

<b>Measure BE 4.3</b>	Research the feasibility of joining the Community Choice Aggregation efforts of Berkeley, Oakland, Emeryville, and other neighboring cities.		
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
See measure text	\$1,300	-	No

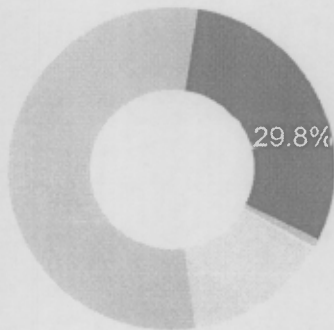
<b>Measure BE 4.4:</b>	Encourage PG&E and EBMUD to provide comparative energy and water conservation metrics on utility bills.		
PG&E and EBMUD provide Albany residents and businesses with energy, water, and sewer services. The City will encourage these utilities to provide comparative energy and water conservation metrics and educational statements on utility bills. The bills should include statements that support efficient consumer practices and provide inefficient consumers with practical information on how to reduce their bills and energy consumption. The statements should also contain an efficiency ranking metric of similar uses in the community. This practice has been found to achieve a 2% reduction in residential electricity consumption (Tsui 2009).			

<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
130	\$1,300	\$10	No

Action		Timetables	Responsibility
A	Work with PG&E and EBMUD to establish comparative metrics on all residential utility bills.	Before December 31, 2011	Environmental Resources
Progress Indicators		Target	
i	NA	NA	

## Transportation and Land Use Strategy

**Create an interconnected transportation system and land use pattern that shifts travel from autos to walking, biking, and public transit.**



Total GHG Emissions Reduced:  
4,665 Metric Tons

Objectives:

- TL-1: Facilitate Walking and Biking - 49%
- TL-2: Make Public Transit More User-Friendly - 3%
- TL-3: Promote Pedestrian/Transit-Oriented Development - 18%
- TL-4: Reduce Vehicle Emissions and Trips - 30%
- TL-5: Prepare for Peak Oil

Reducing automobile-related GHG emissions will require advances in technology and improvements in community land use patterns and infrastructure. While State-mandated technological changes such as improvements in vehicle fuel efficiency and reductions in fuel carbon content are critical to reducing vehicle emissions, these alone will not be enough to achieve reductions required from transportation. Improving pedestrian, bicycle, and transit infrastructure as well as encouraging pedestrian- and transit-oriented mixed-use development are essential parts of achieving Albany's GHG reduction goal. As most infrastructure and land use decisions affecting Albany are made by the City, the objectives and measures described in this section primarily focus on these topics.

The way that land uses and transportation infrastructure are arranged within a community has a strong influence on whether residents choose to walk, bike, use public transit, or drive. These travel choices directly affect the amount of transportation-related GHG emissions produced in Albany. Single-passenger automobile trips generate substantially more GHG emissions per mile than public transit and carpooling. Walking and biking are GHG-free transportation alternatives. The Transportation and Land Use Strategy provides a variety of measures that strive to increase resident use of alternative travel modes and reduce automobile dependence in Albany.

## **Background**

According to the 2000 U.S. Census, 59% of Albany residents drove alone to work, 12% carooled, 19% rode public transit, 4% walked, and 4% biked to work. While alternative travel modes make up a notable share of commute trips in Albany, single-passenger automobile trips constitute the vast majority. Additionally, the majority of Climate Action Survey respondents stated that they drive to purchase daily goods and services. Combined commuting and shopping trips constitute the majority of a household's annual vehicle trips and generate a large portion of the community's transportation-related GHG emissions.

Examining Albany's existing land use pattern and transportation infrastructure provides insight into ways the community can reduce GHG emissions. A variety of land use, transportation, and urban design factors affect travel behavior. By making subtle land use changes and improving transportation infrastructure, Albany can increase walking, bicycling, and transit use. Factors most directly influencing travel behavior in Albany include: diversity of uses, proximity of uses, density, pedestrian and bicycle conditions, transit accessibility, parking, and streetscape design. Each of these is discussed in detail below.

**Diversity of uses** – *The degree to which residential, commercial, industrial, institutional, and recreational uses are located together.*

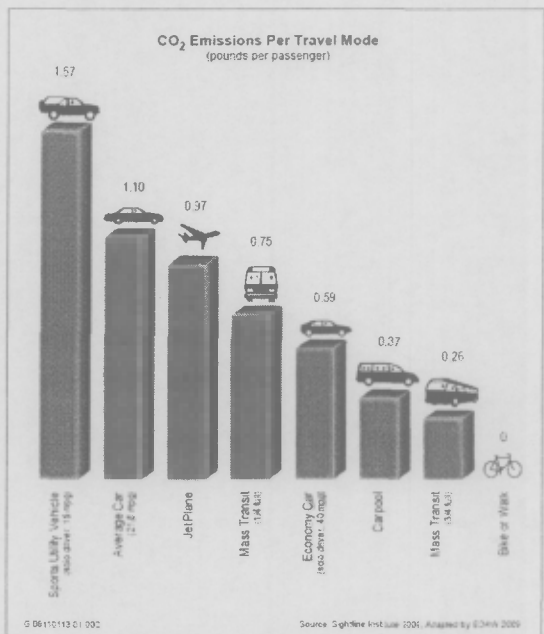
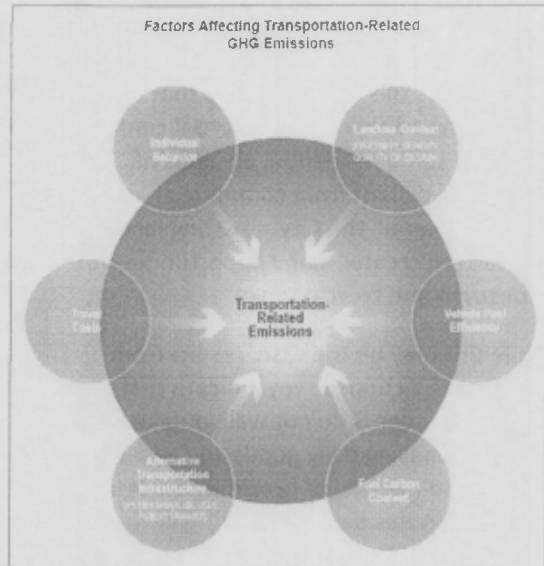
Increasing the diversity of neighborhood-serving, and specifically job-rich, uses within Albany could help reduce the community’s transportation-related GHG emissions. Increased diversity reduces travel distances, and facilitates more walking and cycling trips. Improving the mix of uses within Albany can also reduce commute distances, particularly if affordably priced housing is located in areas with a high number of jobs and employees can commute to work using alternative modes.

