

Bicycle Boulevards in Tucson



Presented by Tom Thivener, City of Tucson, Transportation Department

Tucson: Paradise for road biking

- Υ # 1 community for road biking –Outdoor Magazine, August 2010
- Υ “Tucson is a cycling Mecca” –Lance Armstrong
- Υ El Tour de Tucson –largest 1 day perimeter cycling event in US



Tucson: Bike Scene



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Tucson Velo

Covering Tucson's cycling community

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Recent Entries Recent Comments

Archives

- Tim Bowen: Congrats Mike. It's inspiring to s...
- Irene: Love you! Thanks for a wonderful bi...
- Kevin: Mike and Irene, congrats on the an...
- Info: Congrats Mike!!! As a city we are ...
- Christian: Congratulations Mike (and Irene)! ...
- I saw one you described last night ...
- Nice work. I think you got 'em all...
- kate.mchugh: WOW!! I'm so thankful that the cit...
- I thought I'll post this info so th...

Anniversary by bike: When getting there is part of the fun

Photos by Matt Fischler

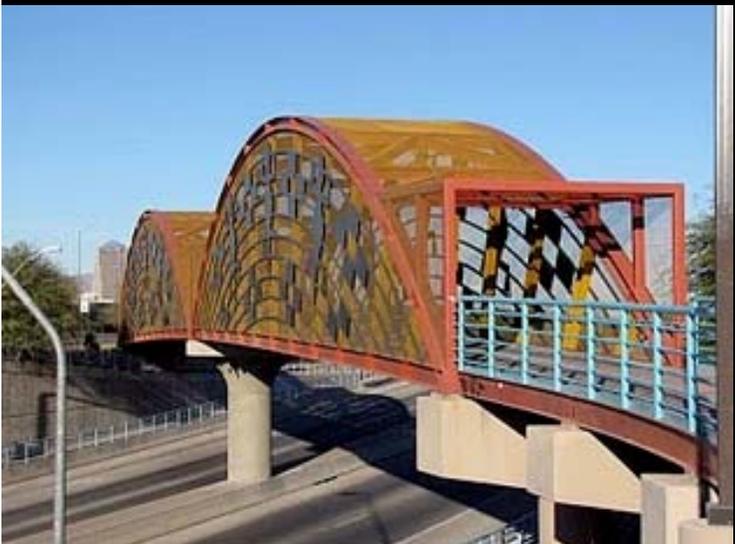
My wife, Irene, and I celebrated our eighth wedding anniversary last night.

Upcoming events

Site Sponsors

- THE B LINE
- UMC
- Just Your Ordinary B.S...

Tucson: Bike Scene



Tucson: Bike Scene



Free Bicycle Safety Diversion Program

Sponsored by Pima County and the City of Tucson



www.BikePed.pima.gov

FREE BIKE SAFETY CLASSES!

WE CAN GET YOU STARTED OFF RIGHT WITH **FUN, FRIENDLY & FREE** BICYCLE SAFETY & COMMUTING CLASSES.

WE HAVE **FREE BIKE MAPS**, SHARE THE ROAD POCKET GUIDES, SHARE THE STREETS BUMPER STICKERS, & MUCH MORE!

FOR COMPLETING THE CLASSES, YOU'LL GET YOUR CHOICE OF A **FREE HELMET & BIKE LIGHT**, A **FREE HELMET** AND A **HIGH-QUALITY LOCK**, OR A **FREE BIKE LIGHT SET** AND A **LOCK**.

FREE STUFF!

CALL **243-BIKE** FOR MORE INFORMATION AND TO REGISTER FOR CLASSES!



SPONSORED BY PIMA COUNTY AND THE CITY OF TUCSON

Tucson: Bike Scene



Not enough folks on bikes

2% are biking to work in Tucson

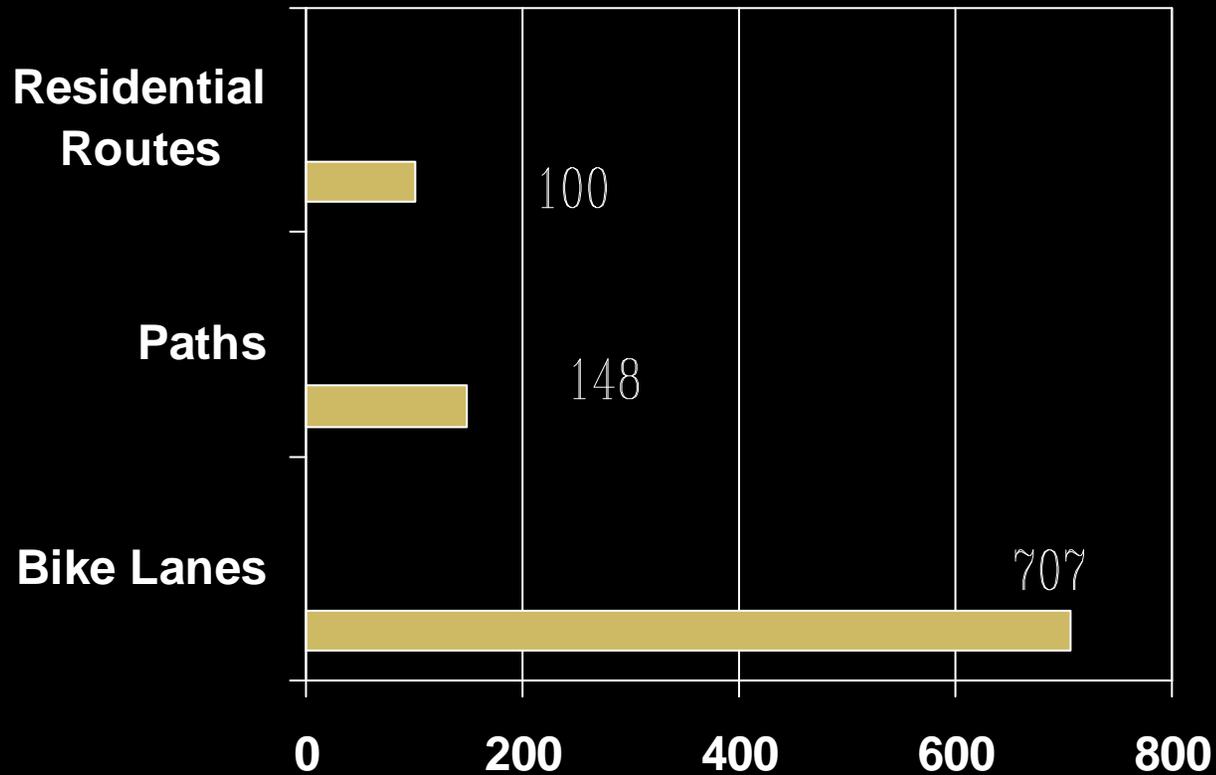
- ♣ Was 2.2% in 2000, #1 in US for major US Cities
- ♣ Is 2.0% in 2008, now number 5 in US

Υ “the biggest single thing to focus on is to increase bicycle use in the region”

