

To: Broadway Citizens Task Force  
From: Broadway Project Team  
Date: June 27, 2014  
RE: Traffic Data Updates

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At the April 30 CTF meeting, a CTF member inquired about whether current traffic counts along Broadway were available. Following the April 30<sup>th</sup> meeting, the project team was informed that the Pima Association of Governments had conducted a traffic count at two areas on Broadway on March 25, 2014 to assess traffic after completion of the streetcar construction. In an effort to provide comparable data for the other modes under consideration, this memo also shares transit ridership and bicycle volumes data for Broadway Blvd. All of the results are provided in the sections that follow.

### **How This Data Informs the Roadway Design**

The current traffic counts allow us a perspective regarding what traffic is like currently in the project area, and informs considerations for the intersection design and signal operations. Existing traffic counts give us an indication of the percentage of traffic occurring during the morning and evening peak hours, as well as the distribution of turning movements at the intersections. (Also see Public Input Report Item #33 for traffic counts submitted by CTF member Jon Howe and conclusions related to the importance of intersection signal operations to this design process, and the technical response provided from project team, at <http://www.tucsonaz.gov/broadway/public-input-report>.)

At this point in our design process, the future traffic projections are integral to the design activities we are undertaking. It is expected that updated 2045 traffic distribution and levels generated by the regional travel demand model, which will reflect revised population and employment growth projections and travel behavior assumptions for the region, will be completed this Fall. The tools used to evaluate traffic operations for various improvement alternatives identify bottlenecks, capacity deficiencies, and other multimodal operational issues which we can then focus on as we look at innovative intersection treatments.

The future traffic estimates that were presented in the 2012 Broadway: Euclid to Country Club Traffic Study and refinements resulting from conversations with the Task Force are what we continue to use for transportation analysis of design alternatives; that is, the lower-growth traffic projections of 22% growth over the existing traffic volumes collected in 2010. (The *2012 Traffic Engineering Study* and the *8/30/2012 Special Traffic Analysis Report* are available on the project web site: <http://www.tucsonaz.gov/broadway/broadway-documents-studies>; PDF page 18 of the *Traffic Engineering Study* provides a summary of counts and Appendix A, on PDF pages 35-108, includes

intersection traffic counts; PDF page 4 of the *Special Traffic Analysis Report* includes the low-growth rate traffic projections).

**Traffic Counts**

Daily traffic counts were recently collected by PAG in March 2014 for two segments of Broadway within the project area: between Tucson to Campbell, and Campbell to Highland. These counts, as well as previous PAG counts collected in December 2010 and September 2012, are provided in Table 1. The counts collected in September 2012 occurred during construction of the Modern Streetcar in Downtown. As the March 2014 data shows, traffic volumes on Broadway Blvd continue to remain 15% to 18% below preconstruction volumes. The project team believes this is a lingering effect of the recently-completed streetcar construction downtown, as well as reduced capacity on both Congress Street and Broadway Blvd. with the streetcar line in place, and that that effect will diminish over time. Some of the reduction in traffic may also reflect decreased trips to destinations along Broadway Blvd. in the project area. The team also expects that volumes on Broadway Blvd will increase when the Downtown Links bypass connection is opened in 2016/17.

Historical transit ridership and bicycle volume data, provided in Figure 1, Table 2, and Figure and 2, do not show a comparable increase associated with the reduced vehicle volumes. While traffic counts on 6<sup>th</sup> Street, Speedway Boulevard, and 22<sup>nd</sup> Street were not collected in conjunction with the Broadway Boulevard count, it is likely that traffic on Broadway Blvd has diverted to these roadways due to the reduced capacity through Downtown.

