

**PUBLIC WORKS COMMISSION  
ADMINISTRATIVE REPORT**

Meeting Date: December 12, 2007

TO: Public Works Commission      APPROVED BY: \_\_\_\_\_  
Larry A. Patterson, PW Director

DATE: December 5, 2007

SUBMITTED BY: \_\_\_\_\_  
Jill Boone, Sustainability Consultant (408) 379-6835

SUBJECT: **SUSTAINABLE INITIATIVE PLAN RECOMMENDATIONS**

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**RECOMMENDATION:** That the Public Works Commission review attached Sustainable Initiatives Plan (SIP) recommendations and provide input to the City Council.

**BACKGROUND:** The Sustainability Advisory Committee has been meeting since July to develop the recommendations that will be included in the SIP, which will be considered by the City Council in January 2008. A draft SIP should be available before December 10. However, Public Works Commission input will be addressed in the final draft for the final Sustainability Advisory Committee meeting on December 17.

Several sections of the SIP are in draft form and are attached here for your review. The Committee's work and recommendations will be presented at the Commission meeting on December 12.

**BUDGET IMPACT:** No fiscal impact for the report. Recommended actions have potential budget impacts, yet to be determined.

**ENVIRONMENTAL IMPACT:** Implementing recommended actions from the Plan will result in positive environmental impacts, including reduced CO<sub>2</sub> emissions, less energy and water consumption, more recycling and more foresight in planning for impacts from climate changes.

**EXHIBITS:**

- A. Recommendations for General Plan updates
- B. Recommendations for Green Building
- C. Recommendations for Transportation and Waste improvements

c: City Attorney  
City Clerk  
Project  
Public Works A.R. Binder File

November 7, 2007

**To: Sustainability Advisory Committee (SAC)**

**From: Jill Boone, Sustainability Consultant**

**RE: Recommendations for General Plan Revisions**

### **Request for Review**

Please review the goals and recommendations as outlined in this memo for the General Plan Revision Process and submit comments, additions, deletions or changes to Jill by November 25.

### **Background**

During the process of developing a Sustainable Initiatives Plan to send to the City Council, the SAC has commented on several items that need to be included in the General Plan Revisions scheduled for next year. These comments were primarily focused on incorporating sustainability and green building into the plan and developing a Bicycle Master Plan to incorporate in the circulation element.

The final piece of this memo is the text related to sustainability that is currently in the General Plan. The General Plan Revision Process will take place next year and will address any concerns or issues that might be in need of new direction. SAC members are encouraged to identify issues or conflicts with sustainability goals so that these can be addressed during the Revision Process. The Revision Process will determine what gets included, where it is included and the actual wording. The role of the SAC is to set general goals that will advise the revision process on the committee's intent and to identify areas that need to be strengthened to be in alignment with the Sustainable Initiatives Plan.

### **Draft Goals and Actions Recommendations**

***GP 1: Incorporate Sustainability into the General Plan Revision Process, including but not limited to the following objectives:***

1. Provide a thorough review of the existing Circulation Element, and make substantial revisions to identify feasible, safe and effective bikeways with good connectivity between activity centers and provision of sufficient convenient bicycle parking. Update the bikeways map to reflect the changes. Ensure that the General Plan includes efforts to increase the safety and convenience of choosing to travel by bicycle.
2. Review the Plan in relation to pedestrians and ensure that walking is supported as a mode of transportation to the greatest extent possible.
3. Add or strengthen green building, energy efficiency and water conservation objectives to be in alignment with the strategies and intent of the Sustainable Initiatives Plan.
4. Review and strengthen the waste and recycling sections to reflect the intent of the waste goals in the Sustainable Initiatives Plan.
5. Include Climate Change concerns when updating the Plan and ensure that future planning takes climate impacts into consideration.

**GP 2: Thoroughly review the General Plan to verify that there are no conflicting policies that would limit sustainable planning or green building design, developments and practices. Any conflicts that are identified should be considered and adjusted to encourage rather than discourage sustainability.**

1. Ensure that any Green Building Program or energy efficiency requirements that exceed building code are covered in the General Plan, in order that requirements would be found to be legally in compliance with the General Plan.