A jobs/housing ratio is commonly used to evaluate the diversity of land uses within a community, by describing the relationship between employment opportunities and housing supply. A ratio of 1.0 describes a balance between jobs and housing. A ratio above 1.0 indicates that there are more jobs than housing, while a ratio below 1.0 describes an undersupply of jobs relative to housing. In 2005, there were approximately 5,000 jobs and 7,000 households in Albany and the jobs/housing ratio was approximately 0.7. This demonstrates that there are considerably fewer jobs than housing opportunities within the City, and that many Albany residents commute to other communities for employment.

An improved jobs/housing ratio does not guarantee that residents will work within the city, but it does increase the likelihood that residents will have employment opportunities within the community. Thus, Albany’s employment development efforts should strive to create jobs that match the skills and income needs of the community’s labor force. Increasing the diversity of uses and particularly job-rich land uses may help reduce the community’s automobile-generated GHG emissions.

**Proximity of uses** – *The distance between neighborhood commercial services and residents’ homes.*

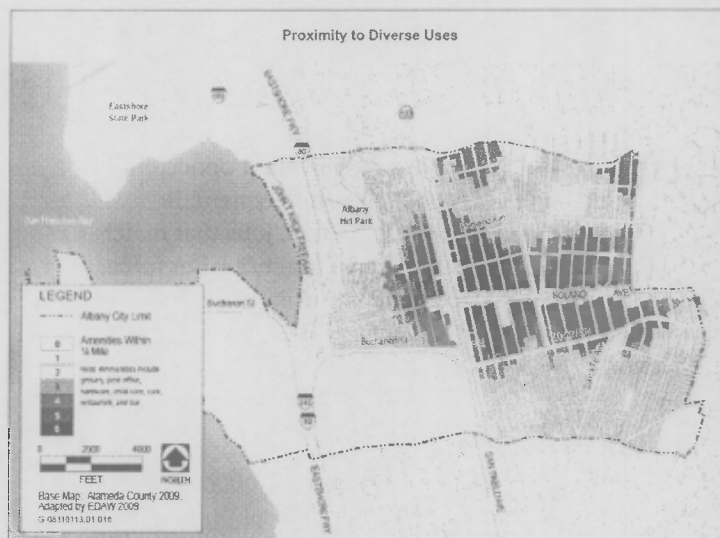
Urban design research demonstrates that most people will walk to destinations that are within ¼ mile or a 5-minute leisurely walk. Neighborhoods are considered to be pedestrian-friendly if residents’ homes are within ¼ mile of a diverse array of commercial and civic uses. Two methods of spatial analysis were used to evaluate the proximity of residences to commercial uses in Albany and support the development of CAP measures. The first measured proximity of residences to commercial centers and the second measured proximity of residences to a diversity of uses.



The first method examined how many residential parcels are located within ¼ mile of commercial districts and provides insight into the effectiveness of the City’s existing zoning and land use pattern from the pedestrian perspective. This analysis found that 64% of Albany’s residential parcels are located within ¼ mile of the neighborhood-serving commercial centers on Solano and San Pablo Avenues and those in adjacent cities. Although some residential portions of Albany are distant from commercial services; overall, the City’s existing land use pattern creates many opportunities for pedestrian and bicycle travel.

While this may be the case, results from the Climate Action Survey indicate that most respondents do not walk or bike when purchasing daily goods and services. The second method of proximity analysis may explain this behavior as it demonstrates that many Albany residents do not have an adequate number of stores or services within easy walking distance of their homes. The analysis identified eight categories of neighborhood services (i.e., grocery stores, post offices, hardware stores, restaurants, bars, cafés, and child care providers), mapped all the locations of these services within Albany and adjacent cities, and then examined how many of these distinct uses are within a ¼ mile walking distance of individual residential parcels.

The analysis indicates that only 42% of residential parcels are located within ¼ mile of three or more amenities and only 30% are located near four or more. Residents living near the intersection of Solano and San Pablo Avenues have the highest level of access to diverse uses; residents in other areas of the City have access to few or none. Residents with low levels of pedestrian access to neighborhood-serving uses are more likely to drive to purchase their daily goods and services. City-directed land use and zoning changes, small business loans and other incentives could help improve the proximity to diverse uses. These actions could encourage pedestrian travel and reduce automobile dependence in Albany.





**Density** – *The number of housing units, people, or jobs in a given area.*

Higher densities tend to increase the number of services, shops, schools, and public buildings located within a neighborhood and increase the availability of transit and pedestrian infrastructure. These conditions tend to reduce the need for vehicle ownership and increase the use of alternative modes.

**Residential Density**

Residential density is normally measured in terms of housing units per acre. Albany has a relatively high residential density for a predominantly residential suburban community. Approximately 80% of the City’s residential land use consists of single-family housing built on small parcels at an average density of about 12 units per acre. Approximately 5% of the City’s residential land use is made up of medium density residential uses (17 to 34 dwelling units/acre) and 15% consists of high density multifamily uses (17 to 63 dwelling units/acre).

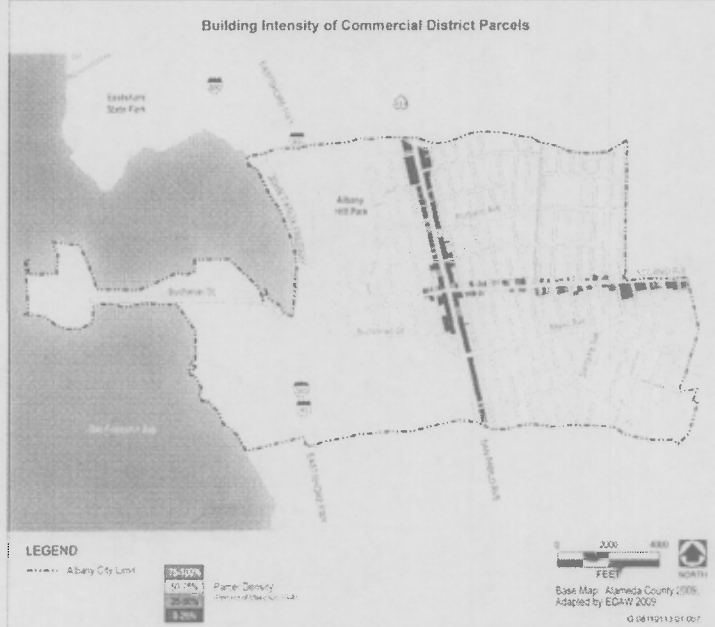
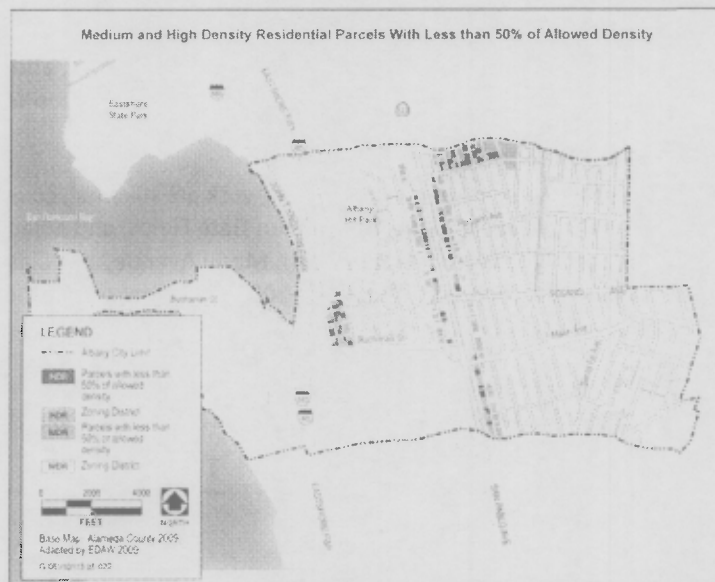
The highest density area is located in the northwest portion of Albany Hill adjacent to Interstate (I)-80, where high-rise residential towers are located.