--League of American Bicyclists 2008 critique of Tucson's

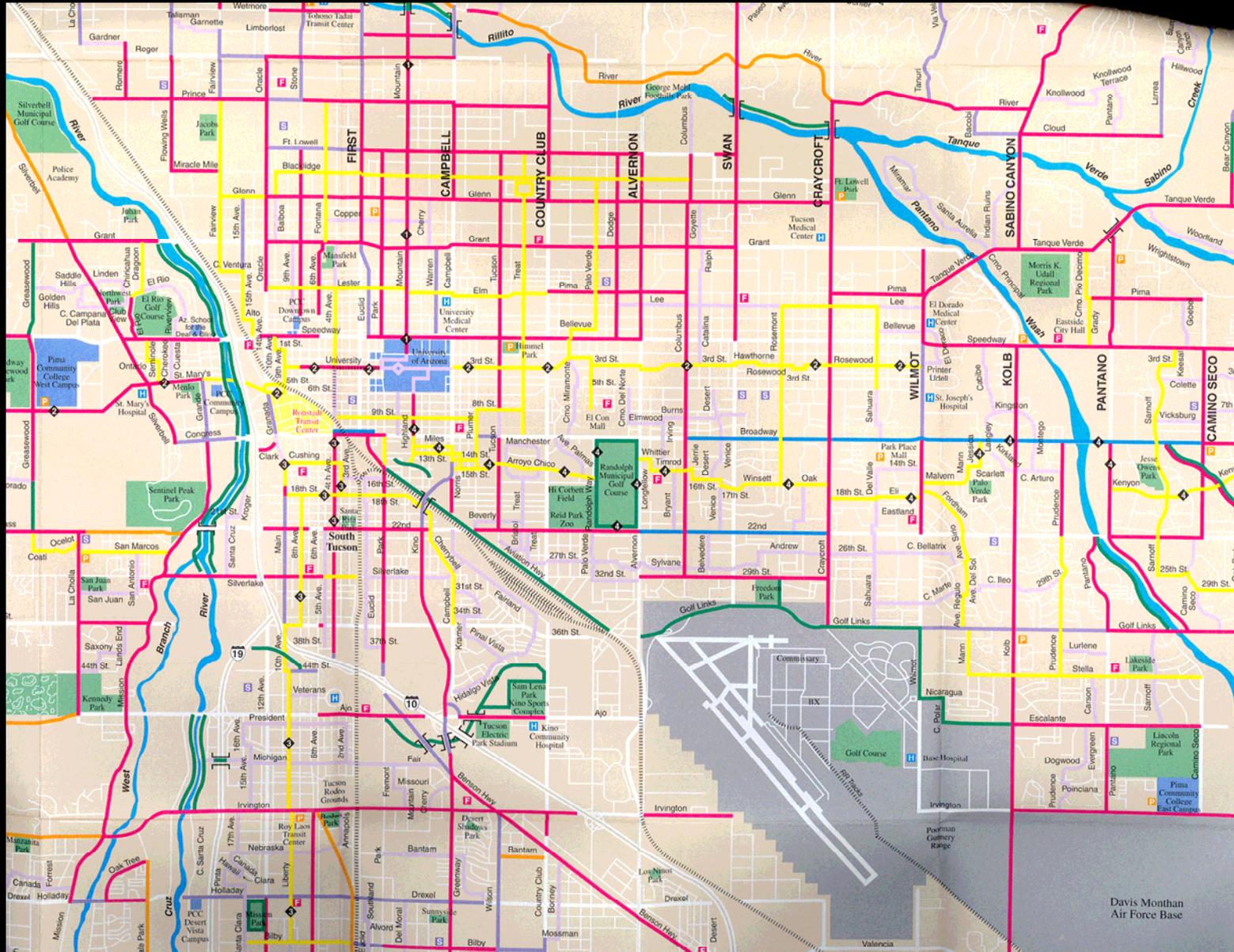


What does the Tucson region have?



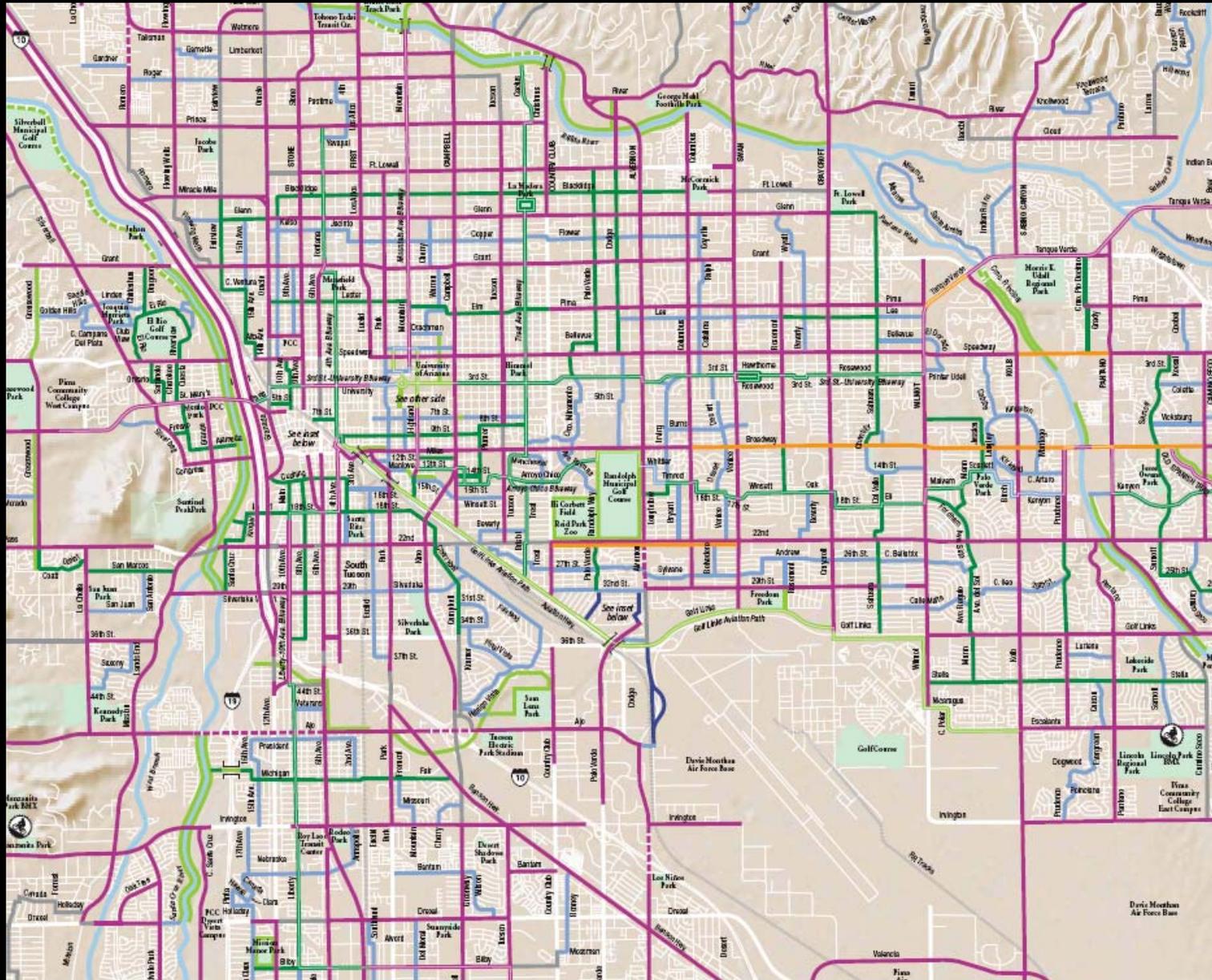
Tucson has over 950 miles of bikeways!
Most are bike lanes on busy roads