**GP 3: Update the General Plan to include any relevant policy directions from the Sustainable Initiatives Plan in the appropriate sections, including but not limited to:**

1. Adaptive strategies to mitigate the potential effects of global warming, such as decreased supply of drinking water, increased intensity of weather patterns, rising sea level and decreasing diversity of species and their habitats.

**GP 4: Review land use designations to identify high-intensity land uses that are not convenient to the City's major transit nodes. For these locations, make revisions to ensure that future development in these locations does not interfere with achieving the City's sustainable transportation goals. Revisions could include a variety of measures such as changes in land use designation or identification of appropriate findings regarding transportation and climate change that would need to be made prior to approving developments above a selected intensity threshold.**

## Next Steps

If comments and changes to these goals are submitted by November 25, an updated version of this set of goals and actions will be provided at the November 26 SAC meeting. The General Plan goals and objectives will be on the agenda.

## Green Building Recommendations

**GB 1:** *Adopt a green building policy for the design and construction of new civic facilities to meet or exceed LEED Silver green building standards and building remodel projects to meet or exceed LEED Certified. Buildings that are primarily residential in nature may meet or exceed a GreenPoint Rating of 75 points for new construction and 50 points for remodels in place of a LEED rating.*

**GB 2:** *Develop one or more programs that will provide alternative means of up-grading existing residential units to a higher level of sustainability with a focus on reducing CO<sub>2</sub> emissions, water consumption and energy use.*

Potential supportive actions:

1. (ideas for possible proactive programs will be added here.)

**GB 3:** *Develop a voluntary program to implement the Build it Green GreenPoint Rated System for single family and multi-unit development projects. After one year of implementation as a voluntary measure, the program shall require that new construction projects meet or exceed 50 (75?) points. When the Green Point Rated checklist for remodels is released, add remodels that are larger than (TBD by staff) to the voluntary and then required program.*

**GB 4:** *Develop a voluntary program for private builders to meet or exceed LEED Silver standards in new developments and buildings. After one year of voluntary participation supported by incentives for participation, the program shall require that new construction projects and major, non-retail remodeling or renovation projects be designed and constructed to meet or exceed LEED Silver standards.*

**GB 5:** *Prior to making the green building program mandatory, schedule one year to educate builders, developers and homeowners and the public on the proposed new standards and to implement the voluntary programs. The mandatory programs will become effective in 2009.*

**GB 6:** *When mandatory green building standards are implemented, insure that the sustainability standard adopted is the standard and the City does not attempt to require performance above the standard. Develop incentives that will encourage builders and developers to exceed the adopted standards.*

**GB 7:** *Every three years, in accordance with the review and updating of the GreenPoint Rated system and LEED checklists, the City shall review and update its green building requirements, as it does with Title 24 and Building Code changes. The intention of this periodic review is to work towards continual improvement and strengthening of the standards, to ensure that the changes in LEED and GPR are sufficient to accomplish this and to consider whether a higher level of LEED or increased number of points should be required to meet the City's CO<sub>2</sub> reduction and sustainability goals.*

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**Discussion Paper**  
***Sustainability Recommendations***  
**Transportation & Solid Waste**

Larry Patterson  
Director of Public Works  
City of San Mateo  
November 19, 2007

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# Background

## *Transportation*

Most person trips generated in San Mateo are 9 miles in length or less. About 99% of all origins and destinations for trips made within San Mateo are within 5 miles of each other.<sup>1</sup> Without any significant change in the modes selected for this travel, it is predicted that as much as half of these trips will be made by single occupant private automobile. Alternatively, many of these trips can be made by bicycle or, for shorter distances, walking. For trips approaching 5 miles in length, bus transit may be an option if a transit stop is conveniently located and service is frequent enough to make it a viable option for all or some of the trip. Introduction of new travel modes like the *Segway* create the potential for significant change in travel modes.

The age of the traveler can also impact the range of feasible travel modes. Over 30 percent of the City of San Mateo population is between the age of 20 and 39.<sup>2</sup> Another 27 percent of the San Mateo population is between 40 to 59 years of age. When combined, these two age groups represent about 58 percent of the City's population. These same groups also are among the most mobile and generally include a significant share of the population that could elect to walk or bicycle to nearby destinations.