Infill development potential exists in the medium and high density residential districts parallel to San Pablo Avenue. Many of the parcels in these districts have existing densities well below those allowed in the current General Plan and Zoning Code.

**Commercial Intensity**

Commercial building intensity is measured using a floor-area ratio (FAR), which is obtained by dividing a building’s floor area by the underlying parcel’s area. The San Pablo Avenue Commercial District has a maximum allowable FAR of 2.25 for mixed-use structures and 0.95 for commercial-only structures. The Solano Avenue Commercial District has a maximum FAR of 1.25 for mixed-use or commercial structures. Currently, no minimum FAR standard exists within either district.

Many parcels in the commercial districts are built below the allowed intensities. In the San Pablo Commercial District more than two thirds of the buildings have been developed at less than 25% of the allowed FAR.



**Pedestrian and bicycle conditions** – *The quantity and quality of sidewalks, crosswalks, paths and bike lanes, and the level of pedestrian security.*

Well-developed pedestrian and bicycle infrastructure and pedestrian-friendly design are essential if walking and biking are to be important travel modes in a community. Highly connected sidewalks and bicycle infrastructure reduce travel distances between destinations and improve access and safety. Pedestrian and bicycle infrastructure includes sidewalks, crosswalks, traffic calming devices, bike lanes, and racks/storage facilities.

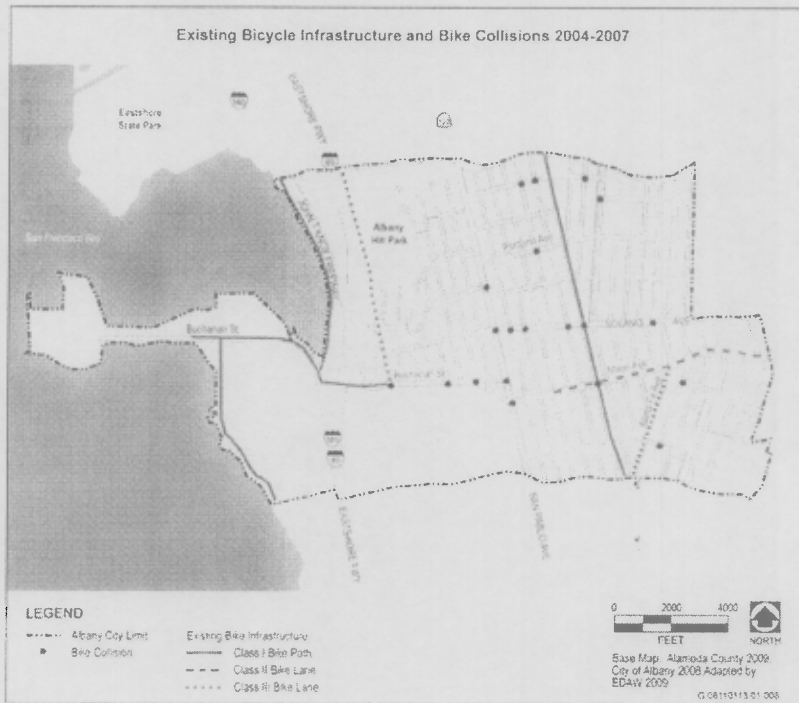
**Pedestrian Infrastructure**

Albany’s pedestrian infrastructure is moderately developed. Though the City has a nearly complete sidewalk network, considerable pedestrian obstacles remain. A number of City sidewalks are in poor condition and others lack sidewalk cuts. These conditions create difficulties for strollers and the less physically-able and barriers for the physically disabled. Striped crosswalks are present on arterials and streets near schools, but there is little use of traffic calming devices such as bulb outs, refuge islands, and chokers. Between 2003 and 2007, the highest concentration of pedestrian collisions in Albany occurred on Solano Avenue (see Table III-6).

**Bicycle Infrastructure**

Albany’s existing bike infrastructure and network are minimal, covering only 10% of the mileage of City streets. Class I bike paths are located west of Golden Gate Fields, and adjacent to Masonic Avenue, Buchanan Avenue, and I-580. Class II bike lanes are located on Marin Avenue, and Class III bike routes are present on Pierce Street and Santa Fe Avenue. Between 2003 and 2007, cycling accidents occurred most frequently on the City’s arterial and collector streets that do not feature bicycle infrastructure (See Table III-6).

Bike racks can be found in various parts of the City, but shortages exist near civic and commercial uses, which may limit residents’ desire to bike to these locations. Additionally, bike racks are often not provided in conjunction with bus stops.



**Table III-8.  
Albany Pedestrian and Bicycle Collision Data 2003-2007**

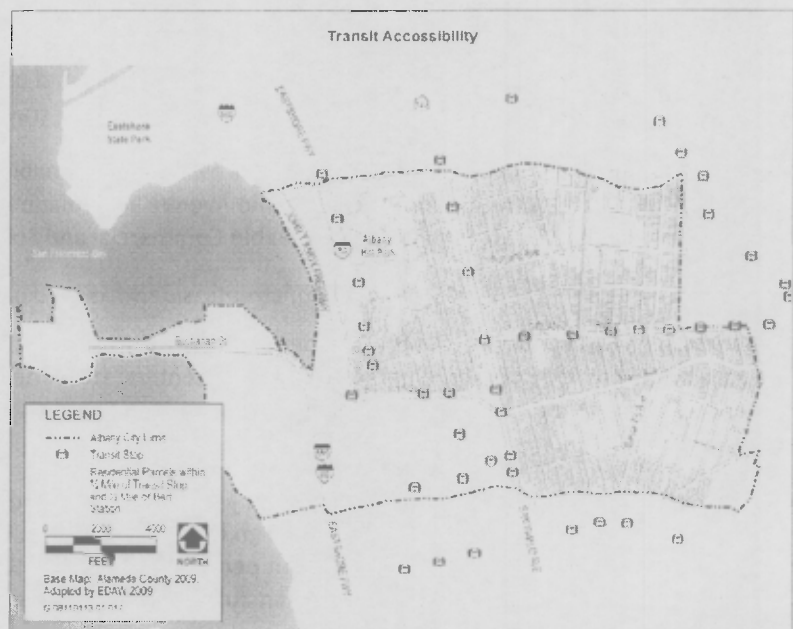
Street	Street Class	Number of Accidents	
		Pedestrian	Bicycle
Solano Avenue	Major Arterial	11	6
San Pablo Avenue	Major Arterial	3	3
Buchanan Street	Major Arterial	0	3
Marin Avenue	Major Arterial	3	1
Key Route	Minor Arterial	0	2
Portland Avenue	Collector	2	1
Brighton Avenue	Local	2	3
Curtis Street	Local	2	2
Cornell Avenue	Local	1	0
Neilson Street	Local	1	0
Pierce Street	Local	1	0