2001

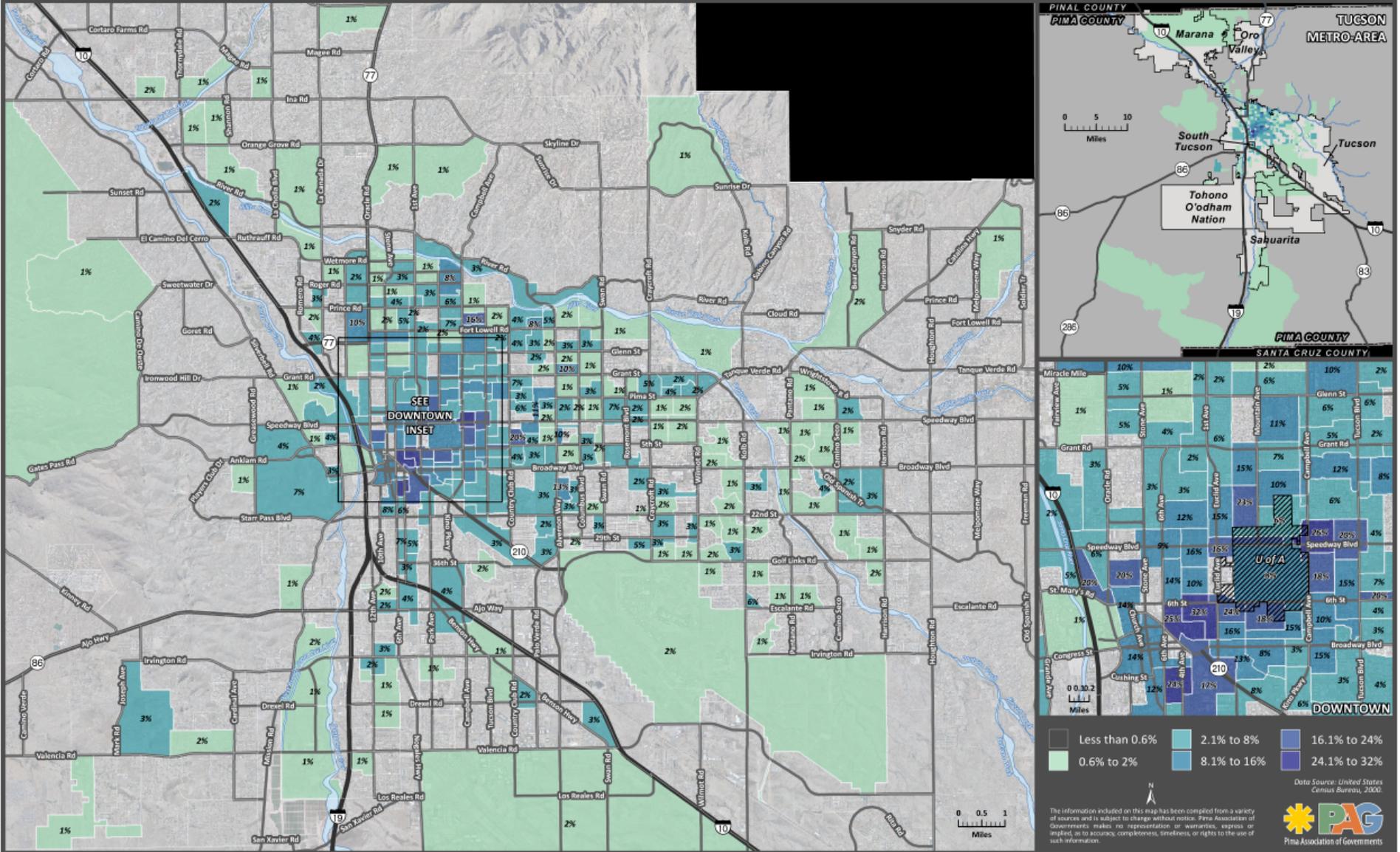


Davis Monthan
Air Force Base

2011



TUCSON - EASTERN PIMA COUNTY REGION BICYCLE COMMUTERS: PERCENT BY BLOCK GROUP



What does the Tucson region have?



♣ 100 miles of routes on residential streets

- Typically:
 - Posted 25mph
 - Low ADT: 500-3,000
 - Bike route signs every ¼ mile
 - Some traffic calming
 - Limited help crossing busy roads
 - Shared roadway, no striped lane
 - Too many stop signs



Unsignalized crossing Treat/Broadway

9th St/ Park



3rd St/Miramonte



What does the Tucson region have?

- ♣ 100 miles of routes on residential streets
 - Good candidates to become Bicycle Boulevards
 - Posted 25mph
 - Reduce amount of car traffic
 - Frequent wayfinding signage
 - Add traffic calming devices
 - Provide help crossing busy roads
 - Add pavement markings to emphasize bikes
 - Remove unnecessary stop signs/switch to yields



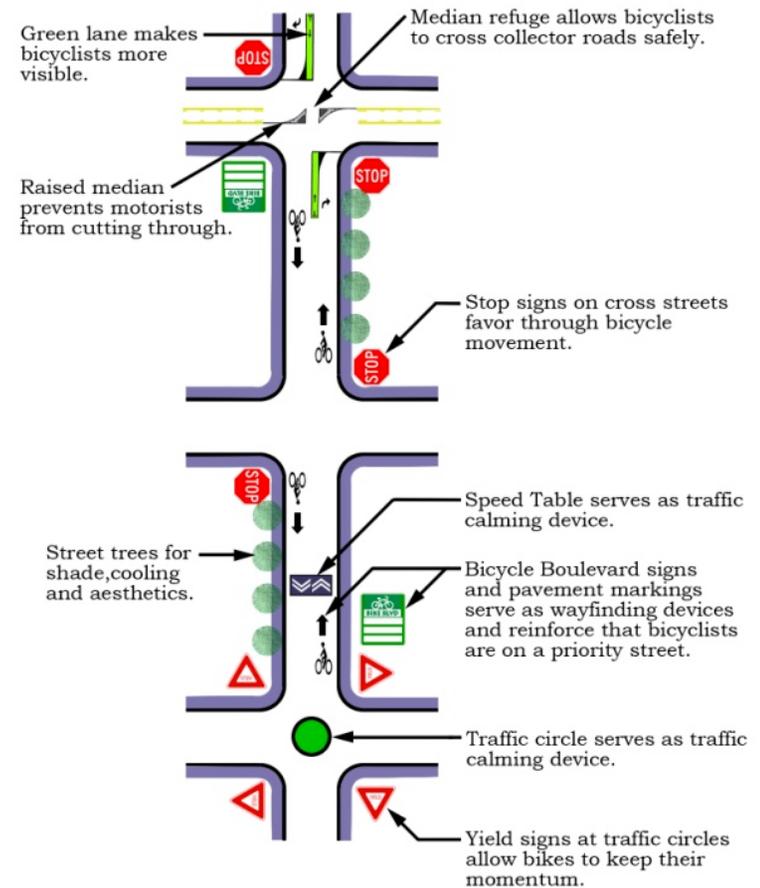
University/10th Ave

What is a Bicycle Boulevard?

- γ Shared Roadway
- γ Local/residential streets
- γ Takes advantage of grid system
- γ Connections with other bikeways



TYPICAL BIKE BOULEVARD IN TUCSON



What is a Bicycle Boulevard?

Five main elements:

- γ Traffic calming
- γ Traffic reduction
- γ Signage
- γ Intersection Treatments
- γ Prioritized Travel



What is a Bicycle Boulevard?

γ Traffic Calming



What is a Bicycle Boulevard?