Other factors impacting the choice of mode include weather, trip purpose, special needs of the traveler and travel time limits. For example, more flexibility in mode selection exists for recreational travel than for commute trips. In part, this may be a result of greater limitations on allowable travel time for commute trips.

Work trips are slightly more than 21 percent of all daily trips. Commute trips average about 25 minutes in length.<sup>3</sup> This is a factor that has remained relatively stable over time and suggests that commute length is one important consideration when selecting both where to live and where to work. Other factors include affordability, schools, etc. For the Bay Area and San Mateo, in particular, cost of housing is a significant obstacle for people wanting to locate closer to their workplace. As a result, only about 11% of all commute trips have both origin and destination within San Mateo.<sup>4</sup> The Metropolitan Transportation Commission has identified reducing the cost of housing as a potential major transportation objective in their development of the next Regional Transportation Plan.

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<sup>1</sup> City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants

<sup>2</sup> City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003

<sup>3</sup> Metropolitan Transportation Commission, Journey to Work Survey and City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003

<sup>4</sup> City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants

Modal choice for commute trips is distinctly different compared with the shorter local trips. The modal choice for commute trips originating or destined for San Mateo compared with all trip types is:

	<b>Commute Trips<sup>5</sup></b>	<b>All Trips<sup>6</sup></b>
Single Occupant Auto	78.1%	52.6%
2 or more Auto	11.4%	30.8%
All Transit	5.9%	5.1%
Rail Transit	3.2%	
Bus Transit	2.7%	
Bike & Walk	2.7%	11.5%

The City of San Mateo Travel Forecasting Model can potentially provide some interesting metrics for evaluation land use and transportation issues. Two commonly used metrics are vehicle miles traveled (VMT) and vehicle hours traveled (VHT). It is predicted that in 2020 trips with either origin or destination within San Mateo will produce almost 3.5 million VMT and almost 85,000 VHT. Fuel consumption and vehicle emissions can also be used directly as program objectives or as measurement of trip reduction programs.

Producing a significant travel behavior for our daily trips or modal shift in commute trips will require an array of changes to existing land use patterns, transportation alternatives and transportation pricing on a regional basis. Many things have been tried over recent years. Transportation Demand Management has been an integral part of transportation planning for almost two decades but the change in commute and travel patterns in the region have not changed substantially in that time.

Achieving aggressive transportation goals cannot be achieved through San Mateo actions alone and cannot be achieved using the same techniques that have been used in the past or even those being used today. Instead much more difficult policy choices will need to be considered and many will need to be selected if aggressive goals are to be achieved. These difficult and politically challenging strategies will include concepts like congestion pricing, paid parking, higher tolls, increased land use densities and heights and aggressive strategies to make housing more affordable in San Mateo County.

Reaching aggressive transportation goals is difficult to envision without some intervening and unanticipated events. For example, significant progress in reducing vehicle miles traveled could be anticipated with a severe shortage of gasoline and the accompanying increased costs. There may be other unanticipated events that will move San Mateo and other communities toward a more carbon neutral travel behavior including advances in communication, introduction of new vehicles or availability of alternative fuels.

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<sup>5</sup> City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003

<sup>6</sup> City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants

# Conceptual Goals

## *Transportation*

The Public Works Department provides the following suggestions for potential transportation goals for consideration by the Sustainability Action Committee. The suggestions reflect the variable nature of mode selection based on trip length, traveler age, and trip purpose. They also recognize that the goals will not be attained in the near future and will require significant shifts in personal travel behavior, transit availability and convenience, transportation pricing and vehicle variety.

Representative actions that will be required to achieve the goals are provided for each suggested goal. These are not intended to be all-inclusive but rather to provide some indication of the range of actions that must support the suggested goal if it is to be achieved. “L” indicates supportive actions that are strictly local and “R” indicates those that require regional or state action.

