



THE CITY OF SAN DIEGO  
M E M O R A N D U M

DATE: October 25, 2016

TO: Honorable Council President Sherri Lightner and Members of the City Council

FROM: Jeff Murphy, Director, Planning Department   
via David Graham, Deputy Chief Operating Officer, Neighborhood Services Branch 

SUBJECT: Climate Action Plan Commuter Mode Share Targets – North Park & Golden Hill CPUs

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The City's Climate Action Plan (CAP) includes several strategies and actions that collectively will achieve the state's 2020 and 2035 Greenhouse Gas (GHG) emission reduction goals. Improving mobility mode share within the City's Transportation Priority Areas (TPA) is one of those identified strategies.<sup>1</sup> In order to help accomplish mode share targets, a series of supporting measures were identified in the CAP such as implementation of the City's Bike Master Plan, Pedestrian Master Plan, and City of Villages Strategy.

Updating and implementing community plans is one mechanism to implement the City of Villages Strategy; however, it is not the only mechanism. Programs, strategies and measures that help reduce automobile commute trips within TPAs, such as those measures listed in the City's recently adopted CEQA CAP Checklist, also further implementation of the City of Villages Strategy and contribute to reaching the CAP's mode share targets.

As previously reported, a supplemental analysis was conducted by staff, in coordination with SANDAG and the City's as-needed consultants, Kimley-Horn & Associates and RECON Environmental, to further analyze the changes in vehicle miles traveled (VMT) per capita, commuter trip length, and TPA mobility mode share as a result of all components associated with the CPUs for North Park and Golden Hill.

While the mobility mode share numbers for the North Park and Golden Hill CPUs showed very positive movements towards meeting the CAP citywide targets, the analysis did not include all possible strategies/measures that contribute towards commuter mode share and City of Villages implementation. Many measures, particularly those identified in the CEQA CAP Checklist, could not be quantified at a community plan level and were therefore excluded from the earlier analysis done for North Park and Golden Hill.

The consulting firm Kimley-Horn & Associates recently quantified a few of the measures listed in the CEQA CAP Checklist in order to show how these measures when applied to future development help contribute to the reduction of vehicle trips within citywide TPAs. The first three measures reflected below represent only a few of the Transportation Demand Management (TDM)<sup>2</sup> strategy options that development projects can incorporate into their design or operations. The fourth strategy relates to opportunities where additional bike lanes can be added during street repaving program. Details on each measure are further described in the attached report.

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<sup>1</sup> The CAP 2035 Transit Priority Area (TPA) commuter mode share targets are as follows: 50% vehicle trips; 25% transit trips; 18% bicycle trips; and, 7% walking trips.

<sup>2</sup> TDM or transportation demand management is the application of varying strategies, policies or programs to reduce travel demand, particularly that of single-occupancy private vehicles.

- Unbundled parking (up to 2.6% vehicle trip reduction)
- Parking cash-out programs (up to 1.5% vehicle trip reduction)
- Price employee parking (up to 3.6% vehicle trip reduction)
- Enhanced bicycle facilities concurrent with street repaving (up to 2.1% vehicle trip reduction)

The aforementioned strategies are effective at changing mode choice of commuter trips. They address the employment side of the “home to work” trip by offering commuter financial incentives at the employment site. The “home to work” trip cannot be narrowed to one individual community as commuters often live in one community but work in a different community. Measures that can be applied in one community (say a community with an employment center) can directly impact the mode share in another (say a residential community). This makes it extremely challenging to quantify how employment related measures like the ones above impact a predominately residential community like North Park or Golden Hill. Thus, such strategies would have to be applied holistically to TPAs citywide to realize further reduction in vehicle commute trips.

Other similar measures that cannot be easily quantified at this time, but are expected to positively contribute towards implementation of the City of Villages Strategy and help change mode choice at a citywide level are provided below.

- Parking management plans
- Employee/Employer annual transit passes
- Employees shuttles to/from transit stations
- On-site employer bike sharing
- Carpool or vanpool subsidies
- Flexible or alternative work hours
- Pre-tax deduction for transit or vanpool fares
- Amenity spaces and other convenience services provided at employment
- Bike parking, shower facilities, lockers

The CAP recognizes that there are multiple ways to achieve the GHG emission goals and that flexibility in implementation is necessary to allow the City to refine its strategies to achieve the most effective path to obtain the desired results. As we continue to implement the CAP, as technologies advance and progress, as tracking and monitoring strategies improve, and as we learn from the results of the annual CAP monitoring report, we will be able to make those necessary adjustments to ensure that we timely meet the aggressive goals committed to in the City’s Climate Action Plan.