γ Traffic Reduction



What is a Bicycle Boulevard?

γ Traffic Reduction

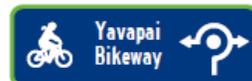


What is a Bicycle Boulevard?

Signage and Pavement Markings



TUCSON REGION BIKE BOULEVARD SIGN PROGRAM mod 6



Route identification alternative
24" x 36"



Directional signage
24" x 36"



Route identification
24" x 36"



Route identification with mileage

FHWA Series B2000EX font
Pantone 288 blue (or MUTCD equivalent)
Pantone 368 (bike box) green

route identification signs for traffic circles 36" x 12"



route identification signs for arterial street crossings 10' x 1.5'

What is a Bicycle Boulevard?

γ Intersection Treatments



What is a Bicycle Boulevard?

γ Intersection Treatments



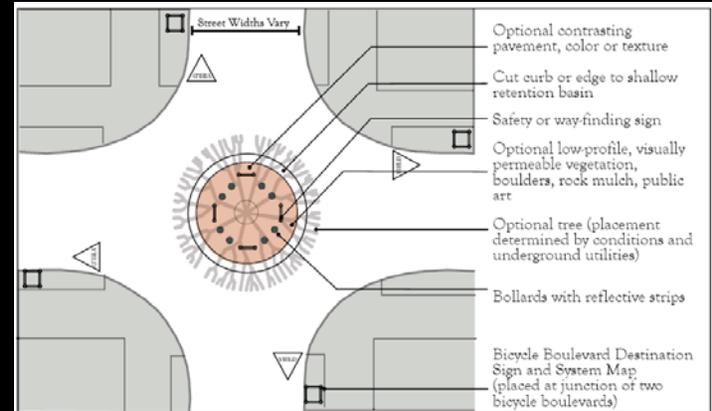
What is a Bicycle Boulevard?

γ Intersection Treatments



What is a Bicycle Boulevard?

γ Prioritized travel

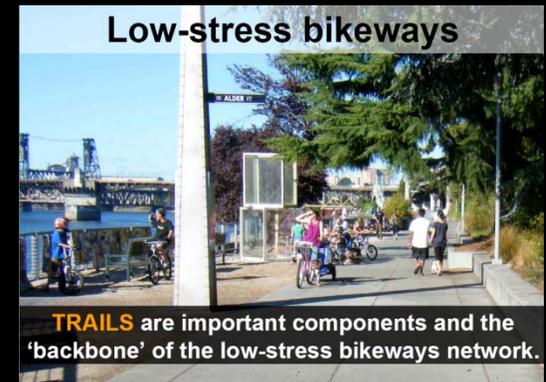


What is Portland doing right?

- ⌞ 6% are biking to work in Portland
 - ♣ Has risen from 1.7% in 2000
 - ♣ Focus on 'Low-stress bikeways'



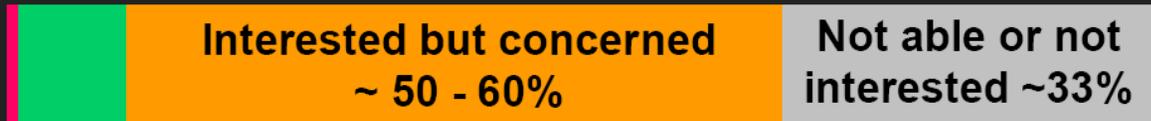
BICYCLE BOULEVARDS are low traffic streets where bicycles are given priority.



What is Portland doing right?

Understanding the market for bicycle transportation: **THE FOUR TYPES**

Strong & fearless



Enthusied & confident

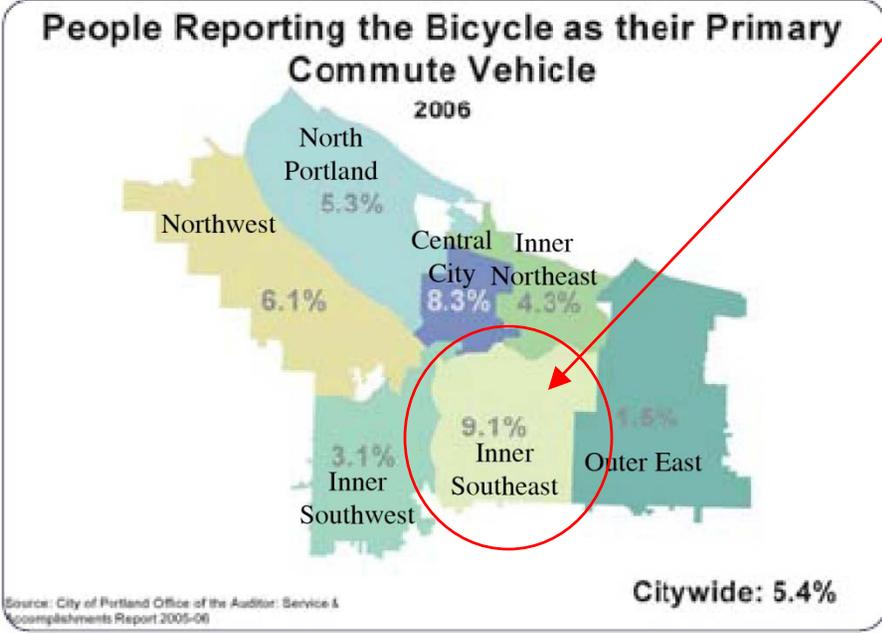
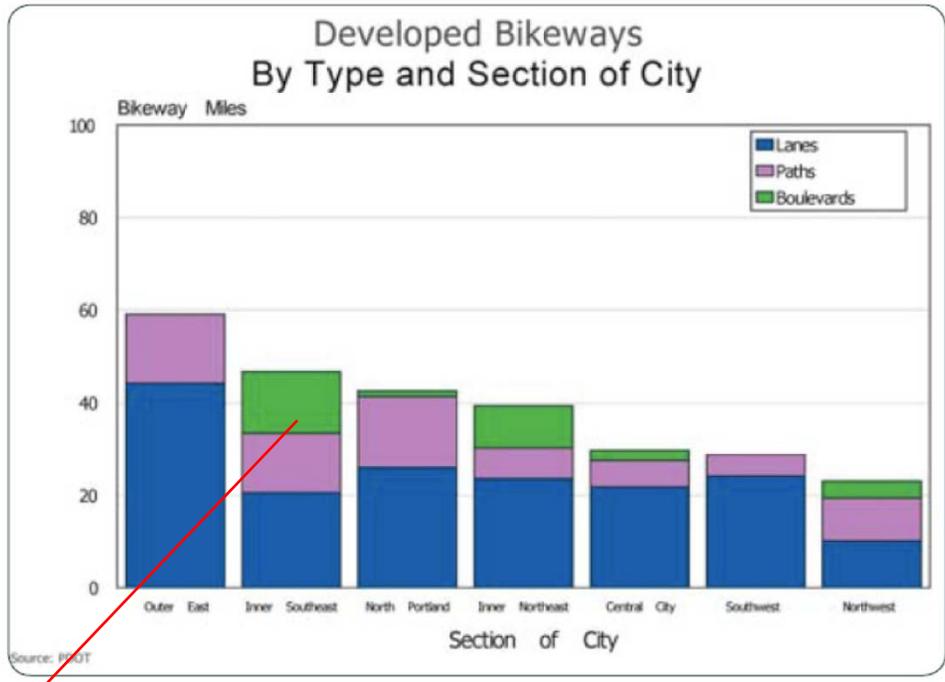


"Bike boulevards will go a long way toward attracting the 300,000 or so people (about 60 percent of the city's population) who are dubbed 'interested but concerned' about riding on the city streets."