Source: City of Albany 2009

**Transit accessibility** – *The ease with which people can access transit service and the quality of that service.*

Residents and employees are more likely to use transit if traveling by bus or train is relatively time-competitive with driving, if transit stations are accessible to pedestrian and cyclists, and if the transit experience is pleasant. People are generally willing to walk ½-mile to a light rail station or ¼-mile to a bus stop. A ¼-mile walk takes the average person around 10 minutes. In Albany, about 75% of residential parcels are located within ¼ mile of a bus station or ½ mile of a BART station.

The City is currently served by 11 local and express AC transit routes serving the East Bay and San Francisco.



**Table III-9.  
AC Transit Bus Routes with Service in or Adjacent to Albany**

Route	From	To	Weekdays			Weekends	
			Operating Hours	Headway (minutes)		Operating Hours	Headway (minutes)
				Peak	Mid-day		Peak
G	El Cerrito	San Francisco	5:45–8:30am 4:00–8:00pm	30		No Weekend Service	
18	Albany	Montclair	5:00–12:00am	15	30	6:00–12:00am	20
L	San Pablo	San Francisco	5:45–8:45am 3:30–9:30pm	20		No Weekend Service	
52L	El Cerrito	UC Berkeley	6:30–12:00am	30		7:00–12:00am	30
Z	Albany	San Francisco	7:30–9:00am 4:30–6:15pm	20–35		No Weekend Service	
72/72M	Richmond	Oakland	4:15–12:30am	15		5:15–1:00am	15–30
72R	San Pablo	San Francisco	6:15am–8:00pm	12–15		No Weekend Service	
79	El Cerrito	Berkeley	6:00am–10:30pm	30		6:15am–10:30pm	30
H	Richmond	San Francisco	6:15–8:45pm 4:30–8:45pm	20		No Weekend Service	
9	Berkeley Marina	7:00am–9:00pm	7:00am–9:00pm	20		7:00am–8:45pm	30
800	Richmond	San Francisco	1:00–6:00am	60		1:00–6:00am	60

**Parking – The supply, price, and regulation of parking facilities.**

Cheap and abundant parking increases automobile ownership and use. Large parking lots also disperse destinations and reduce walking and public transit convenience and use. Parking management and fees can reverse the equation, reducing driving and increasing use of other travel modes.

Parking on all Albany streets is free; however to provide for reasonable turnover, parking in the downtown area is time limited. Most parking spaces on San Pablo Avenue and Solano Avenue have 90 minute limits. Relatively few large parking lots are located in the San Pablo Commercial and Solano Commercial zoning districts.

**Streetscape design – The scale and design of streets, sidewalks, and adjacent uses.**

Urban design research demonstrates that people walk more and drive less in pedestrian-oriented commercial districts than in automobile-dominated commercial centers. Street designs that reduce vehicle traffic speeds, improve walking and cycling conditions, and enhance the pedestrian experience encourage use of alternative modes.

Recent improvements on Solano Avenue west of Masonic Avenue and east of San Pablo Avenue have introduced a variety of pedestrian-friendly design features to Albany, including widened sidewalks, street trees, benches, decorative street lights, and bulb-out pedestrian crossings. San Pablo Avenue has not benefited from the same level of improvement and remains an automobile-dominated environment.



## Transportation and Land Use Objectives and Measures

### Objective TL-1:

### Facilitate Walking and Biking In the Community

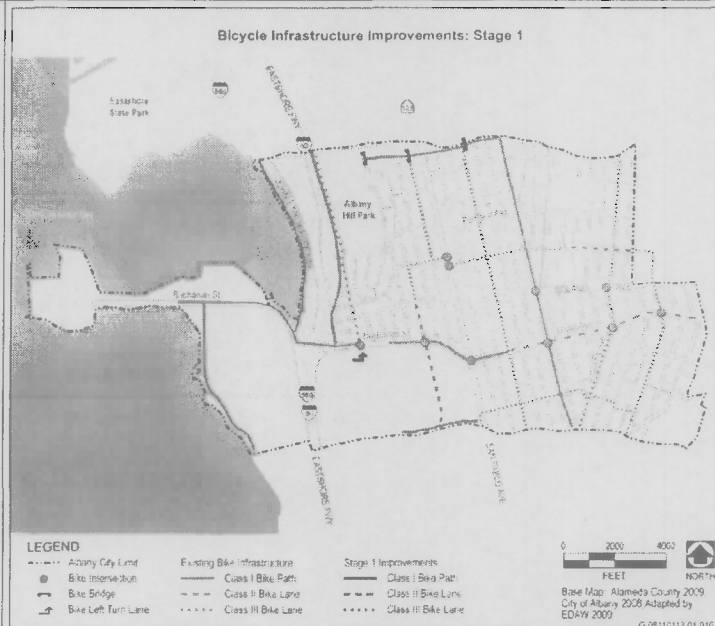


Walking and biking do not generate GHG emissions. To encourage residents to shift from their cars to these alternative travel modes, two essential elements are needed: a) safe and convenient pedestrian and bike routes, and b) a diversity of uses within a short distance of residents' homes. The following measures encourage increased walking and biking in Albany by investing in infrastructure, enforcing existing laws, and creating incentives to attract additional neighborhood-serving commercial uses.