Should you have any questions, please contact me at [MurphyJ@sandiego.gov](mailto:MurphyJ@sandiego.gov) or via email at (619) 236-6057.

Sincerely,



**JEFF MURPHY**  
Director, Planning Department

Attachment A: Additional Strategies Contributing Towards CAP Goals of Reduced Automobile Mode Share

cc's on next page

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# *Additional Strategies Contributing towards Climate Action Plan Goals of Reduced Automobile Mode Share*

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*White Paper*

*Prepared for:*

**City of San Diego**

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October 24, 2016

This paper summarizes the effectiveness of mobility strategies that could be applied citywide to shift from automobile travel to other modes. At recent hearings involving four community plan updates, the findings were presented from an analysis performed to determine how each of the plans complied with the Climate Action Plan. Each of these plans helped to shift from automobile travel to transit, bicycle and walk trips and satisfied the CAP goal of reducing commute trip length by 2 miles. However, none of the plan updates fully achieve the CAP mode share goal of 50% or fewer commute trips by automobile. Planning Commissioners, Smart Growth and Land Use Committee Members, and the public stated a desire for the City to do more to achieve these goals. This paper summarizes techniques involving parking pricing and bicycle network improvements that could further reduce automobile mode share for commute trips.

## Parking

Three parking strategies could be applied on a citywide basis to provide incentives to not use automobiles to travel to/from work. The effectiveness of these strategies has been projected based upon methods contained in [Quantifying Greenhouse Gas Mitigation Measures](#), by California Air Pollution Control Officers Association (CAPCOA), August, 2010. It is presumed that the benefits would apply to new development. All estimates are based upon the most current citywide growth forecasts performed by SANDAG for the year 2030.

### PRICED PARKING FOR WORKERS

The cost of parking at work is often hidden from workers because employers provide parking at no cost. Since the cost of parking is buried into the lease price of the office, the employer is essentially providing a “benefit” to the employee by providing parking. This “benefit” makes driving to work by automobile more attractive, because the true cost of driving is not reflected. By having employers require an employee to pay the parking costs at market rates, the employee will see the true cost of driving and will be in a position to compare the costs and benefits of driving, riding transit, bicycling or walking. Of course, employers could still provide a transportation benefit to their employees, such as a parking or transit subsidy.

Market-priced parking at the workplace would result in a citywide 3.9% reduction in automobile mode share, when applied to all new employment.

### UNBUNDLED PARKING

Unbundled parking is defined as selling, renting or leasing parking separately from its associated land use. Traditionally, an office building owner would lease space to the tenant, including a certain number of parking spaces in the lease price. The tenant would then give the parking spaces to the employees. This gives an advantage to driving to work, since parking is provided.

Using an Unbundled Parking approach, an office building owner could charge a leasing price just for office space provided to a tenant, while separately making parking available to building employees using a monthly permit fee. Under this case, the employee would be more likely to consider other options for travelling to work and/or would be incentivized to find a place to live that is closer to work or convenient transit options.

Unbundled parking would result in a citywide 2.6% reduction in automobile mode share when applied to all new development. Unbundled parking and priced parking for employees are different means of accomplishing the same behavioral change, thus their results should not be added together.

#### PARKING CASH-OUT PROGRAM

A further incentive for commuters to choose modes of travel other than driving an automobile is through the use of a parking cash-out program. This program involves giving money to employees for not receiving a parking space. This could be done separately or in combination with priced-employee parking or unbundled parking. This strategy would be particularly attractive to Millennials, many of whom prefer to live close to where they work so that they can walk or bicycle to work.

A parking cash-out program would result in a citywide 1.5% reduction in automobile mode share when applied to all new development.

#### Bicycle Network Enhancements

As part of the community plan updates, bicycle networks were greatly expanded. High quality bicycle facilities such as bike paths, bicycle lanes, protected bicycle lanes, and bicycle boulevards were added to create a safe and connected network in these communities. One constraint to further expanding the bicycle network is the need to provide on-street parking in dense urban neighborhoods. Where space was constrained and on-street parking is heavily used, bicycle routes were recommended.

Changes to mode share and the emergence of autonomous vehicles (driverless) are expected to reduce the need for private vehicle ownership and parking. We are already noticing the use of App Based Rideshare services such as Lyft and Uber and their effect on reducing the need for private vehicles. Driverless vehicles will allow for vehicle sharing and remote parking, decreasing the need for on-street parking. As this transition to driverless vehicles happens, it is recommended space previously dedicated to on-street parking be converted to new high class bicycle facilities.

If half of the designated Class III bicycle routes located in Transit Priority Areas citywide were converted to higher functioning facilities within approximately ten years, a greater increase in bicycle mode share would be expected. The additional increase in bicycle mode share is expected to be 2.1%.