-Portland Office of Transportation

Portland Success

The Inner Southeast part of Portland enjoys the highest bike usage. It also has a well balanced network of facilities.



Density of the Inner Southeast:
4,648 people per square mile

Are women riding?

- ♣ Women serve as “**indicator species**” for bike friendliness
 - “Women were less likely than men to try on-street bike lanes and more likely to go out of their way to use bike boulevards”
 - “if a city wants to substantially increase the number of people riding bikes on a regular basis, it needs to reach out to young women and older people”
- ♣ Netherlands: bikes used for 27% of all trips (55% women)
- ♣ Germany: bikes used for 12% of all trips (49% women)
- ♣ US: bikes used for 0.5% of trips to work (23% women)
- ♣ **Tucson**: bikes used for 2% of trips to work (24% women)



* Research from Portland State University and summarized in Scientific American - Oct. 200



Portland: 3,939 people per square mile

VS.

Tucson: 2,500 people per square mile

BUT...

Densities of Tucson Neighborhoods, per square mile:

Central Tucson: 4,618

Northwest Neighborhood: 5,240

Armory Park: 5,105

Winterhaven: 5,202

Sunnyside Neighborhood: 4,852

Sam Huges Neighborhood: 3,853

University of Arizona Campus: 11,362

Zip 85701: 3,394

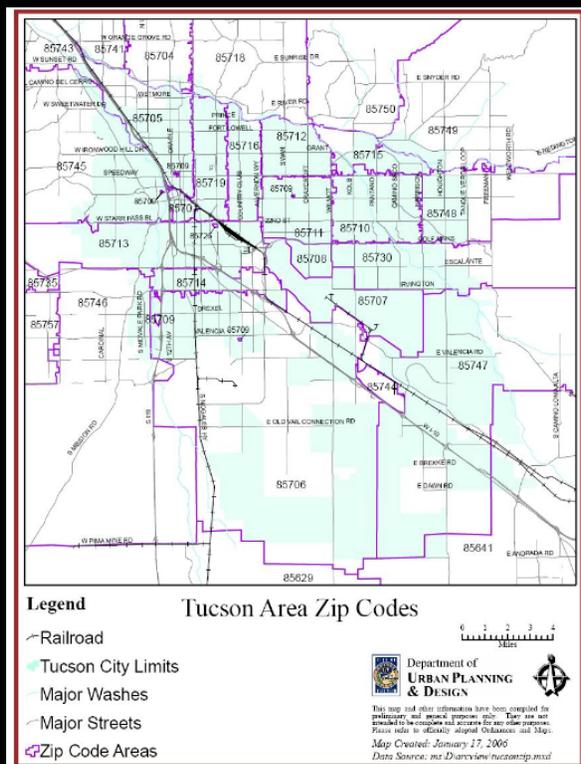
Zip 85705: 4,594

Zip 85706: 5,673

Zip 85711: 5,374

Zip 85719: 5,945

Zip 85716: 5,673

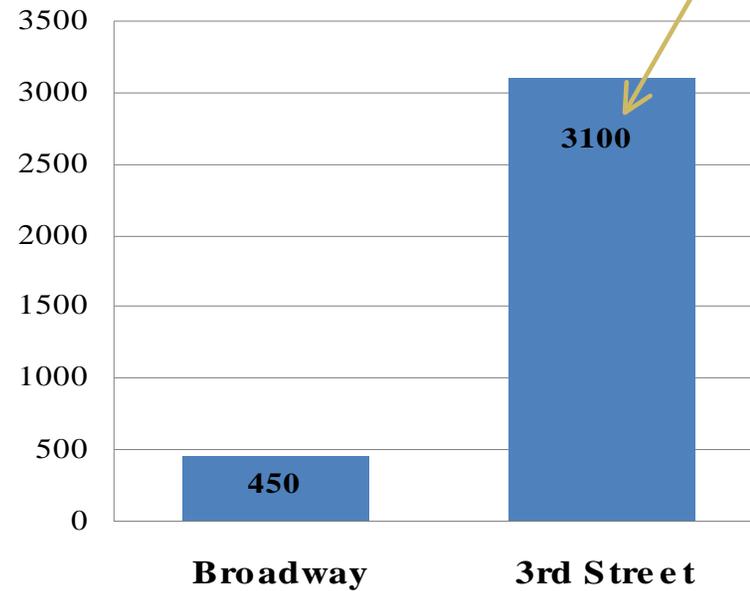


Success from 3rd Street



34% are women

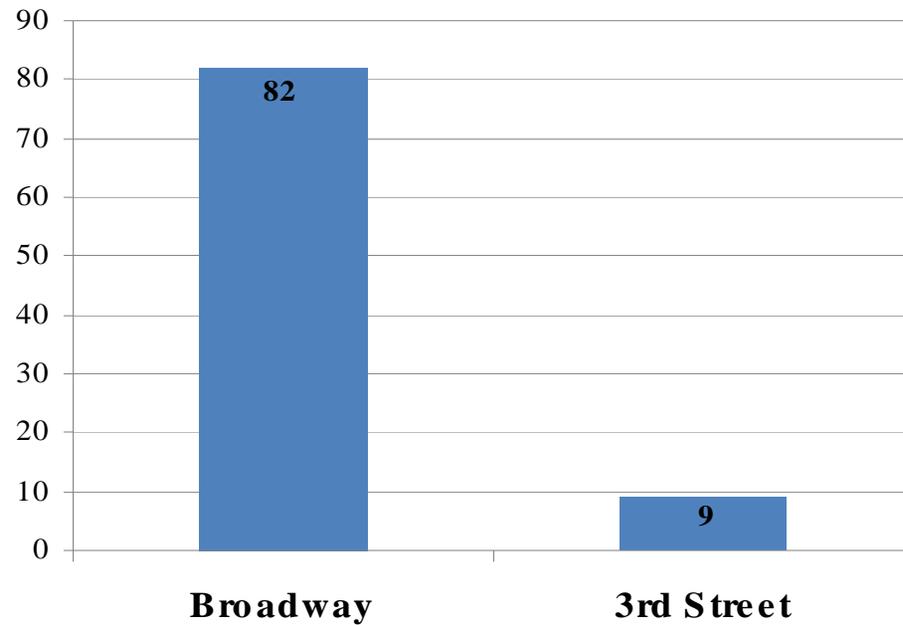
Daily Bike Traffic
(estimates from 2008 bike count)