### ***T1: Increase mode share for pedestrian and bicycle travel to 30 percent for trips of one mile or less by 2020.***

#### Potential Supportive Actions

1. Improve pedestrian walkways and amenities within commercial areas and within residential neighborhoods(L)
2. Reduce crossing distances where pedestrians must cross arterial streets through the construction of bulb-outs or other methods (L)
3. Complete the implementation of the bicycle network as described in the General Plan and expand as appropriate to ensure a complete and convenient network of bicycle facilities (L)
4. Increase parking costs within the downtown area (L)
5. Introduce paid parking in other commercial areas outside of the downtown (L)
6. Price parking in the downtown and other commercial areas to discourage moving of vehicles between parking facilities (e.g. initial hour(s) more expensive than subsequent time when parked) (L)
7. Work with private and public schools to increase the number of students walking or bicycling to school (see T3) (L)

### ***T2: Reduce single occupant automobile usage for trips less than 5 miles in length by 20% by 2020.***

#### Potential Supportive Actions

1. All actions included under Goal T1
2. Implement flexible local transit service within San Mateo such as shared taxi, jitney or additional shuttles (L)
3. Implement significant increase in gas tax and index it to gasoline prices (R)
4. Use increased gas tax revenues to fund local flexible transit service and other alternative mode travel options (R)

**T3: Reduce single purpose school trips made by private automobile by 50% percent by 2020.**

Potential Supportive Actions

1. Implement “walking pools” to schools (L)
2. Implement increased carpooling for students (L)
3. Make flexible local transit available for student travel (L)

**T4: Reduce single occupant commuting by 20 percent by 2020.**

Potential Supportive Actions

1. Implement T1, T2, T4, T5
2. Expand Transportation Management Association beyond Corridor Plan Area (L)
3. Require trip reduction of at least 20 percent for all development (L,R)
4. Expand frequency and improve convenience of regional transit services (R)
5. Implement aggressive congestion pricing during commute times
6. Require parking cashout programs and paid parking at employment centers
7. Establish parking minimums (L)
8. Facilitate the provision of transit passes or other direct transit subsidies for residents and employees within San Mateo.

**T5: Concentrate future development near rail transit stations.**

Potential Supportive Actions

1. Increase allowable heights and densities within Transit Oriented Development Areas (TOD) (L,R)
2. Reduce development potential outside of the TOD areas (L,R)
3. Provide incentives for development within TOD areas (L,R)
4. Improve development certainty for projects within TOD areas (L,R)
5. Provide additional funding for infrastructure upgrades to serve TOD areas (L,R)

**T6: Reduce adjusted<sup>7</sup> housing costs in San Mateo by 10 percent by 2020.**

Potential Supportive Actions

1. Increase allowable housing densities (L)
2. Increase the required Below Market Rate (BMR) housing requirement for all new residential development within San Mateo (L)
3. Expand subsidies for first time home buyers in San Mateo (L)

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<sup>7</sup> Since housing costs can vary and potentially decline during certain economic conditions it will be necessary to develop some metric or indexing to measure this goal. For example, it might be measured against the Bay Area Average which would reflect any changes in housing prices within the region.

***T7: Reduce fuel consumption and vehicle emissions for trips originating in or destined for the City of San Mateo.***

Potential Supportive Actions

1. All trip reduction strategies outlined in T1 through T5 above will help meet this potential goal. (L,R)
2. Provide incentives for the purchase and use of fuel efficient vehicles such as preferential parking for carpools, hybrids and alternative fuel vehicles. To be effective this action must be enforceable. The effectiveness of previous efforts to provide preferential parking for carpools was limited due to a lack of enforceability. (L,R)
3. Provide discounted parking rates for carpools, hybrids and alternative fuel vehicles. (L)

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# Background

## *Waste Reduction*

The City of San Mateo is a member of the South Bayside Waste Management Authority (SBWMA). SBWMA supports the 12 member agencies in the area of solid waste and recycling and owns the Shoreway Recycling and Disposal Center. Solid Waste, Recycling and Green Waste is currently collected in San Mateo and the other SBWMA member agencies by Allied Waste Services under an exclusive franchise agreement. Solid Waste rates are established by the City based on operating costs for the collection services as determined through SBWMA. We have adopted progressive rates (increased cost per unit as volume increases) for both residential and commercial customers. This is intended as one incentive to recycle. The more you recycle (which is collected free), the less material collected. Not only is a recycler's costs lower due to reduced volume but they are further reduced by the lower rate for the lower volume. The current monthly residential and commercial rates are illustrated below:

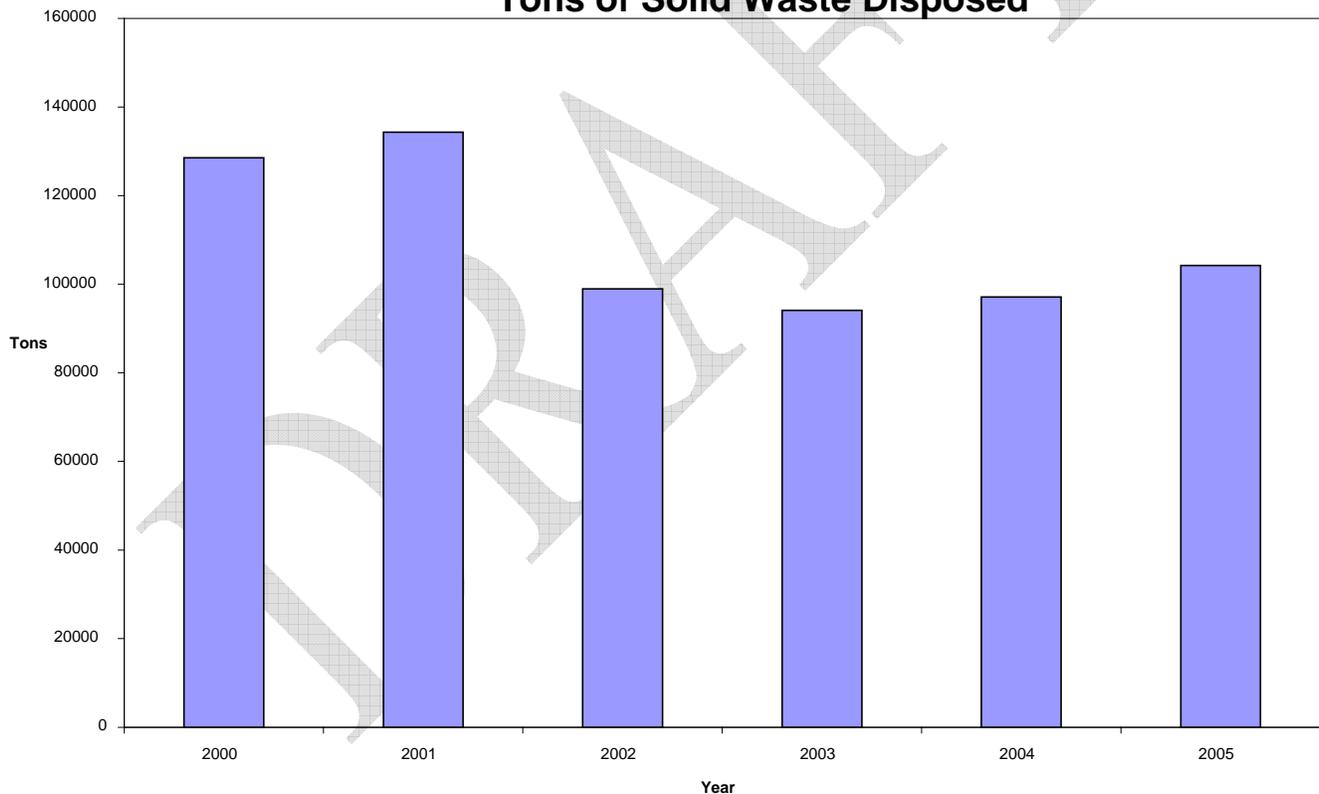
<b>Residential (Curb Service)</b>	
<b>Container Size (Gallons)</b>	<b>Cost per Gallon</b>
15 – 32	\$0.365
33 – 64	\$0.402
65 – 96	\$0.414
97 – 128	\$0.426
> 128	\$0.439
<b>Commercial (Can Service)</b>	
1 – 100	\$0.456
101 -200	\$0.466
201 – 400	\$0.480
401 - 800	\$0.494
801 – 1200	\$0.509
1201 – 1600	\$0.524
1601 – 2000	\$0.540
> 2000	\$0.556

Currently, SBWMA is preparing to issue a Request for Proposals for both Collection Services and Operation of the Shoreway Recycling and Disposal Center. The services being requested will include more frequent collection of recyclables and conversion to *single stream* recycling. Single stream recycling will be simpler for residents and businesses and is, therefore, expected to substantially increase recycling. One downside to single stream recycling is that the mixture of different recyclables within the same container will degrade the quality of some materials like paper and cardboard.

