units install a medium retrofit package
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COST	PUBLIC	\$\$	PRIVATE	Varies	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department

CO-BENEFITS	2020	110,588 kWh/yr 24,642 Therms/yr	QUALITATIVE	Improved Air Quality Improved Public Health Utility Bill Savings	GHG REDUCTIONS	Reductions by 2020:	175 MT CO ₂ e/yr	Sector Reduction	1%
	2030	165,882 kWh/yr 36,963 Therms/yr				Reductions by 2030:	262 MT CO ₂ e /yr		

E-1.3 LOW-INCOME WEATHERIZATION

Provide weatherization assistance to low-income households.

Weatherization reduces residential energy consumption by sealing gaps in the building envelope, moderating interior temperatures and reducing loads on HVAC systems. There are several co-benefits that come with weatherization, including reduced utility bills and improved occupant comfort. Weatherization is accomplished through various cost-effective home repairs, including; installing insulation, caulking or replacing windows and doors, and repairing inefficient HVAC systems. While most homes can benefit from weatherization, it is especially effective in older homes and can provide some relief to low-income households who may be struggling to pay their utility bills and do not have the means to invest in more intensive energy efficiency repairs.

Lodi Electric Utility partnered with California Youth Energy Services in the past to provide weatherization services to a few hundred households in Lodi. Future weatherization initiatives will utilize a third party contractor to deliver weatherization services to low income customers who are enrolled in LEU’s utility bill assistance programs, or fall below certain income restrictions. San Joaquin County Human Services Agency (HSA) also administers weatherization services to low-income residents through the U.S. Department of Energy (DOE) Federal Weatherization Assistance Program (WAP), which they promote to Lodi residents through the HSA Community Service Center and utility bill assistance programs.

The city will identify neighborhoods that would benefit from weatherization and develop a targeted outreach campaign to provide low income homeowners and renters with information about available weatherization assistance programs, accompanied by application assistance.

ACTION STEPS	A	Support LEU in the development of weatherization initiatives for low-income households.
	B	Leverage LEU’s CARE and SHARE utility bill assistance programs for cross-promotion of weatherization programs.
	C	Develop a targeted outreach campaign to demonstrate the benefits of weatherization to low-income households and encourage participation in weatherization assistance programs.
	D	Work with San Joaquin County Human Services Agency to promote the federal weatherization assistance program.

METRIC	1	2020: 4% low-income households receive weatherization assistance 2030: 6% low-income households receive weatherization assistance
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COST	PUBLIC	\$\$\$\$\$	PRIVATE	0	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department San Joaquin County Human Services Agency

CO-BENEFITS	2020	110,588 kWh/yr 24,642 Therms/yr	QUALITATIVE	Improved Air Quality Improved Public Health Utility Bill Savings	GHG REDUCTIONS	Reductions by 2020:	175 MT CO ₂ e/yr	Sector Reduction	1%
	2030	165,882 kWh/yr 36,963 Therms/yr				Reductions by 2030:	262 MT CO ₂ e /yr		

E-2.1 ENERGY MANAGEMENT SYSTEMS

Promote energy management systems to reduce peak load energy demand.

Energy Management Systems (EMS) are computerized systems that reduce commercial and industrial energy use by automating the control of a building’s mechanical, electrical, and ventilation systems. Various energy demand-side management programs throughout the country are leveraging this technology, combined with web-based user interfaces, to attract participation in these kinds of voluntary programs.

The city will develop an outreach campaign to describe how energy management systems work inside a building, including internet-based displays that show how much energy is being used and smart appliances that can defer discretionary electricity use to off-peak hours. LEU will also consider developing peak load reduction incentives for commercial and residential customers.

ACTION STEPS	A	Develop an EMS outreach program and make information available at the Building Division counter.
	B	Identify and advertise available rebates for energy management systems on the city’s Website.
	C	Consider developing a peak load reduction incentive for LEU customers.
	D	Demonstrate energy efficiency savings and co-benefits through a municipal EMS pilot project.

METRIC	1	2020: 10% of existing non-residential floor area install energy management systems and compatible technologies 2030: 25% of existing non-residential floor area install energy management systems and compatible technologies
	2	2020: 25% of new non-residential floor area install energy management systems and compatible technologies 2030: 40% of new non-residential floor area install energy management systems and compatible technologies

COST	PUBLIC	\$\$\$	PRIVATE	Varies	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department

CO-BENEFITS	2020	3,358,447 kWh/yr	QUALITATIVE	Improved Air Quality Improved Public Health Utility Bill Savings	GHG REDUCTIONS	Reductions by 2020:	1,339 MT CO ₂ e/yr	Sector Reduction 15%
	2030	11,131,442 kWh/yr				Reductions by 2030:	4,437 MT CO ₂ e /yr	

E-2.2 COMMERCIAL BUILDING COMMISSIONING

Improve energy efficiency in new and renovated buildings through continuous commissioning.

Building commissioning is the process of achieving, verifying, and documenting the performance of a building's facilities and systems to meet defined objectives and criteria. In a study conducted by the Lawrence Berkeley National Laboratory, commissioning resulted in whole-building energy savings averaging 18% with a corresponding payback time of 0.7 years. Building commissioning is typically applied to new construction during the planning/design and construction phases to ensure the building's systems (e.g., heating, ventilation, and air conditioning) are performing at optimum efficiency. Retro-commissioning addresses systems in existing buildings that are undergoing renovation or installing upgraded equipment. Buildings should be re-commissioned every five years to maintain optimal system efficiency.