Success from 3rd Street



**Number of bike crashes
between Wilmot and Campbell
from 2001 to 2008**

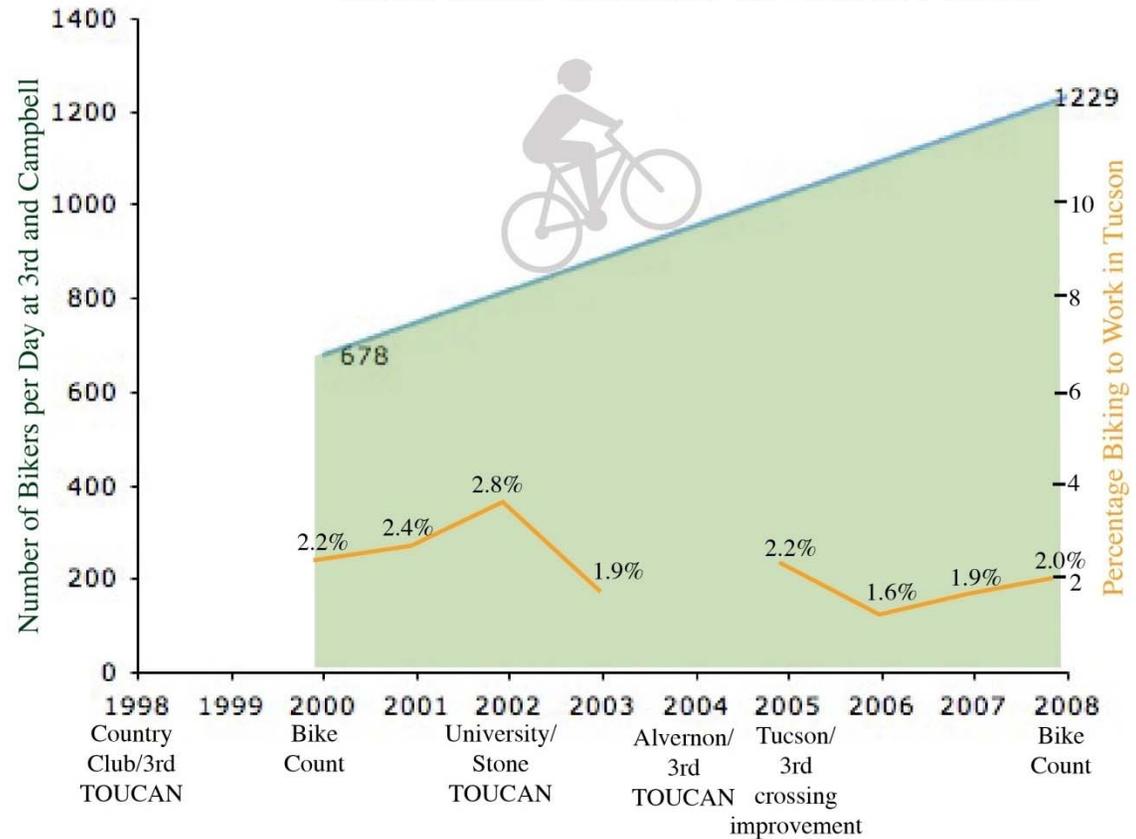


Success from 3rd Street

2000-peak 5 hour count by the BAC
 2008-peak 4 hour count by PAG



THIRD STREET RIDERSHIP VS. TUCSON'S TREND



Why a Network of Bike Blvds?

- Υ Utilize treatments that engineers are comfortable with
- Υ Get more people out on bikes/reduce car trips
- Υ Increase mobility choices
- Υ Also benefits pedestrians and transit users who need to cross busy streets
- Υ Most bike boulevards are in proximity to schools, shopping and recreation destinations
- Υ Cost effective (\$200k to 250k per mile)
- Υ Majority of people don't feel safe riding on busy roads, but will ride on bike boulevards

Why a Network of Bike Blvds?

Individual cost of driving

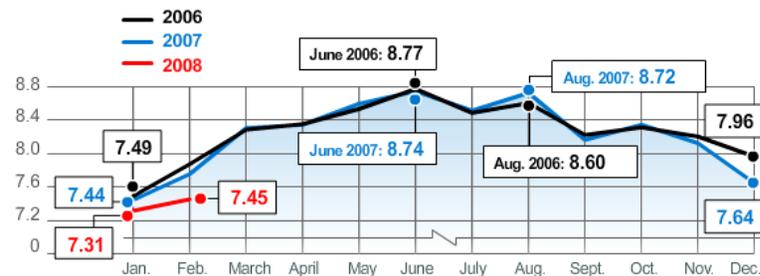
\$7,823 per year

(AAA estimate for annual cost of operating a compact car for 15,000 miles/year)

Americans are driving less
February was the fourth straight month in which miles driven in the USA fell compared to the previous year.

- ▶ Estimated annual miles traveled
- ▶ Average daily miles traveled

Average daily miles driven in the USA (in billions)



Source: Federal Highway Administration

Updated 5/9/2008 11:16 AM | Comments 2,546 | Recommend 149 | E-mail | Save | Print | Reprints & Permissions | RSS



Enlarge | By Marcio Jose Sanchez, AP

Gas prices rattle Americans

By Judy Keen and Paul Overberg, USA TODAY

Record high gas prices are prompting Americans to drive less for the first time in nearly three decades, squeezing family budgets and causing major shifts in driving habits, federal data and a USA TODAY/Gallup Poll show.

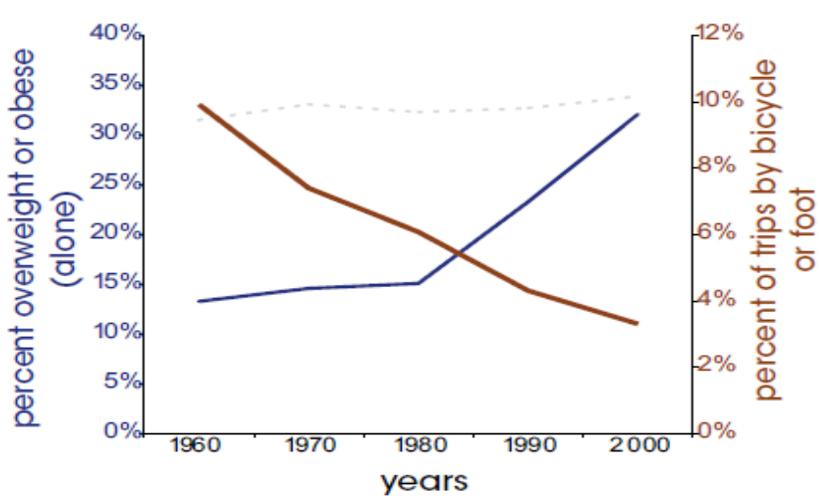
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Why a Network of Bike Blvds?



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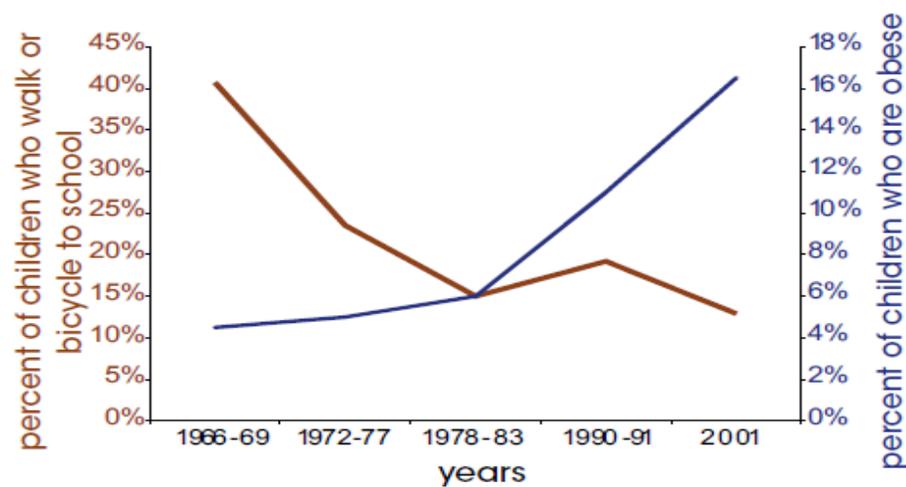
Change in Bicycling and Walking Rates vs. Adult Obesity and Overweight Rates