In recent years, the City has taken a variety of measures to increase recycling within San Mateo. This has included supplementing resources available through Allied Waste and SBWMA by hiring a full time recycling coordinator. The most significant recycling effort has been the implementation of a Construction and Demolition ordinance which requires construction projects to show proof of recycling of appropriate materials. This has been the single most important impact to our waste diversion from 34% in 2001 to 49% in 2005 (as estimated using the California Integrated Waste Management Board formula). In addition to implementing the Construction and Demolition program, the Recycling Coordinator is currently focusing on increasing commercial and multi-family residential recycling which have been uses where increases in recycling are most needed and most difficult to achieve.

The actual tons diverted as measured by Allied Waste suggest a 30% diversion in 2005. Maybe more important to the discussion is that the total tones disposed has declined since 2000 as illustrated below.

**Figure 1  
Tons of Solid Waste Disposed**



However, it is also important to note that tons disposed have not continued to decline. Disposed tons have remained relatively unchanged since the big reduction was realized due to implementation of our Construction and Demolition ordinance in 2002.

Public Works staff would recommend the adoption of aggressive goals in the area of recycling and waste elimination. However, it is important to realize that substantial increases in recycling and diversion of waste from the landfill will require a combination of local, regional and national initiatives. For example, it is important that manufacturers review and revise their packaging practices and materials to reduce their contribution to the ultimate waste stream. This should include elimination of fire retardant from Styrofoam packaging so that it can be recycled and an increase in the number of recycling sites can be established to reduce travel costs for this light weight but bulky material.

It should also be noted that measuring the amount of material is not that easy. The increase in California redemption value for cans and bottles has spawned a potentially significant amount of recycling outside of the Allied Waste Services normal pick up. Individuals are electing to recycle where they receive the redemption value rather than including these materials in their regular recycling collection. In addition, there are increasing reports of individuals intercepting the cans and bottles on pick up days prior to their collection by Allied Waste. On the commercial side, some national retail companies are electing to transport recyclables to a central location for processing. The measured disposal and diversion recorded by Allied Waste do not currently capture materials redeemed at recycling centers or centrally processed by national retailers.

As with transportation, significant change in our pattern of waste and disposal are difficult to envision simply by projecting forward our current living, consumer and other life patterns. Significant change will require introduction of either significant planned or unanticipated change. Clearly reduced landfill space creates some urgency for those setting public policy but not necessarily for the general public. Introduction of some significant costs or other factors will be required to influence individuals to change their consumption and waste patterns.

## **Conceptual Goals**

### ***Waste Reduction***

The Public Works Department provides the following suggestions for potential waste reduction and recycling goals for consideration by the Sustainability Action Committee. The suggestions reflect the complexity of waste diversion and the difficulty in achieving aggressive goals unilaterally. They also recognize that the goals will not be attained in the near future and will require significant shifts in our personal purchasing behaviors, changes in national and international retailing concepts and advances in materials used in our daily lives.

Representative actions that will be required to achieve the goals are provided for each suggested goal. These are not intended to be all-inclusive but rather to provide some indication of the range of actions that must support the suggested goal if it is to be achieved.

**WR 1:      *Increase measured waste diversion to 50 percent by 2020.***

Potential Supportive Actions

1. Increase costs for residential and commercial waste collection (L)
2. Increase degree of progression within collection rates (L)
3. Use increased waste collection revenue to provide waste reduction incentives (L)
4. Make recycling mandatory (L,R)
5. Require mandatory composting of green and food waste (L,R)
6. Set aggressive waste reduction goals for all new development
7. Require modifications within existing buildings to accommodate recycling bins (R,L)
8. Require mandatory segregation of recyclables for all public (on-street, parks, public buildings) waste collection (L)
9. Provide expanded waste reduction outreach and support for local businesses (L)
10. Provide expanded waste reduction outreach and support for residential customers (L)

**WR 2:      *Achieve maximum diversion (90%) by 2050.***

Potential Supportive Actions

1. Implement all of WR 1
2. Require significant change in packaging of all commercial products (R)
3. Make Styrofoam more easily recyclable or find alternative packing materials that can be recycled (R)
4. Improve markets for recycled materials (R)