LEU will consider developing a commercial building commissioning program that will provide information and incentives to commercial customers for commissioning new or renovated buildings and facilities.

ACTION STEPS	A	Provide outreach to commercial building owners to promote the energy savings and other benefits of commissioning and retro-commissioning.
	B	Create a building commissioning program through LEU.
	C	Develop a municipal commissioning program to commission all buildings and facilities, with re-commissioning occurring every five years.

METRIC	1	2020: 25% of existing non-residential buildings undergo commissioning through 2020 2030: 25% of existing non-residential buildings undergo commissioning through 2030
	2	2020: 25% of new non-residential buildings undergo commissioning through 2020 2030: 25% of new non-residential buildings undergo commissioning through 2030

COST	PUBLIC	\$\$\$	PRIVATE	\$\$\$\$\$	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department

CO-BENEFITS	2020	2,733 MWh/yr 136,678 Therms/yr	QUALITATIVE	Improved Air Quality Improved Public Health Utility Bill Savings	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction
	2030	635,852 MWh/yr 31,793 Therms/yr				1,698 MT CO ₂ e/yr	7%
						Reductions by 2030:	
						2,094 MT CO ₂ e /yr	

E-2.3 BUILDING SHADE TREES

Plant building shade trees to improve energy efficiency in new and renovated buildings.

When properly placed, large shade trees can reduce energy use by protecting a building from the heat of the sun, in turn reducing demand on the heating and cooling system. A successful shade tree program needs to address various factors, such as tree selection, planting location, and maintenance. Trees with larger canopies and denser foliage provide more shade than other species. Deciduous species are ideal for reducing building cooling costs as they provide shade in summer, but allow winter sunlight into buildings for passive solar gain in cooler weather.

The city will partner with Tree Lodi to develop an outreach program to encourage property owners to plant trees in locations that maximize building shade potential.

ACTION STEPS	A	Partner with Tree Lodi to promote the various benefits of planting building shade trees to property owners.					
	B	Develop a shade tree planting guide to facilitate proper tree selection, siting, and installation.					
METRIC	1	2020: Plant 2,500 shade trees 2030: Plant 4,000 shade trees					
COST	PUBLIC	\$\$\$		PRIVATE	\$	RESPONSIBILITY Lodi Electric Utility Department Tree Lodi	
CO-BENEFITS	2020	171,962 kWh/yr	QUALITATIVE	Improved Air Quality	GHG REDUCTIONS	Reductions by 2020: 34 MT CO ₂ e/yr	Sector Reduction >1%
	2030	283,738 kWh/yr		Utility Bill Savings		Reductions by 2030: 56 MT CO ₂ e /yr	
				Reduced Heat Island Effect			

E-2.4 STREETLIGHT UPGRADE

Upgrade existing streetlights with more efficient technology.

High pressure sodium bulbs, commonly used in streetlights, require more energy and have a shorter lifespan than new induction and/or light-emitting diode (LED) lights. The City of Lodi's Public Works Department maintains 6,500 street lights and 52 traffic signals. The city previously upgraded several streetlights around Lodi Avenue as part of the Lodi Avenue Eastside Improvement Project. The city is planning to upgrade all other streetlights, which they estimate will cost \$3 million, and save approximately \$350,000 to \$400,000 per year.

ACTION STEPS	A	Revise the city's street lights standards to include requirements for energy-efficient technology in new and replacement lamps.				
	B	Develop a street light upgrade plan that identifies an implementation phasing schedule.				
COST	PUBLIC	0*	PRIVATE	0	RESPONSIBILITY	
					Lodi Electric Utility Department Public Works	
CO-BENEFITS	2020	4,402,343 kWh/yr	QUALITATIVE	Improved Air Quality	Reductions by 2020:	Sector Reduction
	2030	4,402,343 kWh/yr		Improved Public Health	1,568 MT CO ₂ e/yr	5%
					Reductions by 2030:	
					1,568 MT CO ₂ e /yr	

* This CAP measure does not recommend any additional expenses related to streetlight upgrades beyond those already under consideration by the city.

E-3.1 SOLAR PHOTOVOLTAIC SYSTEMS

Promote solar PV rebates and eliminate regulatory barriers.

Increasing the use of distributed renewable energy systems (e.g., rooftop solar photovoltaic) prevents the combustion of fossil fuels to generate electricity, thereby reducing GHG emissions. Solar photovoltaic systems convert solar radiation into electricity that can directly power buildings, increasing energy independence and subsequently reducing monthly utility bills. Solar PV systems can be scaled to individual residential systems and larger-scale commercial systems. Parking lots also provide excellent opportunities for solar energy generation. Numerous barriers may prevent widespread adoption of solar PV technology, including city regulations, up-front costs, and misinformation or lack of information. Reviewing and revising the city's zoning and building codes can remove regulatory barriers to solar PV installation. While up-front cost can deter some property owners from investing in solar energy, rebates are available through Lodi Electric Utility and homeowners can use solar service providers or acquire financing through participation in a PACE program (see Measure E-1.2) to reduce out-of-pocket expenses.