**Appendix A** contains the methodology used to calculate the mode share changes contained in this report.

## Appendix A: Methodology

## Methodology

Additional strategies that could be implemented across the city were also studied. These included employers based parking strategies from CAPCOA, and additional bicycle facilities that may become available in the future if changes in automobile travel occur such as autonomous vehicles.

### CAPCOA QUANTIFYING GREENHOUSE GAS MITIGATION MEASURES, 2010

CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* (2010) provides a methodology for estimating VMT reductions resulting from land uses, policy changes and other factors. Details on the CAPCOA metrics used in the study are provided below. The following CAPCOA strategies use the Series 13 forecast for the San Diego region provided by SANDAG for employment data. This study assumes 20% of all jobs are new jobs and are considered eligible employees for the following strategies.

#### CAPCOA TRT-15: Implement Employee Parking “Cash-out”

##### Description:

Reductions in VMT based on employers offering employees parking “cash-out” options, where employee forgoes current subsidized/free parking for a cash payment equivalent to the cost of the parking space.

##### Data Needed:

- Percentage of eligible employees
- Location

##### Method:

$$\% \text{VMT Reduction} = A * B$$

Where A = Percentage of eligible employees

B= Max percentage change based on location

		Percent Change in Commute VMT					
Strategy	Description	Large Metro (high transit)	Large Metro (low transit)	Medium Metro (high)	Medium Metro (Low)	Small Metro (High)	Small Metro (Low)
Parking Cash-out	Subsidy of \$1/day	7.7%	3.7%	4.5%	3.0%	4.0%	3.0%

##### Data Source:

- Series 13 model
  - Job Forecast

##### Calculation:

$$\% \text{VMT Reduction} = 20\% * 7.7\% = 1.5\%$$

Assumed a 1.5% reduction in Automobile mode share.

#### CAPCOA TRT-14: Pricing Workplace Parking

##### Description:

Reductions in VMT based on workplace programs that charge employees market rates for parking.

Data Needed:

- Percentage of eligible employees
- Daily Parking rate

Method:

**% VMT Reduction = A \* B**

Where A = Percentage of eligible employees

B= Percentage reduction in commute VMT (from Table A)

**Table A: CAPCOA TRT-14 Categories**

Project Location	Daily Parking Charge			
	\$1	\$2	\$3	\$6
Low Density Suburban	0.5%	1.2%	1.9%	2.8%
Suburban Center	1.8%	3.7%	5.4%	6.8%
Urban Location	6.9%	12.5%	16.8%	19.7%

Data Source:

- Series 13 model
  - Job Forecast

Calculation:

$\%VMT\ Reduction = 20\% * 19.7\% = 3.9\%$

Assumed a 3.9% reduction in Automobile mode share.

**CAPCOA PDT-2: Unbundle Parking Costs from Property Costs**

Description:

Reduction in VMT based unbundled parking costs from property costs. Employers on such properties are not provided an allotted number of parking spots, and employees wishing to use parking are required to find their own space.

Data Needed:

- Monthly Parking costs for location
- Annual Vehicle cost

Method:

**% VMT Reduction = Change in vehicle cost\*elasticity\*A**

Where: A= 85%; and,

Change in vehicle cost= monthly parking cost \* (12/Annual vehicle cost)

Data Source:

- Victoria Transport Policy Institute
  - Annual Vehicle Cost

Calculation

Used Maximum suggested reduction of 13%\*20% for eligible employees. Results in 2.6% reduction in automobile mode share.

## MOVING COOLER STUDY: URBAN LAND INSTITUTE, 2009

This study considers a future scenario where technology has advanced allowing autonomous (driverless) vehicles to infiltrate the fleet of vehicles on local roadways. With the introduction of autonomous vehicles, it would be expected that the demand for on-street parking and private vehicle ownership would be reduced. Under this scenario, additional street space would become available as on-street parking was eligible to be removed. This study considers changes in bicycle mode share resulting from converting 50 percent (50%) of existing and planned Class III bicycle routes to higher class facilities. **Figure A** and **Figure B** display the existing and planned bicycle networks within Transit Priority Areas, including the total mileage of Class II and above facilities, and Class III facilities.

### Description:

Method for estimating future bicycle mode share that results from increased bicycle lane densities.

Note: Only length of Class I, Class II, and Class IV bike facilities are calculated.

