

Measure: Double Bike Lane Usage (T21)

Double bike lane usage in the City by 2015 by supporting the efforts of the City Bike/Pedestrian Coordinator, the regional Bicycle Advisory Committee, and continuing efforts to become a Platinum Bicycle Friendly Community as awarded by the League of American Bicyclists.

COT ARRA RFP Summary:

Emission reduction potential by 2020:	16,084 tCO ₂ e (2020)
Percentage of goal (2012):	0.25%
Percentage of goal (2020):	0.71%
Total annual average implementation costs:	NA
Entity that bears the costs of implementation:	NA
Cost/Savings per tCO ₂ e:	Costs of added safety and infrastructure are not analyzed in this measure due
Net annual savings:	\$6.5 million in fuel savings
Entity that realizes the financial return:	Cyclists
Equitability (progressive/regressive, income/revenue neutral, etc):	Policies, promotional material, and infrastructure improvements can be allocated accordingly
Potential unintended consequences:	NA

Background information:

The Pima County Association of Governments (PAG) has a Regional Bicycle Master Plan, the origins of which date to 1975. Efforts continue striving to place Pima County as a nationally leading bicycle-friendly community. As evidence of this, the region was awarded Gold status by the League of American Bicyclists, becoming the first region to achieve this standard.¹

Currently, there are four full time employees to promote bicycling within the community totaling at least 8,320 hours per year (including a full-time City Bike/Pedestrian Coordinator, Tom Thivener).² Beyond these full-time coordinators, PAG lists 22 other individuals whose full-time role is around bicycling in the region (not to mention other part-time and volunteer individuals who work to promote the many benefits of cycling).³ Complimentary to the above, there is also a regional Bicycle Advisory Committee (BAC) that has formally been in place since 1987.⁴ Finally, within the BAC, there are 5 subcommittees all of whom are devoted to expanding bicycling in the region.

It is for these reasons, we suggest that the Climate Change Advisory Community support these regional and local efforts.

Description of Measure and Implementation Scenario:

Double bike lane usage in the City by 2015 by supporting the efforts of the City Bike/Pedestrian Coordinator, the regional Bicycle Advisory Committee, and continuing efforts to become a Platinum Bicycle Friendly Community as awarded by the League of American Bicyclists.

It is not envisioned that the Climate Change Advisory Committee need to take a leadership role on this implementation given the ample resources bicycling enjoys in City and the region.

Business As Usual:

Business as usual in Tucson looks good provided the above positions remained filled and the community continues to work towards the Bicycle Friendly Community Platinum rating from the League of American Bicyclists.

Has the Measure been implemented elsewhere and with what results?:

Engaging community members to increase the percentage of bicycling relative to a city's multi-modal transportation system is not lost on many cities around the nation.

Tucson continues efforts to increase bicycle-ridership, and there do not appear to be significant gaps for the Climate Change Advisory Committee to fill in this effort.

Energy/Emission analysis:

In email communication with Tom Thivener, Tucson’s City Bike/Pedestrian Coordinator, he stated the City does not have any bicycle miles traveled data specific to the City proper.⁵ PAG projects the amount of regional weekday bicycle trips in 2005 to be 91,000.⁶ Westmoreland Associates (WA) assumed that 75% of those trips were within the City’s boundaries, that 50% were offsetting Single Occupancy Vehicle (SOV) light-duty trips, and that those trips occur 250 days per year. PAG puts the distance of bicycle trips at 6.6 miles per trip.⁷ With these inputs, the amount of Vehicle Miles Traveled (VMT) currently reduced per year is 56.3 million miles.

The mandate is to analyze a doubling bike lane usage (taken to mean a doubling in the amount of non-recreational bicycle riding thereby offsetting VMT and the associated emissions). This analysis is based on meeting that goal by year-end 2015.

If this goal is met, the program will have saved the community over 127,000 tCO₂e by the end of 2020. The resulting GHG emission reductions in 2012 are over 4,700 tCO₂e and over 16,000 tCO₂e in 2020. CAFE standards and the projected reduction in MPG of light-duty vehicles as reported in the appendix of this report are figured into the VMT reduction analysis.

Contribution analysis:		
COT 1990 Citywide GHG emissions (baseline) ⁸ :	5,461,020	tCO ₂ e
MCPA 7% reduction target for COT:	5,078,749	
2012 BAU GHG emissions projection:	7,000,000	
2020 BAU GHG emissions projection:	7,343,141	
GHG emissions reduction to meet 7% goal (2012):	1,921,251	
GHG emissions reduction to meet 7% goal (2020):	2,264,392	
Double Bike Lane Usage		
Contribution of T21 Double Bike Lane Usage (in 2020):	16,084	tCO ₂ e
2020 Contribution of T21 Double Bike Lane Usage:	0.71	%

Economic analysis:

Given the staff and funding allocations outlined above, we do not project any additional, GHG-specific, public funding being spent on this measure. The savings to the

community based solely on a reduction in gasoline as a result of decreasing VMT over the coming decade amount to \$65.1 million if the City is successful in doubling the amount of bike lane usage by year-end 2015 and maintaining that level through 2020. CAFE standards and the projected reduction in MPG of light-duty vehicles as reported in the appendix of this report are figured into the VMT reduction analysis.

We use the 1.5 multiplier to estimate the net positive impact on the City of Tucson economy from energy or water savings. This results in a net economic impact estimate of \$97.6 million.

Co-benefits:

Many co-benefits exist relative to increasing bike usage. The Metropolitan Washington Coalition of Governments lists the following benefits⁹:

- Increased transit use
- Reduced transportation costs to households
- Public health improvement
- Increase traffic safety for cyclists because of critical mass
- Increased transportation access
- Congestion relief

Through the increased use of transit and reduced dependence on fuel, this measure should be in alignment with Tucson's other GHG adaptation measures.

Equitability:

Due to bicycle ridership being higher in areas of higher density and lower income, polices, promotional material, and infrastructure improvements can be allocated accordingly.¹⁰

Potential unintended consequences:

None identified.

General Note: All references retrieved October through December of 2010 unless otherwise noted.

Endnotes:

¹ <http://www.pagnet.org/documents/transportation/LABApplication2008.pdf>

² Ibid

³ Ibid

⁴ Ibid

⁵ Email communication dated January 14, 2011.

⁶ <http://www.pagnet.org/documents/transportation/LABApplication2008.pdf>

⁷ <http://www.pagnet.org/documents/TRP/AnnualReports/AnnualReport2007-2008.pdf>

⁸ PAG Regional Greenhouse Gas Inventory- 2010

⁹ Metropolitan Washington Council of Governments, "A Regional Bike-sharing System for the National Capital Region," application for US DOT TIGER grant funding, August 2010.

¹⁰ <http://www.pagnet.org/documents/bicycle/RegionalBicyclePlan2009.pdf>