Lodi Electric Utility has engaged in outreach via the Solar Education program and the Solar Fair with solar service providers. The Lodi Unified School District recently installed a 2 MW solar project. LEU will continue to promote solar installations through outreach efforts, seeking partnerships to engage in commercial and industrial solar projects. The city will further reduce barriers to participation by reviewing (and streamlining where possible) the permitting process.

ACTION STEPS	A	Review and revise all applicable building, zoning, and other codes and ordinances to remove regulatory barriers to the installation of solar PV in residential and nonresidential construction.
	B	Provide priority permitting and reduced permitting fees for building-scale renewable energy projects.
	C	Enhance outreach efforts to increase solar PV installations, leveraging existing solar PV informational materials from Energy Upgrade California, the California Solar Initiative, and LEU.
	D	Identify potential retail, commercial, or industrial partnerships for large solar projects.

METRIC	1	2020: 1% single-family residential units install a 4.5 kW solar PV system 2030: 1% single-family residential units install a 4.5 kW solar PV system
	2	2020: Install 3.0 MW (total) of solar PV on non-residential buildings 2030: Install 6.0 MW (total) of solar PV on non-residential buildings

COST	PUBLIC	\$\$\$	PRIVATE	\$\$\$\$\$	RESPONSIBILITY	Lodi Electric Utility Department
						Community Development Department

CO-BENEFITS	2020	9,646,226 kWh/yr generated	QUALITATIVE	Improved Air Quality Improved Public Health Utility Bill Savings	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction
	2030	18,306,313 kWh/yr generated				3,735 MT CO ₂ e/yr	22%
						Reductions by 2030:	
						6,518 MT CO ₂ e /yr	

E-3.2 SOLAR WATER HEATERS

Promote solar thermal rebates and eliminate regulatory barriers.

Solar hot water heaters harness the sun’s energy to provide hot water, replacing natural gas or electric systems. Solar collectors, usually placed on a roof, absorb the sun’s energy to heat water that is stored in a water tank. According to the California Solar Initiative (CSI), solar hot water systems can lower energy bills by meeting 50% to 80% of hot water needs. The California Solar Water Heating and Efficiency Act of 2007 (AB 1470) created a 10-year program aimed at installing solar water heaters in homes and businesses. AB 1470 was designed to lower the initial costs of purchasing a system, which typically range from \$3,000 to \$6,000. Similar to solar PV installations, available rebates can reduce the upfront costs of solar water heater systems, and participation in a PACE financing program (see Measure E-1.2) can help to amortize the remaining costs. The city will remove regulatory barriers to solar thermal installations and encourage homeowners to install solar thermal systems through outreach.

ACTION STEPS	A	Review and revise all applicable building, zoning, and other codes and ordinances to remove regulatory barriers to the installation of solar hot water systems in residential and nonresidential construction.	
	B	Reduce solar hot water heater permitting fees.	
	C	Leverage existing California Solar Initiative - Thermal Program information to develop an outreach program to maximize installation of solar hot water systems and promote existing funding opportunities.	
	D	Work with local Chamber of Commerce to identify industrial businesses with high water use (e.g., Laundromats), and develop an outreach program to explain financial benefits of converting existing hot water heaters to solar hot water systems.	
METRIC	1	2020: 1% single-family residential units install a solar hot water system 2030: 1% single-family residential units install a solar hot water system	
	2	2020: 1% multi-family residential units install a solar hot water system 2030: 1% multi-family residential units install a solar hot water system	
	2	2020: 3% of non-residential buildings install solar thermal systems 2030: 3% of non-residential buildings install solar thermal systems	
COST	PUBLIC	\$\$	PRIVATE \$\$\$\$\$ RESPONSIBILITY Lodi Electric Utility Department Community Development Department Chamber of Commerce
CO-BENEFITS	2020	35,412 Therms/yr by 2020	QUALITATIVE Improved Air Quality Improved Public Health Utility Bill Savings GHG REDUCTIONS Reductions by 2020: 188 MT CO ₂ e/yr Reductions by 2030: 235 MT CO ₂ e /yr
	2030	44,345 Therms/yr by 2030	

TRANSPORTATION

Transportation is the second largest sector in Lodi's baseline inventory, producing 29% (148,624 MT CO₂-e) of Lodi's total GHG emissions (514,175 MT CO₂-e) in 2008. Emissions in this sector are primarily the result of the combustion of fossil fuels and are determined largely by the number of vehicle miles traveled (VMT) by residents and employees. The best practices for reducing transportation-related greenhouse gas emissions involve reducing the number of vehicle trips through various transportation demand management (TDM) strategies and enhancing the viability of transit and other forms of alternative transportation. In addition, transit-oriented development and mixed-use developments result in denser uses near commercial centers that contribute to decreased vehicle trips. The greenhouse gas reduction strategies presented in this CAP primarily focus on TDM strategies and transit system improvements to reduce greenhouse gas emissions.

The total GHG emission reduction potential of the transportation strategy is 18,967 MT CO₂e/yr in 2020 and 25,153 MT CO₂e/yr in 2030.

T-1.1 TELECOMMUTING AND ALTERNATIVE WORK SCHEDULES

Advocate for flextime work arrangements to decrease daily commuter trips.