**Table 1. Recent Average Daily Traffic Counts on Broadway Boulevard**

*Source: Pima Association of Governments*

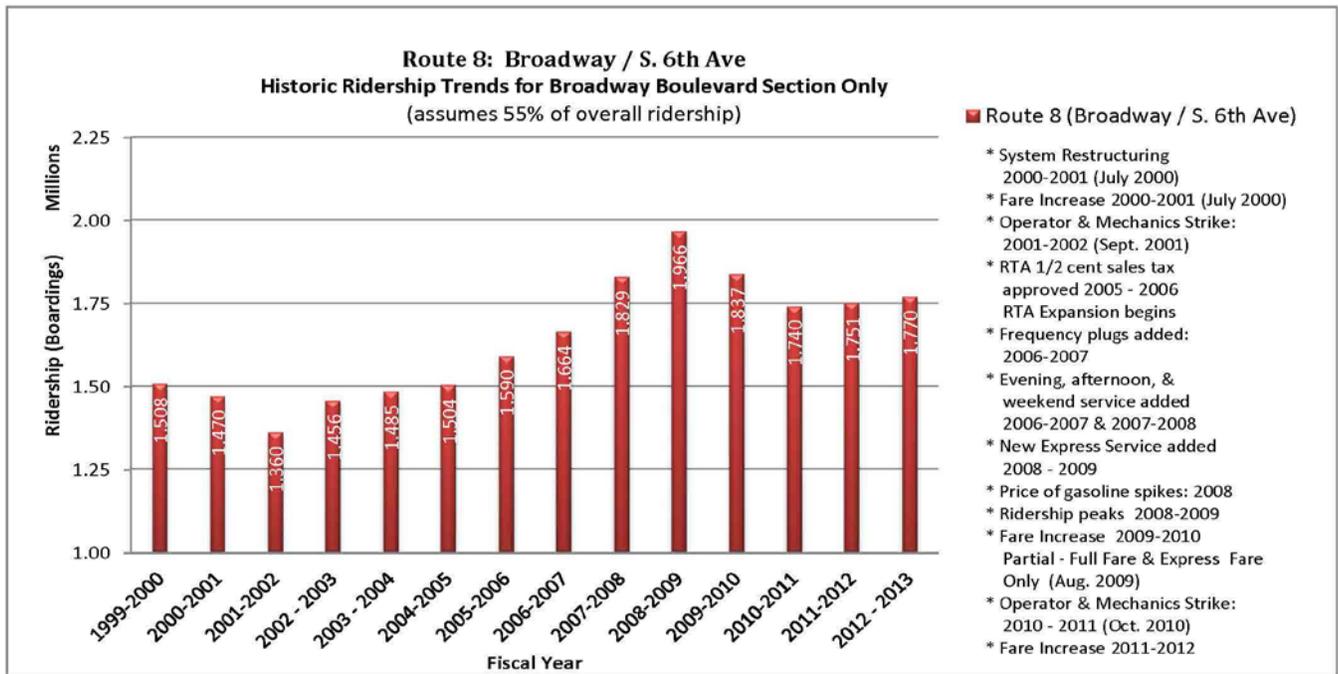
PAG ROAD SEGMENT	PAG Traffic Count (1)		
	12/1-2/2010	9/19-20/2012	3/25-26/2014
Alvernon to Country Club	50,098	43,903	-
Tucson to Campbell	40,239	36,308	34,137
Campbell to Highland	34,006	27,218	28,485
Euclid to Toole	35,006	32,890	-

1. Average of 2-day count; Totals reflect an average of the daily volume of traffic in both directions

### Transit Ridership

Historical transit ridership on the Broadway section of Route 8 is provided in Figure 1. The comments included in the figure by SunTran identify potential events that may have influenced transit ridership.

**Figure 1 Historical Transit Usage on Broadway (Route 8).**  
 Source: SunTran



### Bicycle Volumes

Historical bicycle count data is included in two formats below. The first is focused solely on east-west bicycle counts along Broadway during the morning (7:00-9:00 a.m.) and afternoon (4:00-6:00 p.m.). The second is in Figure 2, which provides an excerpt of Table 12 in the recently released Pima Association of Governments’ 2013 Regional Pedestrian and Bicycle Summary Report. The highlighted entries reflect segments within the Broadway project area.

Daily counts are not currently collected, though the City is planning to perform 24-hour counts of bikes and vehicles between Country Club and Euclid this Fall. Additionally, it will be better understood how the PAG model will address bicycle projections in the 2045 model when that is available this fall.