### Data Needed:

- Existing Bike Mode Share
- Existing & Planned Bike Network Density

### Method:

- 1) Calculate Existing and Planned Bike Network Density.
- 2) Planned Bike Network Density – Existing Bike Network Density = Bike Network Density Change
  - a. 1-to-1 relationship between Bike Network Density Change and Mode Share Change
- 3) Existing Bike Mode Share + Mode Share Change = Future Mode Share

### Data Source:

- Community Plan Updates
  - Bike Network (GIS Files)

### Calculation:

Increase in Bicycle Mode Share =  $\frac{\text{Miles of new High Quality Bike facilities in TPA}}{\text{Area of TPA (square miles)}}$

Increase in Bicycle Mode Share =  $\frac{210 \text{ miles of Class III converted to Class II or higher}}{99.8 \text{ (square miles)}}$

Increase in Bicycle Mode Share = 2.1%

Figure A: Existing Citywide Bicycle Facilities within TPA

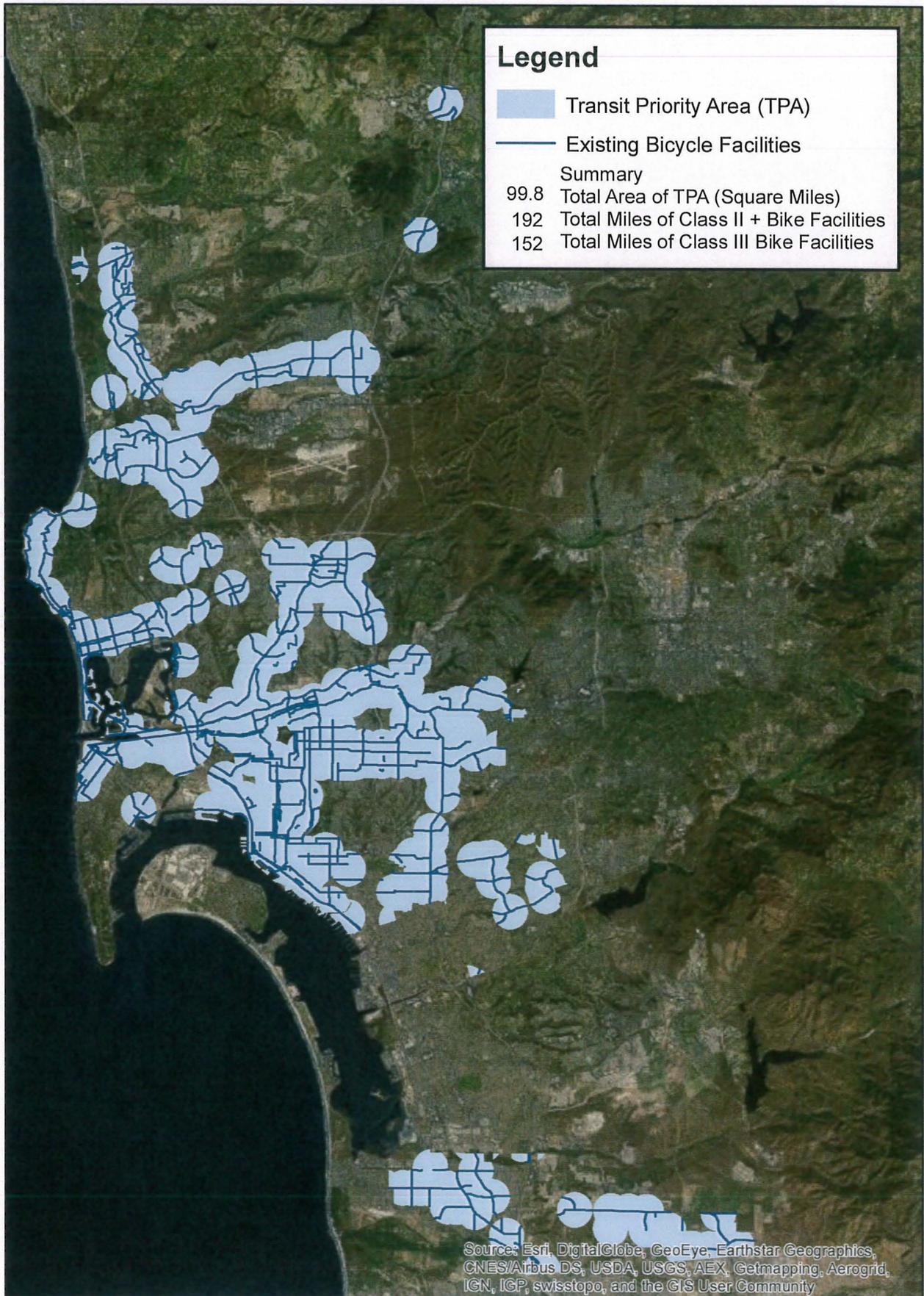


Figure B: Planned Citywide Bicycle Facilities within TPA