Flextime includes both telecommuting and alternative work schedules and is one of many transportation demand management (TDM) strategies that reduce greenhouse gas emissions by reducing the number of vehicle trips made on a given day. Flextime reduces peak period traffic congestion directly by allowing employees to set their own work schedules, which often involve a condensed four-day work week. The flexibility in hours can also make ridesharing and transit use more feasible. In addition, staggered shifts can reduce peak-period trips and traffic congestion, particularly around large employment centers.

The city will work to increase employee participation in telecommuting and alternative work schedules through targeted outreach to large local employers. Where programs or policies already exist the city will focus its efforts on outreach to employees in order to increase participation rates. For those employers who do not currently offer flextime schedules, the city will encourage the employer to adopt a program or policy and provide promotional support.

ACTION STEPS	A	Target small to moderate increase in employee participation rates in telecommuting and alternative work schedules due to additional promotional efforts by the city.
	B	Encourage employers to adopt a flextime program or policy, if they do not already have one, and provide promotional support upon program kick off.

COST	PUBLIC	\$\$\$	PRIVATE	\$\$\$\$\$	RESPONSIBILITY	Community Development Department

CO-BENEFITS	2020	614,565 miles/yr by 2020	QUALITATIVE	Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction
	2030	792,395 miles/yr by 2030				3,080 MT CO ₂ e/yr	
						Reductions by 2030:	
						4,134 MT CO ₂ e /yr	

T-1.2 REDUCED MINIMUM PARKING REQUIREMENTS

Support transit-oriented and mixed use development by reducing parking requirements in new development.

Research shows that there is an indirect link between reduced minimum parking requirements and a decline in vehicle trips. Reducing parking requirements allows market forces to determine the appropriate level of parking supply based on user demands. As parking lots can be land-intensive, reducing these requirements supports transit-oriented and mixed-use development by maximizing commercial retail space and reducing overall cost to development. Such a policy is especially effective near commercial centers where it is easier for people to take transit, walk, or ride their bikes. In addition, the lower development costs can also support housing affordability.

Reduced parking requirements could be established in locations where parking demand will be lower due to geographic and demographic factors, such as downtown and other commercial and transit centers.

ACTION STEPS	A	Identify areas where new or infill development is likely to occur near commercial and transit centers and determine appropriate number of parking spaces based on market demand.
	B	Phase in tailored reductions in minimum commercial parking requirements.

COST	PUBLIC	\$\$	PRIVATE	0	RESPONSIBILITY	Community Development Department

CO-BENEFITS	2020	1,288,967 miles/yr by 2020	QUALITATIVE	Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction
	2030	587,087 miles/yr by 2030				527 MT CO ₂ e/yr	
						Reductions by 2030:	
						240 MT CO ₂ e /yr	

T-1.3 CARSHARING

Support city employees who choose alternative transportation by providing access to cars as needed for work or personal trips.

Carsharing programs reduce the need for businesses or households to own vehicles, while reducing personal transportation costs and vehicle miles traveled (VMT). Carsharing has sometimes been referred to as the “missing link” in the package of alternatives to the private automobile. For example, vehicles available near a person’s workplace or school can enable them to commute to work via transit or other means, knowing that they’ll have a carshare vehicle available during the day if needed for work or personal trips.

The city will develop a carsharing program for use by city employees. The city will promote the successes of this new program throughout the community, particularly to large employers, to encourage the development of additional programs.

ACTION STEPS	A	Implement a small-scale carsharing program for city employees.
	B	Promote the successes of the program throughout the community encouraging large employers to implement similar programs.

COST	PUBLIC	\$\$	PRIVATE	0	RESPONSIBILITY	Community Development Department (CDD)

CO-BENEFITS	2020	196,496 miles/yr by 2020	QUALITATIVE	Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction	>1%
	2030	253,354 miles/yr by 2030				85 MT CO ₂ e/yr		

T-1.4 TRANSIT IMPROVEMENTS

Expedite the implementation of improvements identified in the Regional Short-Range Transit Plan.

In most cities that have succeeded in growing while limiting vehicle trips, a fundamental component of their success has been improved transit services. In 2009 the city adopted a Short Range Transit Plan which outlines the current level of service and identified improvements that would increase ridership through fiscal year 2017/18. Implementation of the Short Range Transit Plan, however, has been limited by funding in recent years.

The city should advocate for expedited funding to implement the improvements that were identified in the Short Range Transit Plan, increasing system efficiency by focusing on: maintaining the current level of service coverage throughout the city, streamlining existing routes, reducing route redundancy, and extending service to the Reynolds Ranch development upon completion. The city should coordinate new and existing services to serve both general and targeted travel markets and consider potential consolidation of existing private-sector transit operations. To increase ridership the city should provide real-time arrival information, enhance passenger amenities at transit shelters and major transfer centers, update and distribute new route maps and schedules as hard copies and online, and provide information about other transit services to customers across many platforms.

ACTION STEPS	A	Advocate for expedited funding of improvements identified in the adopted Regional Short-Range Transit Plan, with targeted improvements to increase system efficiency, enhance access to new developments, and connect with other regional transit services.
	B	Improve transit ridership experience through integration of GPS-based technologies, clearer transit schedule messaging, and improvements to transit facilities.