**Table 2. Historical Peak Period Bicycle Volumes on Broadway Blvd (East-West Directions Only)**

Source: Pima Association of Governments	Broadway Blvd at Snake Bridge		Broadway Blvd at Alvernon Way	
	AM	PM	AM	PM
	(7:00-9:00)	(4:00-6:00)	(7:00-9:00)	(4:00-6:00)
Year				
2013	21	15	42	31
2012	8	21	41	27
2011	23	27	31	45
2010	-	-	26	38
2009	-	-	30	24
2008	-	-	38	46

**Figure 2. Excerpt of Table Showing Historical Peak Period Bicycle Volumes on Broadway Blvd (Counts at Intersections)**

Source: Pima Association of Governments 2013 Regional Pedestrian and Bicycle Summary Report, accessed 6/26/14 at:

[www.pagnet.org/documents/bicycle/2013RegionalBicycleCountReport.pdf](http://www.pagnet.org/documents/bicycle/2013RegionalBicycleCountReport.pdf)

Table 12. Bicycle count totals at 39 core locations, with 2013 totals compared with the previous four-year average (2009 – 2012).

Location	2009 Total	2010 Total	2011 Total	2012 Total	2013 Total	Previous 4-year average (2009-2012)	2013 Percent Change from previous 4-year average
10th Ave / 43rd St	13	22	27	17	16	20	-19%
18th St / 6th Ave	62	59	75	75	73	68	8%
1st Ave / Tangerine Rd	44	103	110	101	94	90	5%
22nd St / Kolb Rd	58	57	42	57	51	54	-5%
3rd St / Campbell Ave	845	992	1,170	1,001	902	1,002	-10%
3rd St / Swan Rd	53	78	73	99	71	76	-6%
4th Ave / Lester St	33	50	64	81	73	57	28%
6th St / 9th Ave	69	97	81	129	106	94	13%
6th St / Highland Ave	540	365	610	611	675	532	27%
7th Ave / 7th St	111	67	101	84	89	91	-2%
Ajo Way / Mission Rd	17	28	93	61	30	50	-40%
Alvernon Way / Broadway Blvd	79	93	101	98	115	93	24%
Alvernon Way / Ft Lowell Rd	31	43	35	47	45	39	15%
Anklam Rd / St Mary's Rd	58	75	84	96	66	78	-16%
Arroyo Chico / Tucson Blvd	40	41	44	63	85	47	81%
Aviation Hwy / Broadway Blvd - Snake Bridge	105	124	120	175	180	131	37%

Note: Volumes include eastbound, westbound, northbound, and southbound directions

## Next Steps

As mentioned throughout this memo, the City of Tucson will conduct another round of traffic counts and include bicycle counts this Fall. This will provide new data that is seasonally comparable to previous years' counts. The counts will continue to inform us on traffic patterns on Broadway. We are anticipating that the updated 2045 projections will be available from PAG, as well.

Regarding the roadway - and particularly intersection - design, and addressing choke points, this falls into this next more detailed phase of work the Task Force is entering into now. Specifically, here are a few things that will be done as a part of this process:

- Exploring more than just basic intersection treatments (which have been used to date) that will address the east-west and north-south mobility needs and achieves goals for the different modes and roadway design. For example, indirect left turns can achieve narrower widths at intersections. Would this work for one or all major intersections in the project area? What are the impacts on adjacent properties? On intersecting north-south streets? What mixture of signal timing and infrastructure will achieve the best results?
- Running refined traffic modeling that will begin to explore some intersection design options, including indirect left turns (or Michigan lefts), as well as other infrastructure considerations (dedicated bus and no dedicated bus lanes, for example) - and extending out past Euclid to the new intersection with Downtown Links on Broadway;
- Coordinating with the project team working on Downtown Links project, which plays heavily into the design discussion of the Euclid/Broadway intersection (TDOT engineer Sam Credio was just assigned to begin working with the Broadway project team, and he is also the engineer with the Downtown Links project); and,
- Coordinating/staying aware of the Federally-funded intersection improvements project proposed for the Congress/Toole/4th Avenue intersection.

As the design process moves forward this summer and into the fall, the Project Team will continue to provide updates to the CTF regarding work on the PAG regional model, traffic and bicycle counts, and other on-going efforts that will feed into the analysis of the Broadway Boulevard designs.