### Measure TL 1.1: Expand and enhance bicycle infrastructure throughout the City.

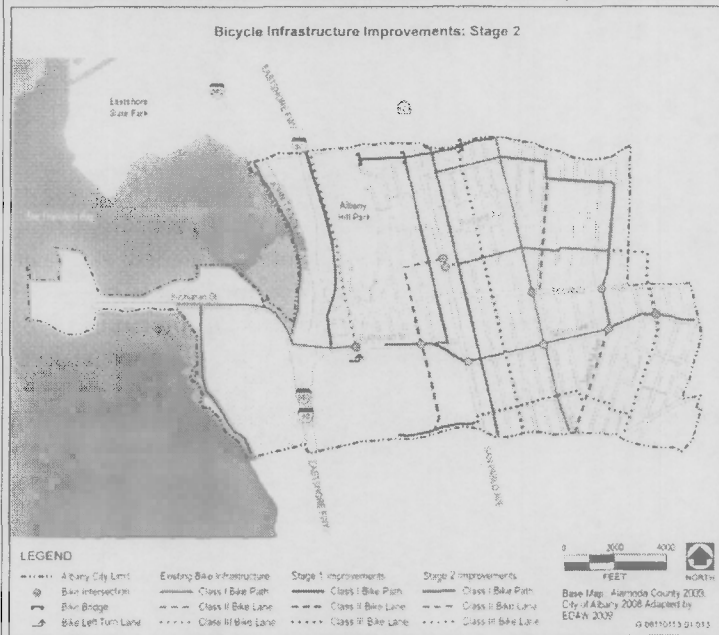
Albany currently contains a limited bicycle infrastructure network. Expanding and enhancing the bicycle network will help reduce GHG emissions, enhance mobility for all ages and abilities, and increase the health and fitness of Albany residents.

Proposed bicycle infrastructure improvements will be based on street types and existing characteristics. Bicycle infrastructure improvements will include development of bike paths, cycletracks, class II bike lanes, bicycle-friendly intersections, and signs to improve cyclist safety. Streets with higher traffic volumes will include cycle tracks, bike lanes, or bicycle intersections. Lower volume residential streets will be subject to minor improvements, such as signs and traffic calming features.



**Measure TL 1.1: Expand and enhance bicycle infrastructure throughout the City.**

Understanding that bicycle infrastructure improvements can be expensive; this important objective will be accomplished in stages. An important first stage will be to implement the bike infrastructure improvements contained in the current Bicycle Master Plan. A second stage of improvements will be made in phases as funding becomes available, with the goal of providing a seamless bicycle network throughout the City. An example of potential second stage bicycle infrastructure improvements is provided below.



GHG Reduction Potential (MT CO2e)	Cost to City	Cost Per Metric Ton	Private Cost
Stage 1: 110	Stage 1: \$976,000	Stage 1: \$8,900	No
Stage 2: 305 (total)	Stage 2: \$2,706,000	Stage 2: \$8,900	

Action	Timetables	Responsibility
<b>A</b> Revise standard street cross-sections within the General Plan Circulation Element to ensure that all roads accommodate the needs of pedestrians, bicyclists, public transit riders, and automobile drivers.	Before December 31, 2011	Planning & Zoning (General Plan Update)
<b>B</b> Revise and adopt the Bicycle Master Plan to incorporate a wider extent of Complete Streets.	Before July 31, 2012	Planning & Zoning (General Plan Update)
<b>C</b> Construct Stage 1 bicycle infrastructure improvements described in the current Bicycle Master Plan.	Before January 1, 2015	Transportation
<b>D</b> Construct Stage 2 bicycle infrastructure improvements.	To be phased in as funds become available.	Transportation

Progress Indicators	Target
i Bicycle network coverage.	30% bicycle network coverage by 2015 90% bicycle network coverage by 2020
iii Walking and bicycling mode share of commute trips.	15% combined by 2020

<b>Measure TL 1.2: Install bike racks in commercial and civic areas of the City where racks do not currently exist.</b>			
Bike racks are essential to encourage bicycle ridership for commuting and daily shopping/errand running trips. The City will identify commercial and civic areas that lack appropriate levels of bicycle parking and will install the needed facilities. The City will also require new development to provide adequate bicycle parking for tenants and customers. Businesses with more than 50 employees will be required to provide end-of-trip facilities including showers, lockers, and Class I covered bicycle storage facilities.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
230	\$2,000	\$9	No
<b>Action</b>		<b>Timetables</b>	<b>Responsibility</b>
<b>A</b>	Conduct bicycle parking analysis in City's commercial and civic areas.	Before December 31, 2011	Transportation
<b>B</b>	Install bicycle parking facilities in underserved areas (20% of total to be Class I or II bicycle parking facilities).	Before July 31, 2012	Transportation
<b>C</b>	Adopt ordinance that requires new development to provide adequate bicycle parking for tenants and customers; and requires businesses with more than 50 employees to provide end-of trip facilities including showers, lockers, and Class I bicycle storage facilities.	Before July 31, 2012	City Council Transportation
<b>Progress Indicators</b>		<b>Target</b>	
i	Bicycle parking-to-auto parking ratio.	50% bicycle parking by 2015 100% bicycle parking by 2020	
ii	Percentage of businesses with over 50 employees with end-of-trip facilities.	100% by 2020	

<b>Measure TL 1.3: Evaluate the community's walking infrastructure, identify potential barriers, and implement improvements.</b>			
The City will prepare and adopt a Walking Master Plan. As part of the planning process, the City will conduct a study of existing obstacles that discourage walking in the community. Obstacles such as deteriorated sidewalks, vehicles or vegetation blocking walking paths, sidewalk segments without curb-cuts, debris on streets, and poor intersection design, which discourages walking within the community. The obstacle study will identify existing barriers and help the City prioritize facility improvements and code enforcement activities.			
The City will construct walking infrastructure improvements identified in the obstacle study and Walking Master Plan as funds become available. Improvements will consist of additional crosswalks, sidewalk cuts, and traffic calming elements. Streetscape upgrades will be focused in the San Pablo and Solano Avenue commercial districts and traffic calming features will be installed throughout the City.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
610	\$249,000	\$410	No

<b>Measure TL 1.3:</b> Evaluate the community's walking infrastructure, identify potential barriers, and implement improvements.			
Action		Timetables	Responsibility
A	Conduct a pedestrian obstacle study.	Before September 1, 2010	Transportation
B	Prepare and adopt a Pedestrian Master Plan.	Before December 31, 2012	Planning & Zoning
C	Construct pedestrian improvements identified in the pedestrian obstacle study and Pedestrian Master Plan.	Before December 31, 2017	Transportation

<b>Measure TL 1.4:</b> Strictly enforce pedestrian rights laws on City streets.			
The City of Albany will increase police enforcement of pedestrian rights laws such as mandatory stops for automobiles when pedestrians are attempting to cross at designated crosswalks. The City will also explore the use of additional signs to inform motorists of the existing laws.			
GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
Not quantified	\$20,000	-	No