COST	PUBLIC	\$\$\$	PRIVATE	0	RESPONSIBILITY	Public Works

CO-BENEFITS	2020	38,383,737 miles/yr by 2020	QUALITATIVE	Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction	74%
	2030	51,950,019 miles/yr by 2030				13,717 MT CO ₂ e/yr		
						Reductions by 2030:		
						18,571 MT CO ₂ e /yr		

T-1.5 RIDESHARING

Encourage and support ridesharing groups and initiatives through additional outreach efforts.

Ridesharing is a transportation demand management strategy that reduces commute trips from single-occupant vehicles through organized carpooling and vanpooling. Ridesharing can attract 5-15% of total commute trips if commuters are encouraged to participate through outreach and information sharing. Providing incentives such as parking cash outs or vanpool subsidies can result in greater participation rates of around 10-30%.

The city can increase participation in employee rideshare programs by working with local employers and/or the Chamber of Commerce to coordinate information sharing, and possibly develop a ridesharing website to help match drivers and riders. The city could also encourage employers to offer parking cash out or subsidies for greater participation rates.

ACTION STEPS	A	Target small to moderate increase in employee participation rates in carpools and vanpools due to additional promotional efforts by the city.				
	B	Encourage employers to offer financial incentives for ridesharing, including parking cash out and carpool subsidies				
COST	PUBLIC	\$\$	PRIVATE	\$\$\$\$	RESPONSIBILITY Community Development Department (CDD)	
CO-BENEFITS	2020	5,180,041 miles/yr by 2020	QUALITATIVE Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020: 1,558 MT CO ₂ e/yr	Sector Reduction 8%
	2030	6,979,711 miles/yr by 2030			Reductions by 2030: 2,099 MT CO ₂ e /yr	

SOLID WASTE

Waste disposal creates emissions when organic waste (e.g., food scraps, yard clippings, paper, and wood products) is buried in landfills and anaerobic digestion takes place, emitting methane. In Lodi, 11% of GHG emissions are associated with solid waste generation and disposal in landfills. The CAP's waste diversion measures seek to divert organic waste from landfills by reusing construction materials when possible and increasing communitywide participation in food scrap and yard waste composting.

Construction waste accounts for approximately 29% of the waste stream statewide, and includes items such as lumber, drywall, metals, masonry, carpet, plastics, pipes, rocks, and dirt. Most of these materials are inert and do not contribute to landfill methane generation upon decomposition. However, waste lumber comprises nearly 15% of the total statewide waste stream, and represents a significant source of potential GHG emissions reductions. Per the California 2010 Building Standards Code (Title 24), effective January 1, 2011, all jurisdictions must require the diversion of 50% of construction waste materials generated during certain construction and renovation projects. This CAP assumes the city will enforce these diversion requirements in all applicable future projects.

As shown in Table 4.1, the CAP includes reductions associated with increased methane capture at landfills. The California Air Resources Board approved a new regulation (effective in June 2010) that requires operators of certain landfills to install methane control systems that operate in an optimal manner. Historically, the majority of solid waste generated in Lodi is disposed of at the North County Landfill. While this landfill already has a methane capture system in place, it is less efficient than currently available technology used elsewhere throughout the state. For purposes of this CAP, it is assumed that efficiency improvements will be made to the existing methane capture system at the North County Landfill, but that the city will play no role in implementing these improvements.

The total GHG emission reduction potential of the waste strategy is 9,129 MT CO₂e/yr in 2020 and 13,260 MT CO₂e/yr in 2030.

SW-1.1 ORGANIC WASTE DIVERSION

Work with Waste Management to divert food waste and compostable paper from landfills and ensure compliance with existing yard waste diversion and construction/demolition waste diversion ordinances.

Food scraps are unwanted cooking preparation items and leftover table scraps, such as banana peels, apple cores, vegetable trimmings, bones, egg shells, meat, and pizza crusts. Compostable paper, sometimes called food-soiled paper, usually comes from the kitchen and is not appropriate for paper recycling due to contamination. Materials such as stained pizza boxes, uncoated paper cups and plates, used coffee filters, paper food cartons, napkins and paper towels are all compostable paper. Diverting these organic items from the landfill helps to reduce methane gas generation from anaerobic decomposition, and helps to prolong the operable life of a landfill. The city will work with Waste Management to expand its yard waste collection program to accept compostable food and paper products in residents' existing green waste bins, so these items can also be diverted to composting facilities. The expanded program will allow collection of:

- all food products: fruits, vegetables, breads, cereals, dairy, meat and fish (including bones);
- coffee grounds, filters, and tea bags; and
- food soiled paper: paper towels, plates, napkins, and pizza boxes.

The city will work with Waste Management to develop comprehensive outreach campaigns to inform solid waste customers about the change to the yard waste collection program, identifying what can and cannot be included in the yard waste bins and providing helpful tips to minimize pest and odor problems. The city will also partner with Lodi Unified School District to promote composting education programs in Lodi classrooms.

ACTION STEPS	A	Work with Waste Management to allow residents and local businesses to include food scraps and compostable paper in yard waste collection bins.
	B	Work with Waste Management and Lodi Unified School District to promote organic waste diversion through customer information campaigns.
	C	Ensure compliance with state construction and demolition diversion requirements.

METRIC	1	2020: 50% of residential units participate in food scrap and compostable paper diversion 2030: 75% of residential units participate in food scrap and compostable paper diversion
	2	2020: 10% of commercial businesses participate in food scrap diversion 2030: 40% of commercial businesses participate in food scrap diversion
	3	2020: 50% of commercial businesses participate in compostable paper diversion 2030: 75% of commercial businesses participate in compostable paper diversion
	4	2020: 50% of construction and demolition debris is diverted from landfills 2030: 50% of construction and demolition debris is diverted from landfills

COST	PUBLIC	\$\$\$	PRIVATE	\$	RESPONSIBILITY	Public Works Department (PWD)
						Waste Management

CO-BENEFITS	2020	13,093 tons/yr	QUALITATIVE	Improved Air Quality Improved Public Health	GHG REDUCTIONS	Reductions by 2020:	Sector Reduction	42%
	2030	24,004 tons/yr				Reductions by 2030:		

SW-2.1 COMPOSTING EDUCATION

Increase awareness of composting through and outreach and education program.

At-home composting, or turning food scraps into fertilizer, reduces greenhouse gases by reducing the amount of organic waste that is sent to the landfill. Public outreach at the Farmer’s Market indicated that few residents in Lodi were familiar with composting or its benefits. The Lodi Unified School District had a composting program in the past, which was cut due to budgetary constraints. The city could work with the San Joaquin County Master Gardening Class and the Landscape Management Outreach Program (LMOP), which focus on education and stewardship, to develop a composting education program for city and county residents. The program could include a school education program focused on Lodi’s K-6 students to teach composting skills and spread knowledge of the benefits of waste diversion in their own homes. The program could also include an outreach component to provide information to the general public through newspaper articles, newsletters, informational booths at community events, and other volunteer-led outreach activities.

ACTION STEPS	A	Support Waste Management in developing an outreach campaign to encourage residents to include their food scraps and yard waste bins by distributing bill inserts upon roll-out of the food waste program.				
	B	Provide composting information on the city’s website, with a link to resources provided by the County.				
	C	Partner with Lodi Unified School District and the San Joaquin County Master Gardeners to develop a hands-on school composting education program to teach students about the benefits of composting, and how they can do it in their own homes.				
COST	PUBLIC	\$\$	PRIVATE	0	RESPONSIBILITY	Public Works Department (PWD) Waste Management
CO-BENEFITS	QUALITATIVE	Improved Air Quality Improved Public Health			GHG REDUCTIONS	Supporting Measure Not Quantified

WATER

Water-related GHG emissions are mainly caused by energy used to pump, transport, heat, cool, and treat potable water. Emissions associated with this energy use accounted for approximately 1% of the communitywide GHG inventory. With water supplies expected to continue declining into the future, water conservation strategies have the double benefit of reducing GHG emissions and aligning demand with future water availability. The measures included in this section quantify the greenhouse gas emissions reductions of conservation programs that are already underway in the city.

W-1.1 WATER CONSERVATION PROGRAMS

Support conservation through water metering and other UWMP programs.

The city relies entirely on local groundwater for its water resource needs. By conserving water, the city also conserves energy used to pump, treat, and transport water to its customers. The city will meet its obligations under SB 7-X to reduce water consumption 20% by 2020, primarily through implementation of the Water Meter Program which is planned for completion in 2017. The city will also implement water conservation programs described in the Urban Water Management Plan (UWMP) to reach the mandated reduction target.

ACTION STEPS	A	Implement UWMP water conservation programs.			
	B	Promote the city's Sustainable Water Use Guide simultaneously with outreach for the Water Meter Retrofit program.			
COST	PUBLIC	0*	PRIVATE	0	RESPONSIBILITY Public Works Department
	CO-BENEFITS	QUALITATIVE Improved Water Quality Utility Bill Savings			

* This CAP measure does not recommend any additional expenses related to water conservation programs beyond those already planned as part of the city's Urban Water Management Plan.

GREEN INFRASTRUCTURE

Green infrastructure refers mainly to the open spaces and vegetation that provide places for recreation, wildlife habitat, and relief from the heat of the sun. The term can also refer to building-integrated vegetation projects, such as green walls and green roofs. There are numerous benefits to planting trees and increasing vegetated surfaces, including reduced surface runoff, increases in natural habitat, reduced urban heat island effect, and opportunities for carbon sequestration. While vegetation-related carbon sequestration is known to reduce greenhouse gases in the atmosphere, the precise level to which this occurs is not well understood and difficult to quantify at this time. Regardless, the other benefits associated with increased tree and vegetation cover, such as reducing the urban heat island effect, may increase comfort and encourage more individuals to walk, ride their bikes, or take transit, indirectly reducing greenhouse gas emissions while contributing to the overall well-being of Lodi's residents.

As a supplement to the quantified measures in this CAP, two measures are included in the Green Infrastructure section that are not quantified, but rather focus on environmental stewardship and education through local agency partnerships and demonstration projects.

GI-1.1 URBAN FOREST

Partner with Tree Lodi to maintain and expand the urban forest.

Healthy urban forests can reduce greenhouse gas emissions through carbon sequestration, cool existing buildings as discussed in Measure E-3.3, and shade parking lots to reduce the urban heat island effect. The urban forest can also improve air quality, provide wildlife habitat, and provide shade for people walking or riding their bicycles.