Legend:
 ■ = % of trips to work by bicycle or foot
 ■ = % obese
 ■ = % overweight alone

Sources: National Center for Health Statistics 2006, Census 1960, 1970, 1980, 1990, 2000; $r = -0.86$ (bicycle + walk/overweight) $r = -0.79$ (bicycle + walk/obesity)

Trend in Obese Children vs. Rate of Bicycling and Walking to School



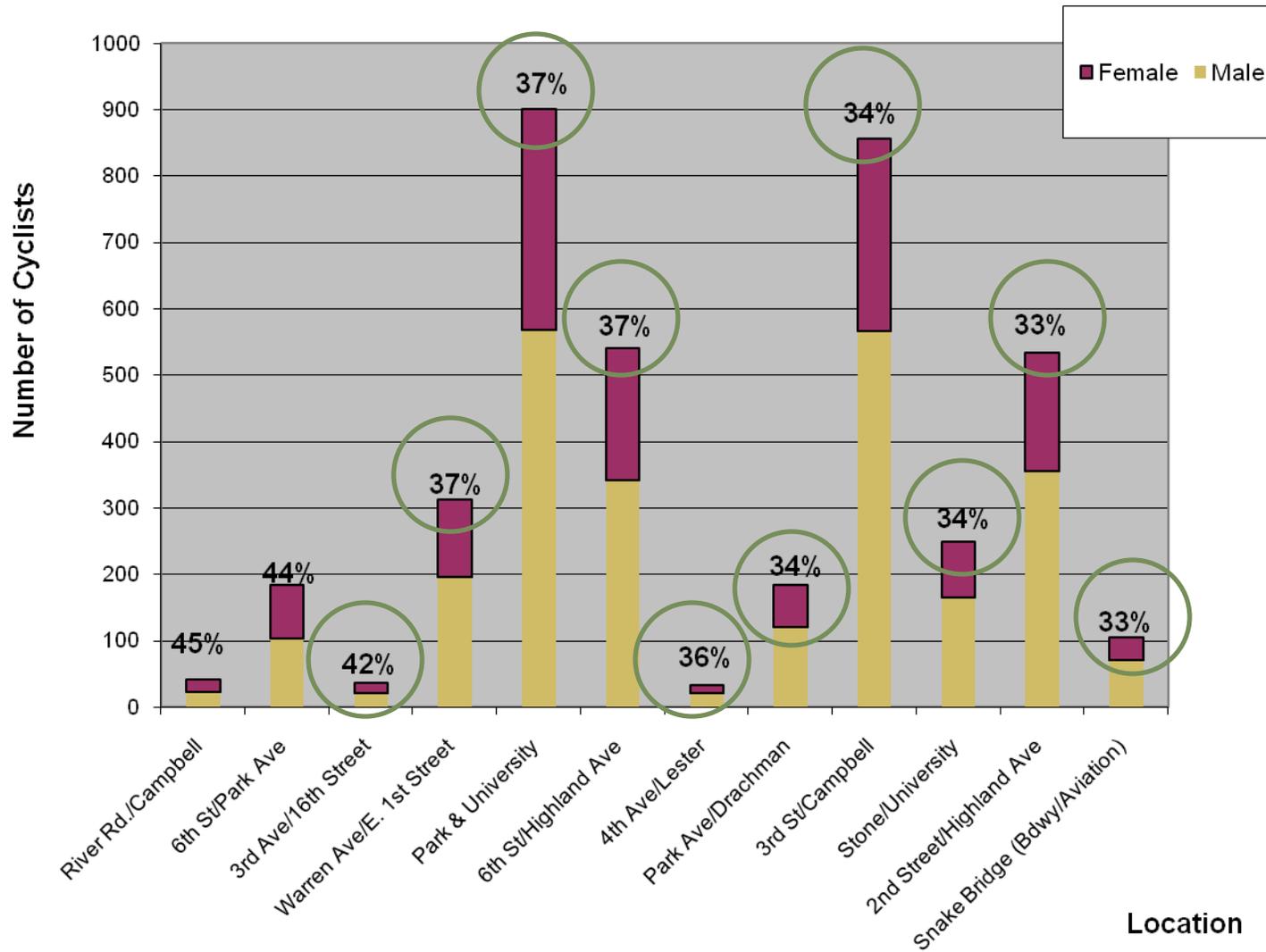
Legend:
 ■ = % of kids who bicycle or walk to school
 ■ = % of kids who are obese