<b>Measure TL 1.5:</b> Encourage additional neighborhood-serving commercial uses and mixed-use development within the City's existing commercial districts. Strive to provide access to daily goods and services within ¼-mile of residences.			
Increasing the diversity of neighborhood-serving uses within the existing commercial districts will reduce the number of vehicle trips and vehicle miles traveled within the community. The City will evaluate methods to increase the diversity of uses within its existing commercial centers. The City will develop small business incentive programs, and work with the business community to review land use, zoning, development standards, and other regulations and remove any unnecessary barriers that may impede the establishment of neighborhood-serving commercial uses. The City will coordinate these and other business development initiatives within a new Economic Development element in the General Plan.			
GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
1,150	\$33,000	\$30	No
Action		Timetables	Responsibility
A	Conduct study that examines methods to attract additional neighborhood-serving uses and mixed-use development to commercial districts.	Before December 31, 2011	Planning & Zoning (General Plan Update)
B	Develop small business incentive programs to encourage new neighborhood-serving uses.	Before December 31, 2012	Community Development



<b>Measure TL 1.5:</b> Encourage additional neighborhood-serving commercial uses and mixed-use development within the City's existing commercial districts. Strive to provide access to daily goods and services within ¼-mile of residences.			
C	Conduct audit of land use, zoning, development standards, and other regulations that may act as barriers to neighborhood serving businesses and mixed-use development.	Before December 31, 2011	Planning & Zoning (General Plan Update)
D	Create new Economic Development element in General Plan.	Before December 31, 2011	Planning & Zoning (General Plan Update)
<b>Progress Indicators</b>		<b>Target</b>	
i	Percentage of residential parcels within ¼ mile of three or more neighborhood amenities.	55% by 2015 65% by 2020	

**Objective TL-2:**  
**Make Public Transit More Accessible and User-Friendly**



Public transit generates 80% less GHG emissions than the average private automobile and 40% less than a fuel-efficient car (40 miles per gallon). For residents and employees to switch from automobiles to public transit, transit service needs to be convenient, comfortable, and reliable. The following measures seek to improve transit services and increase use of public transit travel modes.

<b>Measure TL 2.1:</b> Conduct a public transit gap study that analyzes strategies for increasing transit use within the City and identifies funding sources for transit improvements.			
<p>The City will work with AC Transit and conduct a public transit gap analysis to evaluate ways to increase transit ridership. The study will identify existing transit conditions and document deficiencies and opportunities for improvement. The study will provide the City and AC Transit with information needed to refine future transit investments and public outreach programs.</p> <p>An existing known gap in the community's bus system is the lack of transit service to the regional commercial uses located on Eastshore Highway in western Albany. The City will work with AC Transit and property owners to extend Bus Line 18 to provide bus service to stores in that area.</p>			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
Not quantified	\$6,300	-	No

<b>Measure TL 2.2:</b> Work with AC transit to provide bus stops with safe and convenient bicycle and pedestrian access and essential improvements such as shelters, route information, benches, and lighting.			
Improving the safety, comfort, and convenience of transit stations will encourage additional transit ridership in the community. The City will work with AC Transit to provide shade, weather protection, seating, lighting, and route information at all transit stops in the community. The City will also evaluate pedestrian and bicycle access to transit stations and work to remove existing barriers.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
115	\$20,000	\$200	No
<b>Action</b>		<b>Timetables</b>	<b>Responsibility</b>
<b>A</b>	Consult with AC Transit to ensure Albany bus stops provide shade, weather protection, seating, lighting, and route information.	Before December 31, 2017	Transportation
<b>B</b>	Conduct a study of bicycle and pedestrian access to transit stations.	Before July 31, 2012	Transportation
<b>Progress Indicators</b>		<b>Target</b>	
<b>i</b>	Percentage of bus stops with shade, weather protection, seating, lighting, and route information.	80% by 2015 100% by 2017	

<b>Measure TL 2.3:</b> Provide passes and shuttles to transit to encourage use of alternative transportation by City employees.			
The City of Albany employs approximately 130 people. A 2007 employee survey found that six percent of municipal employees currently ride public transit to work. Forty percent stated that if the City provided free passes they would use public transit for their commutes. The City will offer AC Transit and/or BART passes free of charge to all full-time City employees. If sufficient demand exists, the City will also provide employees with free morning and evening shuttles to the El Cerrito BART station.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
11	\$9,000	\$820	No

**Objective TL-3:**  
**Promote Pedestrian- and Transit-Oriented Development**



Pedestrian- and Transit-Oriented Development (PTOD) refers to mixed-use residential and commercial neighborhoods designed to maximize pedestrian mobility and transit access for residents, shoppers, and employees. People living and working in such areas tend to drive vehicles less often and therefore emit fewer GHGs than people living and working in more automobile-oriented areas. Many successful PTOD projects exist in the San Francisco Bay Area, including developments in Downtown Hayward and Redwood City. Though Albany does not have a major transit station within its borders, the City's proximity to the El Cerrito BART station, the

AC express bus line on San Pablo Avenue and the layout of existing commercial districts provide promising PTOD opportunities.

Encouraging mixed-use, pedestrian- and transit-oriented development along San Pablo Avenue and Solano Avenue could transform these commercial districts into vibrant transit corridors. Locating high quality residential development and a diversity of retail and commercial uses in these corridors will improve transit as additional residents, shoppers, and employees increase transit ridership and fare box revenue.



Albany encourages high density mixed-use development in both the San Pablo and Solano Commercial districts. The San Pablo district allows mixed use projects with a floor area ratio up to 2.25 and the Solano district allows floor area ratios up to 1.25. While these policies support PTOD, some of the City's current development standards, including parking requirements, height limits, and setback requirements establish barriers to such projects.

The following measures seek to remove barriers, create incentives, and stimulate public support for additional mixed-use pedestrian- and transit-oriented projects in Albany.

**Measure TL 3.1:** Provide public education about benefits of well-designed, higher-density housing and relationships between land use and transportation.

Achieving higher-density mixed-use development in the San Pablo Avenue and Solano Avenue Commercial zoning districts will require widespread community support. The City will consult with current residents, businesses, and property owners to build understanding about the benefits of well designed infill development. The City will also conduct workshops that aim to incorporate public input and concerns into the design of these areas.

GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
70 (combined total for all education programs)	\$2,700	\$40	No

Action	Timetables	Responsibility
<b>A</b> Develop comprehensive public outreach campaign that educates residents and businesses about ways to reduce GHG emissions.	Before July 31, 2010	Environmental Resources
<b>B</b> Develop specific outreach program to inform residents, businesses, and property owners about the benefits of well designed infill development.	Before January 1, 2011 (Ongoing)	Environmental Resources
<b>C</b> Conduct workshops that integrate public input and concerns into the infill development design process.	Before January 1, 2011 (Ongoing)	Planning & Zoning Environmental Resources

Progress Indicators	Target
i NA	NA

<b>Measure TL 3.2:</b> Update planning documents to promote high-quality, mixed-use, pedestrian- and transit-oriented development in the San Pablo/Solano Commercial district.			
To successfully encourage the development of high-quality mixed use pedestrian- and transit-oriented development along San Pablo Avenue and Solano Avenue, the City will revise existing development standards and design guidelines. The City will conduct a sustainability audit to identify additional regulatory, structural, or market barriers that may prevent or discourage sustainable, climate-friendly development within commercial and high density residential zoning districts. Specifically, the City will reevaluate the residential and commercial parking requirements (Measure D) for commercial and high density residential uses. Building heights will comply with current code requirements. The City will also update the San Pablo Design Guidelines and the San Pablo Avenue Streetscape Master Plan in order to reflect a desire to create a mixed-use and pedestrian- and transit-oriented environment.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>		<b>Cost to City</b>	<b>Cost Per Metric Ton</b>
790		\$3,800	\$5
<b>Private Cost</b>		No	
<b>Action</b>		<b>Timetables</b>	<b>Responsibility</b>
A	Conduct sustainability audit to identify regulatory, structural, or market barriers to sustainable, climate-friendly development within commercial and high density residential districts.	Before December 31, 2011	Planning & Zoning (General Plan Update)
B	Evaluate the residential and commercial parking requirements and the height and setback requirements for commercial and high density residential uses.	Before December 31, 2011	Planning & Zoning (General Plan Update)
C	Update the San Pablo Design Guidelines and San Pablo Streetscape Master Plan to reflect the City's desire to create a pedestrian- and transit-oriented environment.	Before January 1, 2013	Planning & Zoning
<b>Progress Indicators</b>			<b>Target</b>
i	Percentage of new development projects in San Pablo Commercial District that achieve a floor area ratio of 1.5 or higher (approximately 75% of maximum allowable FAR).	100% by 2020	
ii	Percentage of new development projects in Solano Commercial District that achieve a floor area ratio of 0.95 or higher (approximately 75% of maximum allowable FAR).	100% by 2020	

<b>Measure TL 3.3:</b> Evaluate GHG emissions associated with development proposals and work with applicants to reduce emissions during project review and incentivize projects that generate low levels of GHG emissions.	
The City will employ tools to evaluate the GHG emission performance of proposed development projects (e.g. Urban Emissions Model [URBEMIS], Index). City staff will work with applicants to reduce GHG emissions through project design and mitigation during or prior to the project entitlement process.	
Additionally, the City will provide incentives for infill development projects that result in low levels of GHG emissions. The City will explore establishment of a carbon feebate program, which establishes an emission target for new development	



**Measure TL 3.3:** Evaluate GHG emissions associated with development proposals and work with applicants to reduce emissions during project review and incentivize projects that generate low levels of GHG emissions.

and charges fees to projects that produce higher than target emissions and provides financial incentives for projects that generate lower than target emissions.

The City would be able to capture most, if not all, of its up-front nexus study through an overhead for the application of the feebate program. The intent of the feebate program is not to pay for mitigations elsewhere in Albany, but rather to incentivize the project itself to incorporate more sustainable design elements that reduces its energy and water consumption.

GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
Supporting measure (TL-3.2)	1k-45k	-	Yes

**Objective TL-4:**

**Reduce Vehicle Emissions and Trips**



To successfully reduce Albany’s vehicle emissions, a variety of changes are required at the city, regional, state, and national levels. Vehicle GHG emissions are a function of vehicle miles traveled (VMT), vehicle efficiency, and the carbon content of a given fuel or alternative power source. While the City cannot control vehicle efficiency or fuel carbon content, the State and the federal government are both requiring considerable improvements in these areas. The City can incentivize the use of efficient vehicles, facilitate ridesharing, and increase the use of alternative travel modes. More fundamentally, the City can determine local land use and development patterns, which directly influence VMT. The following measures describe planned City efforts to reduce both vehicle emissions and trip lengths.

**Measure TL 4.1:** Work with ABAG and neighboring cities to improve the jobs-housing balance within the City and regional transit corridors.

Improving Albany’s jobs/housing ratio will increase the number of employment opportunities in the City. This could create opportunities for shorter commutes for residents, reduce VMT, and increase residents’ ability to walk or bicycle to work.

Communities with jobs/housing ratios close to 1.0 are considered balanced. In order to increase Albany’s jobs/housing ratio from 0.7 to 0.8, approximately 1,100 jobs would need to be created by 2020. Association of Bay Area Governments (ABAG) employment projections indicate that approximately 600 jobs are likely to be created in this time period. In order to achieve an increase of 1,100 jobs, the City will increase employment development efforts. The City will also collaborate with neighboring cities to encourage job development opportunities in areas along existing public transit corridors accessible to Albany residents.

GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
225	\$1,300	\$6	No

<b>Measure TL 4.1:</b> Work with ABAG and neighboring cities to improve the jobs-housing balance within the City and regional transit corridors.			
<b>Action</b>		<b>Timetables</b>	<b>Responsibility</b>
<b>A</b>	Create an economic development program.	Before July 31, 2010	Community Development
<b>B</b>	Explore the redevelopment potential of Commercial Mixed Use District into a job-rich business park.	Before December 31, 2011	Planning & Zoning (General Plan Update)
<b>C</b>	Collaborate with neighboring communities to establish employment opportunities along transit corridors.	Before January 1, 2011	Planning & Zoning (General Plan Update)
<b>Progress Indicators</b>		<b>Target</b>	
<b>i</b>	Jobs/housing ratio.	0.70 by 2015 0.80 by 2020	

<b>Measure TL 4.2:</b> Improve fuel efficiency of the City vehicle fleet by purchasing low- or zero-emission vehicles when vehicles are retired from service.			
The City will purchase highly efficient vehicle models when municipal fleet vehicles are retired. The City owns 28 gas- and diesel-powered vehicles. When retired, these will be replaced by zero- or low-emission models. Priority will be placed on plug-in electric vehicles when appropriate. Heavy-duty vehicles will be replaced by the most efficient and cost-effective vehicles suitable for the purpose. Emergency vehicles shall be exempt from this requirement.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
19	\$72,800	\$3,800	No

<b>Measure TL 4.3:</b> Incentivize electric and plug-in hybrid vehicles through development of automobile charging infrastructure and preferential street parking spaces.			
The City will facilitate the use of electric/plug-in hybrid vehicles within the community by providing charging infrastructure and preferential parking spaces. The City will work with property owners to develop electric plug-in charging infrastructure in commercial and civic areas. Ideally, this infrastructure will source a considerable portion of its electricity from solar energy generation facilities located within the City in order to create a zero emission vehicle infrastructure. Preferential street parking spaces for electric and plug-in electric vehicles will encourage residents, employees, and visitors to purchase low- or zero-emission vehicles and therefore assist the City in its efforts to reduce transportation-related emissions. The City will provide preferential parking spaces for eligible vehicle types within commercial districts at a ratio of one preferential space per 5 unrestricted parking spaces. The City will maintain a list of preferential parking-eligible vehicles on its website. Other vehicles parked in the spaces will be ticketed. The City will require new retail and office developments with private parking lots to provide preferential parking spaces at the same ratio.			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
Not quantified	\$1,300	-	No

**Measure TL 4.4:** Create and implement a voluntary transportation demand management (TDM) program to reduce weekday peak period single occupancy commute and school trips.