Currently, the Department of Parks, Recreation and Cultural Services maintains all trees in Lodi's parks system, while the Public Works Department manages Lodi's street trees. The city is also undergoing a survey of existing street trees to determine potential planting locations for new trees. Tree Lodi, a local non-profit group, has assisted the city with the maintenance of its street trees in recent years, and the city sees an opportunity to leverage their relationship through a memorandum of understanding to describe the ways in which Tree Lodi can be more involved in the overall management of the city's urban forest. Such a partnership can expand the urban canopy through planting new trees, while ensuring the proper care and maintenance of all trees in the urban forest.

ACTION STEPS	A	Work with Tree Lodi to outline their role in the management and expansion of the urban forest through a memorandum of understanding.
	B	Support Tree Lodi in outreach efforts, utilizing existing informational materials about the benefits of Lodi's urban forest to encourage the planting of additional trees on private property.

COST	PUBLIC	\$\$\$	PRIVATE	0	RESPONSIBILITY	Public Works Department
						Parks, Recreation and Cultural Services
						Tree Lodi

CO-BENEFITS	QUALITATIVE	Improved Water Quality	GHG REDUCTIONS	Supporting Measure Not Quantified
		Reduced Storm Water Runoff		
		Reduced Urban Heat Island Effect		
		Improved Air Quality		

GI-1.2 EDUCATION AND OUTREACH

Partner with a local business or agency in a green infrastructure demonstration project.

A green infrastructure demonstration project could include a living wall, green roof, or urban rain garden. Living walls and green roofs help to insulate a building, retain water during storms, increase energy efficiency of buildings, and contribute to local wildlife habitats. Rain gardens are vegetated depressions that allow storm water runoff to slowly filtrate through the soil, relieving pressure on storm drains and other urban infrastructure.

The city could partner with local businesses or the school district to create a demonstration living wall, green roof, or rain garden, which would show the community how such innovative projects can provide multiple benefits, which also contribute to GHG reductions.

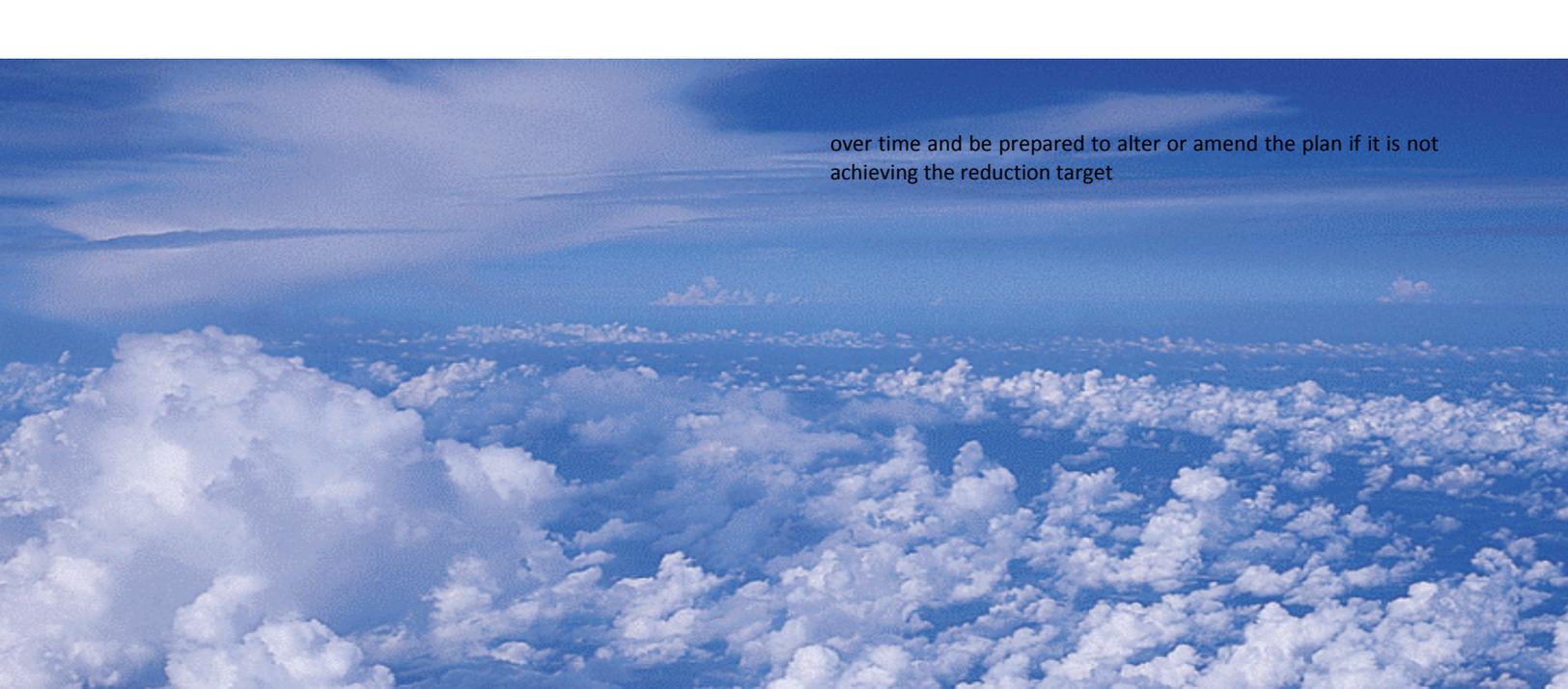
ACTION STEPS	A	Construct a green roof on City Hall or a building in the Downtown area. Provide informational signs at ground level with before/after photos and descriptions of the benefits, including extended roof life, enhanced building insulation, natural habitat for birds and insects, and storm water management. Organize rooftop tours for building owners interested in green roof installation.		
	B	Work with LUSD to install a rain garden that allows storm water runoff from a roof, walkway, or parking lot to infiltrate into the ground. Provide informational displays on-site and on the city's and LUSD's websites explaining the benefits and functions of the system, irrigation water savings, and costs/benefits of the project.		
COST	PUBLIC	Varies	PRIVATE	0
				RESPONSIBILITY
				Public Works Department Parks, Recreation and Cultural Services Lodi Unified School District
CO-BENEFITS	QUALITATIVE	Improved Water Quality Reduced Storm Water Runoff Reduced Urban Heat Island Effect Utility Bill Savings		GHG REDUCTIONS
				Supporting Measure Not Quantified

Target Achievement



Chapter 5-Implementation

This CAP represents the community-wide actions that the city of Lodi will implement and update, accordingly, with the Lodi General Plan. These measures are to serve as the beginning of what the city intends to do in order to reduce GHG emissions. The city staff will be expected to alter or amend any measure to ensure GHG emissions reduction targets are met. This chapter discusses measure implementation, evaluation and evolution of the CAP, benefits and the CEQA streamlining process.



over time and be prepared to alter or amend the plan if it is not achieving the reduction target

Measure Implementation Progress and Achievements

Ensuring that the measures translate to on-the-ground results is critical to the success of the CAP. To facilitate this, each measure described in Chapter 4 contains a table identifying specific actions the City will implement. The table also identifies responsible departments and establishes an implementation timeframe for each action.

The second section of each table provides performance targets that allow staff, the Board of Supervisors, and the public to track measure implementation and monitor overall CAP progress. These targets are suitable benchmarks to monitor implementation progress. They are indicators to evaluate if a measure is achieving the necessary GHG reductions. Table 5-1 provides a summary of these benchmarks for easy reference. The list also illustrates the measure's sector applicability and if a measure is either mandatory or optional.

Upon adoption of the CAP, identified City departments will be responsible for implementing appropriate action measures of the CAP. Responsible staff in each department will facilitate and oversee action implementation. CAP implementation meetings will occur regularly to assess the status of CAP measure progress and the City's efforts. Some actions will require interdepartmental or inter-agency cooperation and appropriate partnerships will need to be established accordingly.

Plan Evaluation and Evolution

The CAP lays out a comprehensive, communitywide strategy to reduce greenhouse gasses (GHGs) and improve community sustainability. City staff will evaluate the CAP's performance

Plan Evaluation

There are two important types of performance evaluation: evaluation of the CAP as a whole and evaluation of the individual measures. Subsequent communitywide GHG emission inventories provide the best indication of CAP effectiveness, and will allow actual growth to be reconciled with growth projected by the General Plan and CAP. Conducting periodic inventories will allow comparison to the 1990 baseline and will demonstrate the CAP's ability to achieve proposed reduction targets.

The Planning Division will coordinate community inventories every three to five years beginning in 2015 to measure performance and progress towards achieving emission reduction targets.

While inventories provide information about overall emission reductions, it is also important to understand the efficacy of individual measures. Evaluating the emission reduction capacity, cost, and benefit of individual measures improves County staff and decision makers' ability to manage and implement the CAP.

Evaluating CAP measure performance requires monitoring the level of community participation and the GHG reduction capacity. The progress indicators, provided within each quantified measure, identify the level of participation and performance required to achieve the estimated level of GHG reduction. By evaluating whether the implementation of a measure is on track to achieve its progress indicators, the County can identify successful measures and reevaluate or replace under-performing ones.

CEQA Guidelines Section 15183.5(b)(1)(E) requires that the City amend the CAP if it finds that the plan is not achieving the adopted GHG reduction target. The Planning and Public Works Department will evaluate measures every two years beginning in 2013, and will summarize progress toward meeting the GHG reduction target at that time in a report to the Board of Supervisors that describes:

- + Estimated annual GHG reductions;
- + (compared to 1990, 2008, and subsequent inventory years);
- + Achievement of progress indicators;
- + Participation rates (where applicable);
- + Implementation costs;
- + Community benefits realized;
- + Remaining barriers to implementation; and
- + Recommendations for changes to the CAP.

Plan Evolution

To remain relevant, the City must be prepared to adapt and transform the CAP over time. It is likely that new information about climate change science and risk will emerge, new GHG reduction technologies and innovative municipal strategies will be developed, new financing will be available, and State and federal legislation will change. It is also possible that future inventories will indicate that the community is not achieving its adopted target. As part of the evaluations identified above, the City will assess the implications of new scientific findings and technology, explore new opportunities for GHG reduction, respond to changes in climate policy, and incorporate these changes in future updates to the CAP to ensure an effective and efficient program.