Sources: CDC, NHANES, McDonald, Noreen 2007; $r = -0.63$

Top 12 Female Ridership Locations

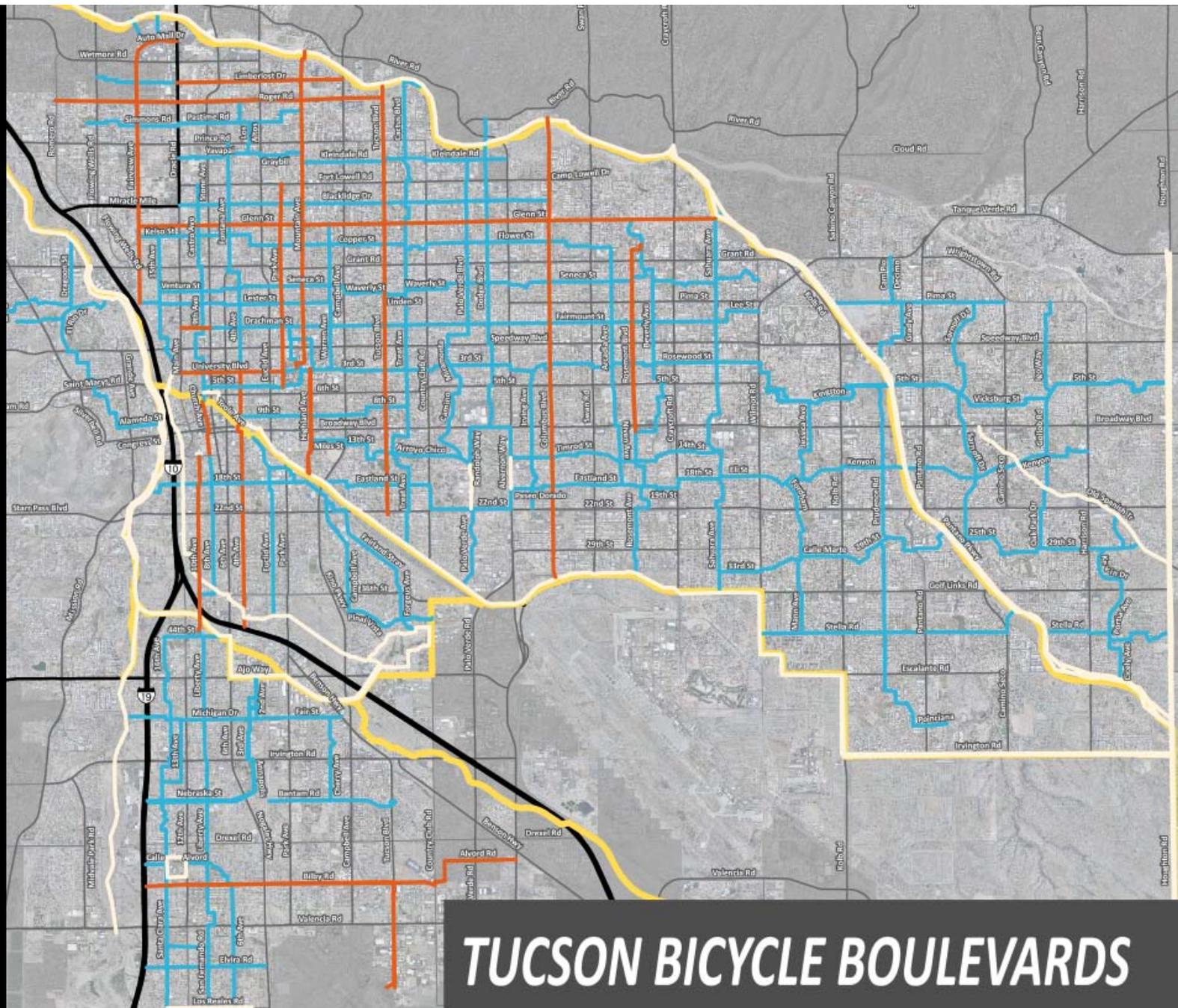
Low Stress Bikeways

2009 PAG Bike Count



Bike Boulevards To Date

- Υ Support from Mayor & Council, Bicycle Advisory Committee, various neighborhoods,
- Υ 2009 PAG Regional Bike Plan identifies a network of 40 bicycle boulevards (170 miles), included in Trails Plan Update
- Υ 26 miles in design (3rd/University, 4th Ave/Fontana, and Seneca, Copper/Flower, Liberty)
- Υ Construction this year for 4th Ave/Fontana and 3rd St/University
- Υ Cyclovia event attracted over 5,000 participants



TUCSON BICYCLE BOULEVARDS

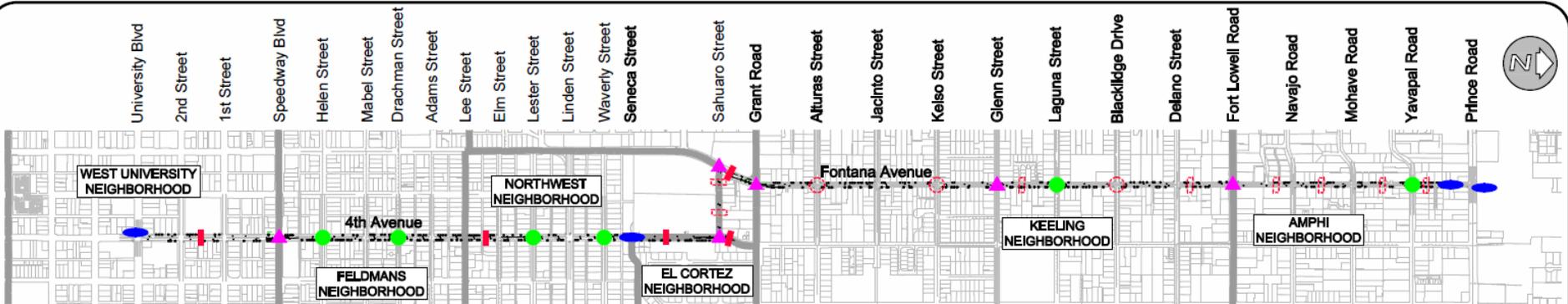


- Bike Boulevards
- Collector Streets w/ Bike Lanes
- Off-Street Shared Use Path
- Urban Loop



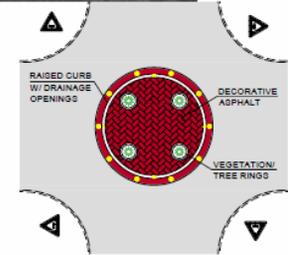
Under Construction

4th Avenue-Fontana Avenue Bike Boulevard

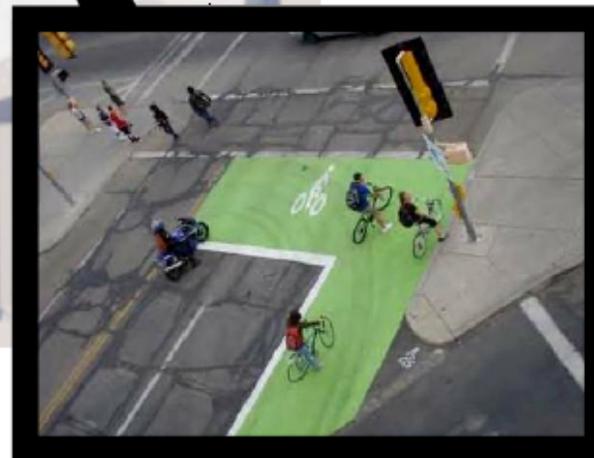
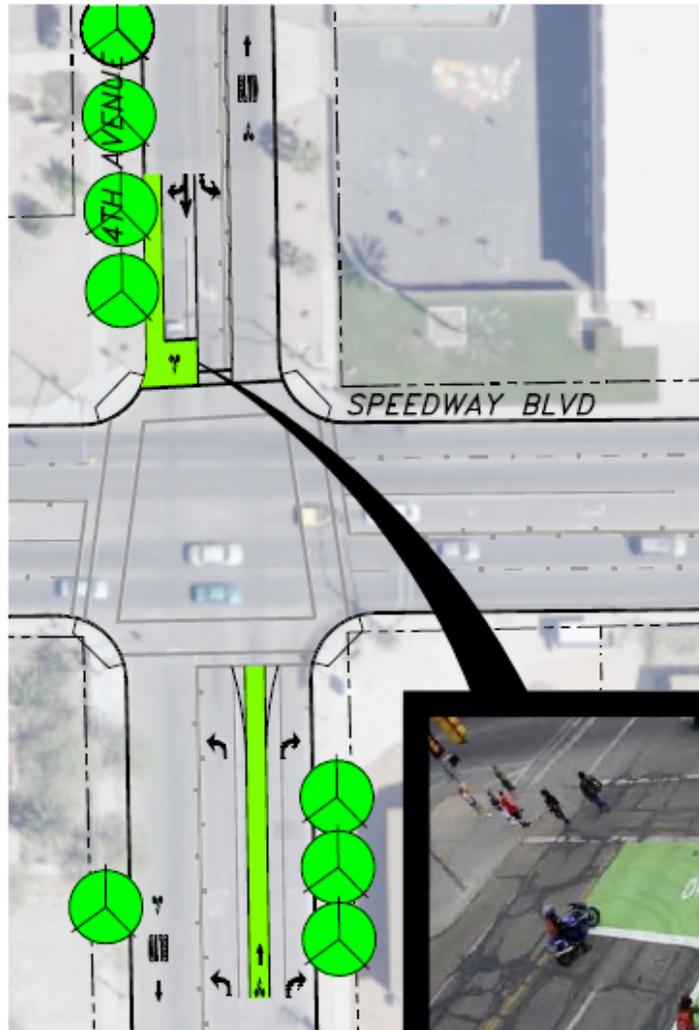


BIKE BOULEVARD LEGEND

- New Traffic Circle
- New Special Feature
- ▲ New Intersection Improvement
- | New Speed Table
- Existing Traffic Circle
- Existing Speed Hump



4th Avenue / Speedway Blvd



**New Bike Box
&
NB Vehicular Restrictions**

Ultimate intersection at 6th Avenue/Grant/Fontana includes a TOUCAN signal, approved by Mayor and Council as part of Grant Road RTA project



Hurdles

- γ Funding – not enough to feed demand
- γ Pavement – maintenance not typically done on local streets
- γ Extensive Public Outreach



The Goal



Tucsonvelo.com

Azstarnet.com