The City will establish a transportation demand management program to reduce single-occupancy automobile commute trips by at least 15% by 2020. In order to achieve this target, the City will facilitate establishment of an Albany Transportation Management Association (ATMA), a non-profit organization made up of Albany-based employers, whose primary purpose is to increase access and mobility to, from, and within the community for their employees. The ATMA will offer training seminars to help member employers develop effective commute option programs. Additionally, ATMA will provide members with benefits such as guaranteed ride-home services, rideshare databases, bulk transit pass purchases, and representation in local and regional transit/transportation planning processes. The City will attempt to partner with Berkeley and El Cerrito in developing this program in order to take advantage of scale efficiencies.

Additionally, the City will work with the ATMA, Metropolitan Transportation Commission (MTC) and other relevant agencies to maximize community participation in carpool and vanpool commuting. A core component of this effort will be the development of a social networking platform where residents and employees with similar commutes can find each other and create effective carpools. Additionally, the City will investigate the potential to create rideshare stations to facilitate resident participation in casual carpools.

A large portion of school children attending public and private schools in Albany are driven to school each day in private automobiles. The City will make essential infrastructure improvements to enable safe-routes-to-school. The City will also work with schools to create trip reduction programs that encourage walking, bicycling, carpooling, and public transit use. Specific attention will be placed on expanding the walking school bus programs throughout the community, where children walk to school in adult-supervised and school-coordinated groups.

The City will also work with the ATMA to conduct a variety of education and outreach programs aimed at reducing residents' transportation related emissions. Various media will be used to convey messages about alternative transportation options and climate-responsible vehicle purchasing. Targeted advertisement programs will be created to encourage walking and bicycling in the City. The City will partner with Carbon Neutral Albany, Strollers & Rollers, and other additional community based groups promoting climate action.

GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
1,140	\$10,000	\$9	Yes

Action	Timetables	Responsibility
A Develop and adopt a transportation demand management program to reduce single-occupancy automobile commute trips by 15% by 2020.	Before December 31, 2011	City Council Transportation
B Facilitate the establishment of an Albany Transportation Management Association (ATMA) for community employers.	Before July 31, 2012	Transportation
C Develop Albany-specific social networking platform to facilitate community participation in carpool and vanpool programs.	Before December 31, 2012	Transportation
D Evaluate potential for rideshare stations in Albany.	Before December 31, 2012	Transportation
E Work with schools to identify key infrastructure improvements and community outreach initiatives that would facilitate safe-routes-to-school and walking school bus programs.	Before July 31, 2011	Transportation

<b>Measure TL 4.4:</b> Create and implement a voluntary transportation demand management (TDM) program to reduce weekday peak period single occupancy commute and school trips.			
F	Develop education and outreach programs aimed at reducing residents' transportation related emissions.	Ongoing	Transportation
<b>Progress Indicators</b>		<b>Target</b>	
i	Percent reduction in single-occupancy automobile commute trips.	15% reduction by 2015 20% reduction by 2020	
ii	Percentage of Albany employers with over 10 employees who belong to ATMA.	100% by 2015	

<b>Measure TL 4.5:</b> Evaluate and consider implementation of community parking management strategies.			
Parking management includes strategies that influence the supply, price and regulation of parking facilities. Parking management can have a considerable effect on a community's travel behavior by reducing driving and increasing use of other travel modes. The City will evaluate parking management strategies that have the potential to reduce automobile trips or enable the development of bicycling and walking infrastructure (e.g., bike lanes, traffic-calming measures).			
<b>GHG Reduction Potential (MT CO<sub>2</sub>e)</b>	<b>Cost to City</b>	<b>Cost Per Metric Ton</b>	<b>Private Cost</b>
Not quantified	\$6,300	-	No

**Objective TL-5:**  
**Prepare for Peak Oil**



Synergies exist between Albany's need to reduce GHG emissions for climate protection purposes and the need to guard the community from the potential impacts of peak oil. For decades, theorists have predicted that there will be a point in time when global petroleum extraction achieves a maximum, or peak, level. In this scenario global petroleum demand would outstrip production and the resulting shortage could lead to rapid price escalation, and creating havoc for a global economy that relies heavily on fossil fuels. In 2005, the United States Department of Energy (DOE) released a comprehensive report that validates many of these concerns and indicates that such a scenario is likely to occur within the next half-century, though the precise timing remains uncertain (DOE, 2005).

Increased fuel prices and reduced supply could considerably affect Albany residents and businesses. Potential effects could include higher transportation, food, heating, and other costs. Notably, private automobile travel costs may increase, affecting mobility options.



Fortunately, many of the measures proposed to reduce GHG emissions will also help the community prepare for peak oil. While climate change and peak oil are distinct issues, together they may provide a united urgency to inspire investments in alternative transportation infrastructure and support pedestrian- and transit-oriented development.

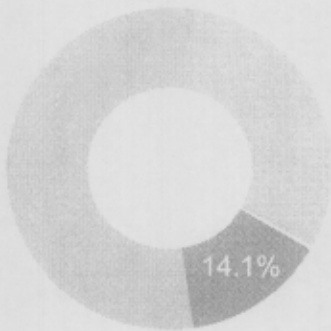
**Measure TL 5.1:** Conduct a study of the potential effects of peak oil on the community and develop a peak oil adaptation plan.

The City will develop a comprehensive plan to prepare the community for potential effects of peak oil. The City will establish a specific task force to assess the community’s vulnerability to peak oil and recommend specific actions. The task force will specifically look for strategies that can help reduce the effects of peak oil and reduce community GHGs.

GHG Reduction Potential (MT CO <sub>2</sub> e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$1,300	-	Yes

## Waste Reduction Strategy

### *Minimize waste.*



Total GHG Emissions Reduced:  
2,210 Metric Tons

Objectives:

WR-1: Become a Zero-Waste Community - 100%

While waste comprises only 5% of Albany’s baseline GHG inventory compared to transportation or building energy, the City and the Alameda County Waste Management Authority and Source Reduction and Recycling Board (operating together as StopWaste.org) can eliminate most waste-related emissions by 2030.

## Background

### How waste generates GHG emissions

In nature, waste is comprised of food and nutrients flowing in a cyclical pattern. When a leaf falls from a tree to the forest floor it becomes food for insects and microbes, and eventually turns back into nutrients for new plant growth. In modern times, humans have established linear waste flows where materials are extracted, processed, used, and then discarded into landfills or incinerated. These linear waste flows create GHG emissions in three ways: