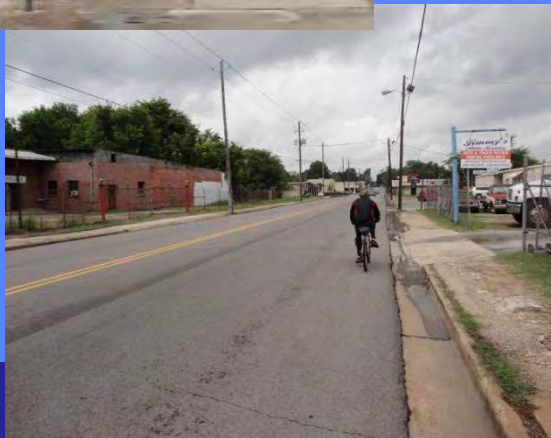


Bicycle and Pedestrian Plan for Gadsden & Etowah County



**2013 Annual Conference
Alabama Chapter – APA
May 1, 2013**



Bicycle Pedestrian Plan Goals

- Provide safe routes to schools
- Increase Connectivity to Greenway and Trail options
- Provide accessibility and mobility for people and goods
- Enhance system performance and operations
- Preserve and maintain the existing system
- Address all modes providing framework for modal connectivity that enhances mobility options for the community
- Coordinate with land use development to support economic development and community

Source: Gadsden / Etowah LRTP



A Major Client Concern



Project Strategy

- Develop a performance-based plan grounded in level of service measures
- Provide realistic construction cost estimates
- Prioritize in high, medium, low “buckets” based on performance/cost/demand scores
- Provide a tool for making priority decisions --- NOT A WISH LIST
- Encourage implementation inside other highway projects



Bicycle Pedestrian Plan Elements

- ❖ Existing Bicycling and Walking Conditions
- ❖ Demand Analysis
- ❖ Public Input
- ❖ Facility Improvement Needs Identification & Costs
- ❖ Prioritization of Projects



Existing Conditions Bicycle and Pedestrian LOS

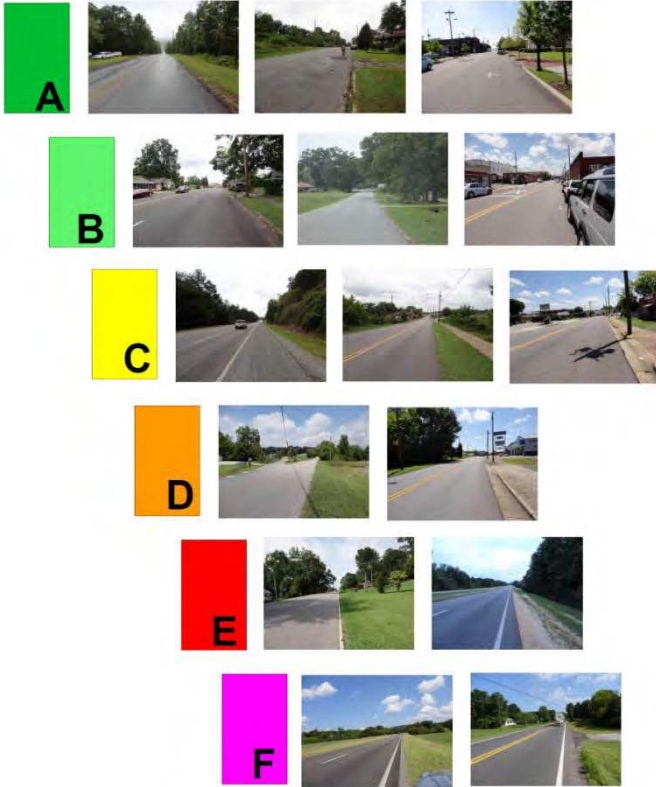


- ❖ Methodologies used to evaluate hundreds of thousands of miles of roads nationwide
- ❖ Included in the 2010 *Highway Capacity Manual*



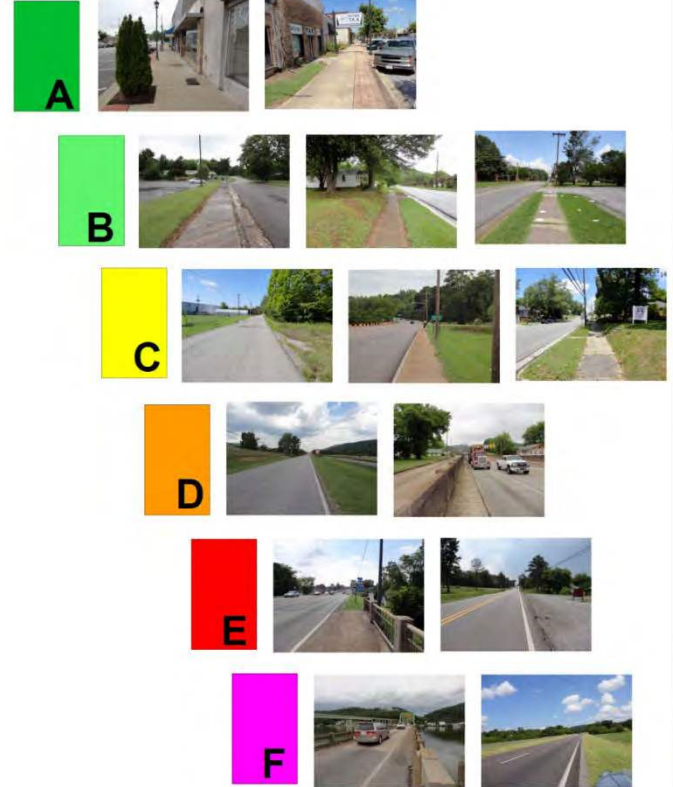
Understanding Level of Service

Typical Bicycling Conditions



Gadsden Etowah MPO
Bicycle and Pedestrian Plan

Typical Walking Conditions



Gadsden Etowah MPO
Bicycle and Pedestrian Plan



Data Collection / Inventory



Bicycle Roadway Segment LOS Model

Relevant roadway data include:

- Traffic volume
- Lanes on roadway
- Speed of traffic
- Heavy vehicle mix
- Pavement condition
- Outside lane width (including shoulder)



Pedestrian Roadway Segment LOS Model

Relevant roadway data include:

Bicycle model data and....

- On street parking
- Buffer width
- Sidewalk width
- Tree spacing



LOS Categories

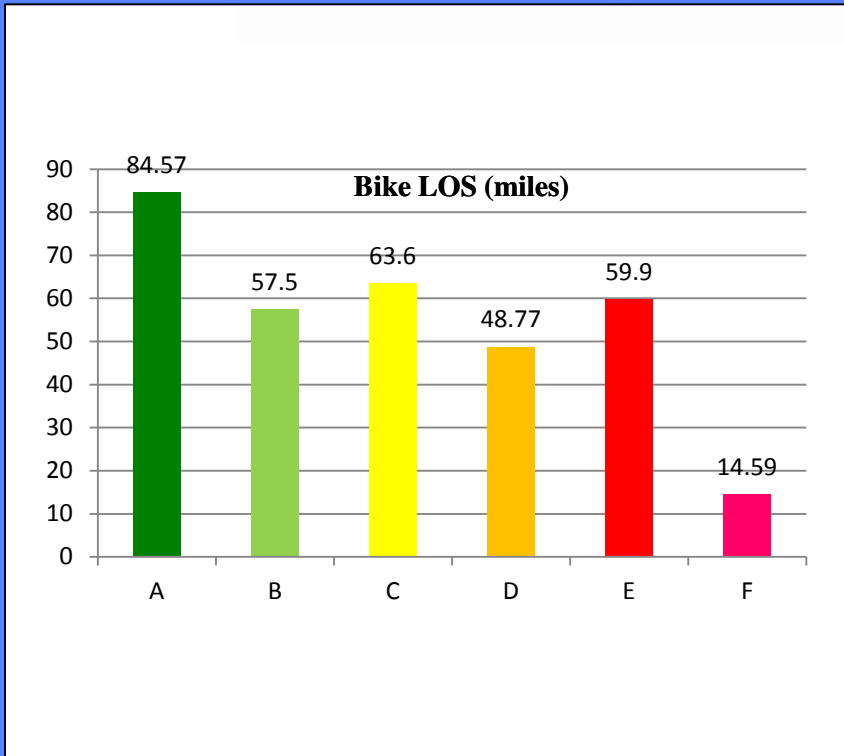
Level-of-Service	LOS Score
A	≤ 1.5
B	> 1.5 and ≤ 2.5
C	> 2.5 and ≤ 3.5
D	> 3.5 and ≤ 4.5
E	> 4.5 and ≤ 5.5
F	> 5.5



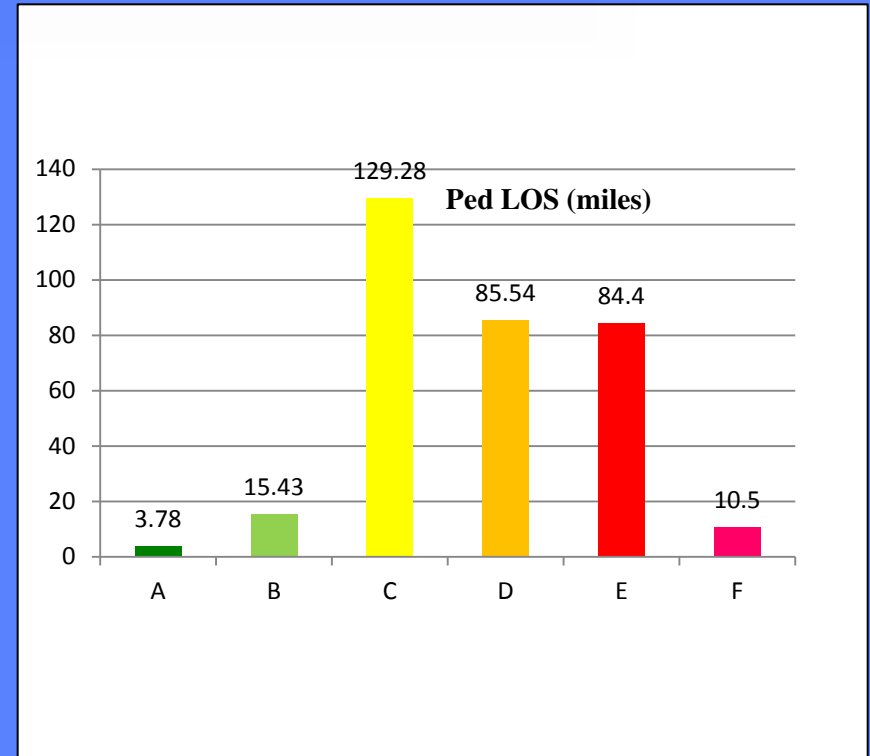
Existing Conditions Results



Existing Conditions Results



•Distance weighted average =
2.93 = "C"



•Distance weighted average =
3.83 = "D"



Public Input

- ❖ Participant Feedback:
- ❖ Level of Service Target



General Bicycling Conditions	Level of Service (circle one)
Please indicate which bicycling conditions represent a minimum standard that still meets your general needs.	A B C D E F
General Walking Conditions	Level of Service (circle one)
Please indicate which walking conditions represent a minimum standard that still meets your general needs.	A B C D E F



Public Input

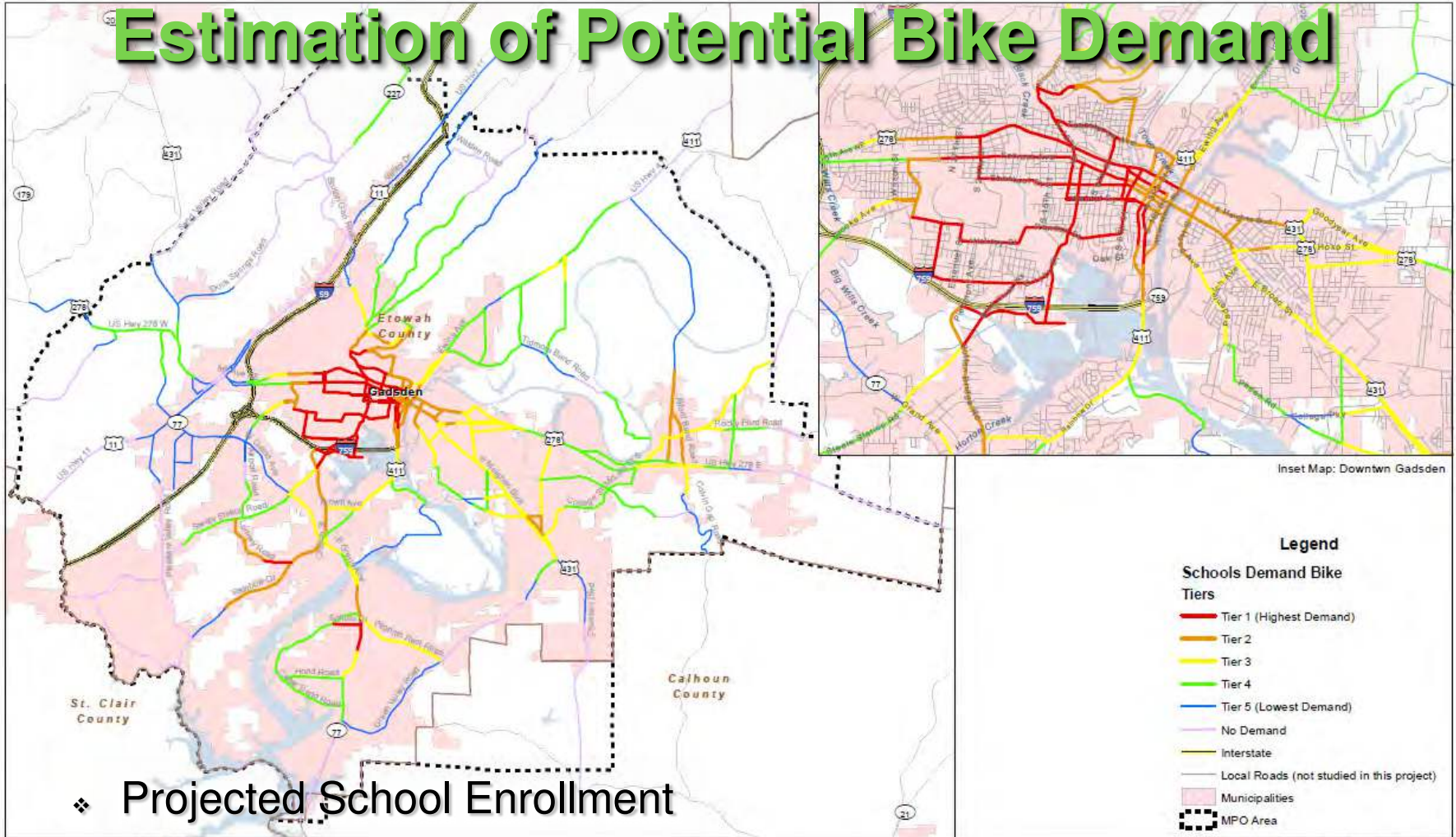
❖ Participant Feedback: Level of Service Target

	Bike	Walking
A =	5	6
B =	4	1
C =	10	10
D =	2	1
E =	1	2
F =	3	1
?? =	3	7
	28	28

❖ MPO approved performance thresholds of “C” for both Bike and Ped modes.



Estimation of Potential Bike Demand

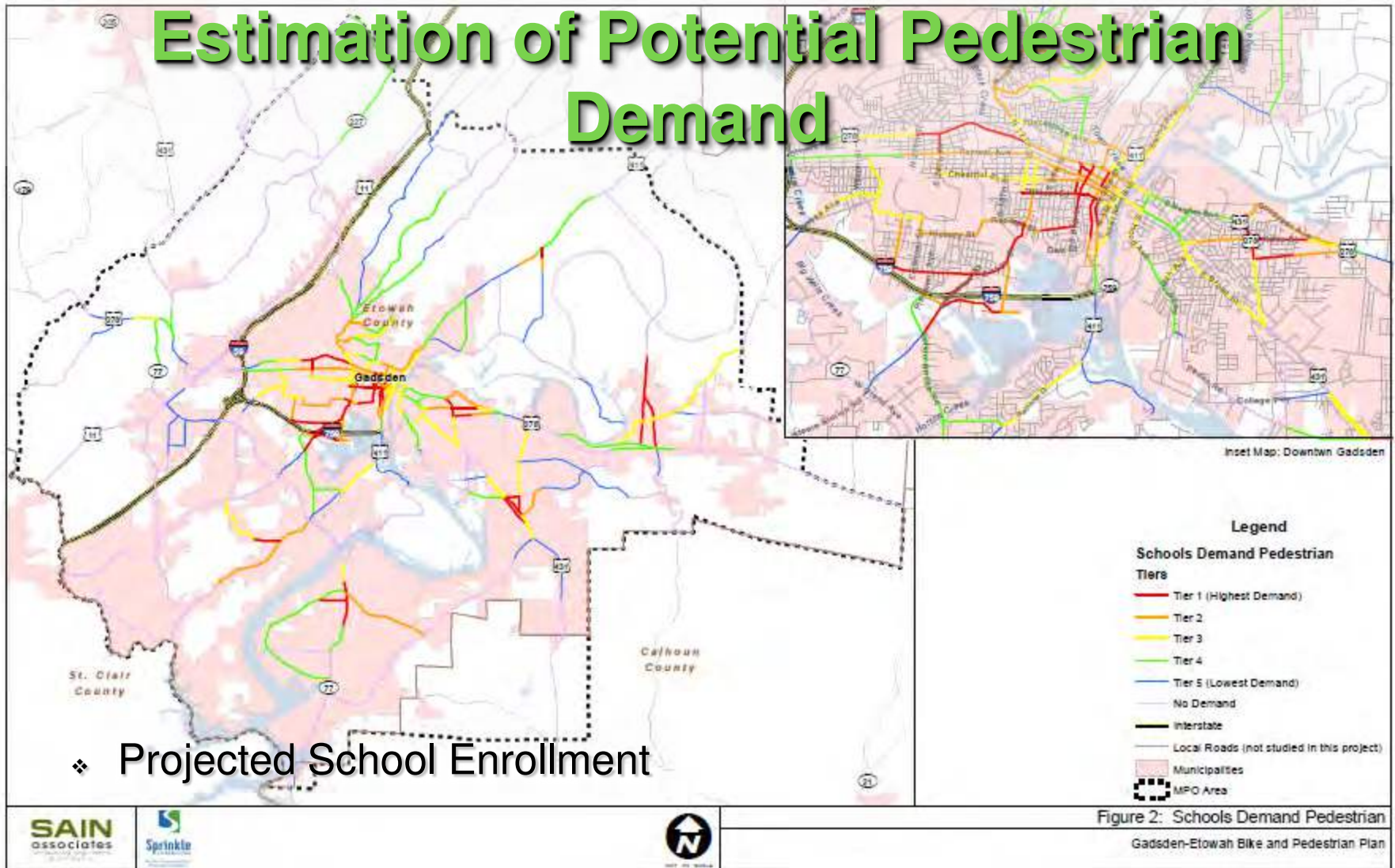


❖ Projected School Enrollment

Figure 1: Schools Demand Bike
Gadsden-Etowah Bike and Pedestrian Plan



Estimation of Potential Pedestrian Demand



Public Input

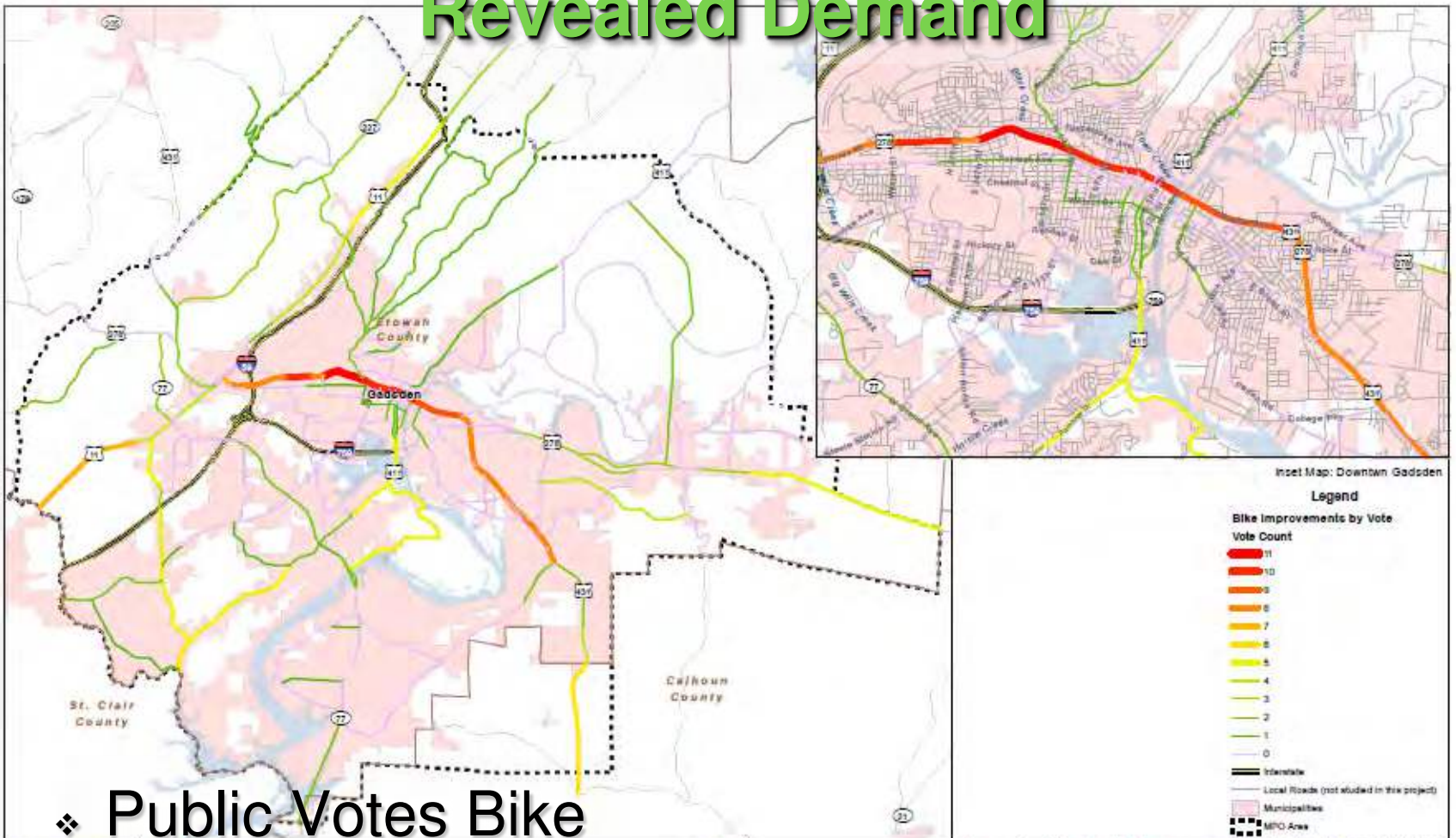
- ❖ Participant Feedback:
- ❖ “Votes” for Specific Facilities



Road Name	From	To	Facility Type



Revealed Demand



❖ Public Votes Bike

Figure 3: Bike Facility Improvements Identified by Public Vote

Gadsden-Etowah Bike and Pedestrian Plan



Revealed Demand

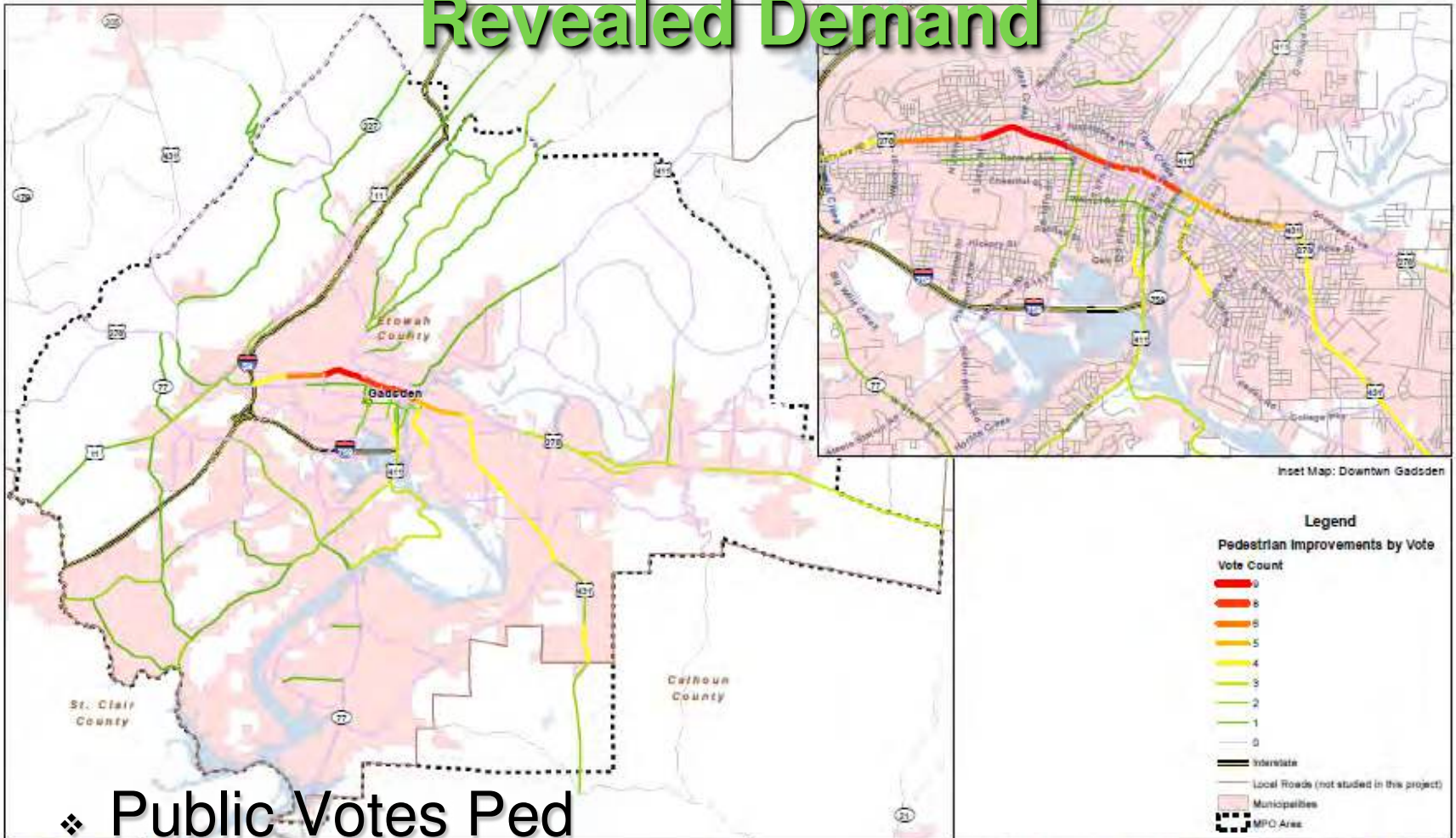


Figure 4: Pedestrian Facility Improvements Identified by Public Vote

Gadsden-Etowah Bike and Pedestrian Plan



Identification of Potential Facility Improvements

BICYCLE MODE			
1	Existing/Programmed	9.43	2.8%
2	LOS Met	196.24	59.3%
3	Re-stripe	1.7	0.5%
4	Road Diet	0	0.0%
5	Add shoulder 1	0.5	0.2%
6	Add Shoulder 2	6.62	2.0%
7	DCSN Add shoulder 3	67	20.2%
8	DCSN	47	14.2%
	(under construction)	2.49	0.8%
		330.98	100.0%

PEDESTRIAN MODE			
1	Existing 100% coverage	16.25	4.9%
2	LOS MET	132.99	40.1%
3	Add Sidewalk	17.28	5.2%
4	Add Sidewalk 2	15.71	4.7%
5	DCSN	146.69	44.3%
	UC	2.49	0.8%
		331.41	100.0%



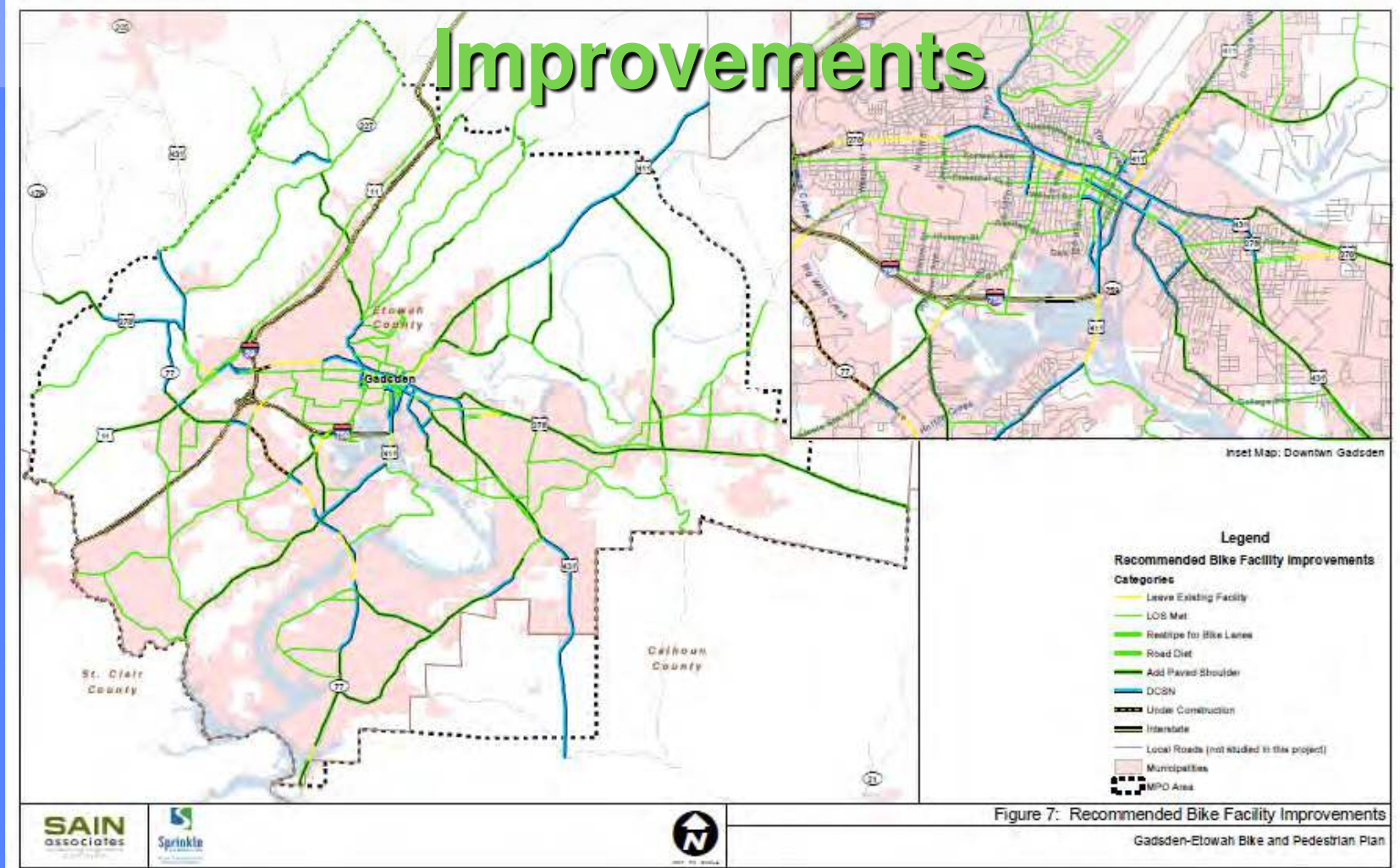
Prioritization Weighting

50% Existing Conditions +
40% Potential Demand +
10% Public Input/ Prior Plans +

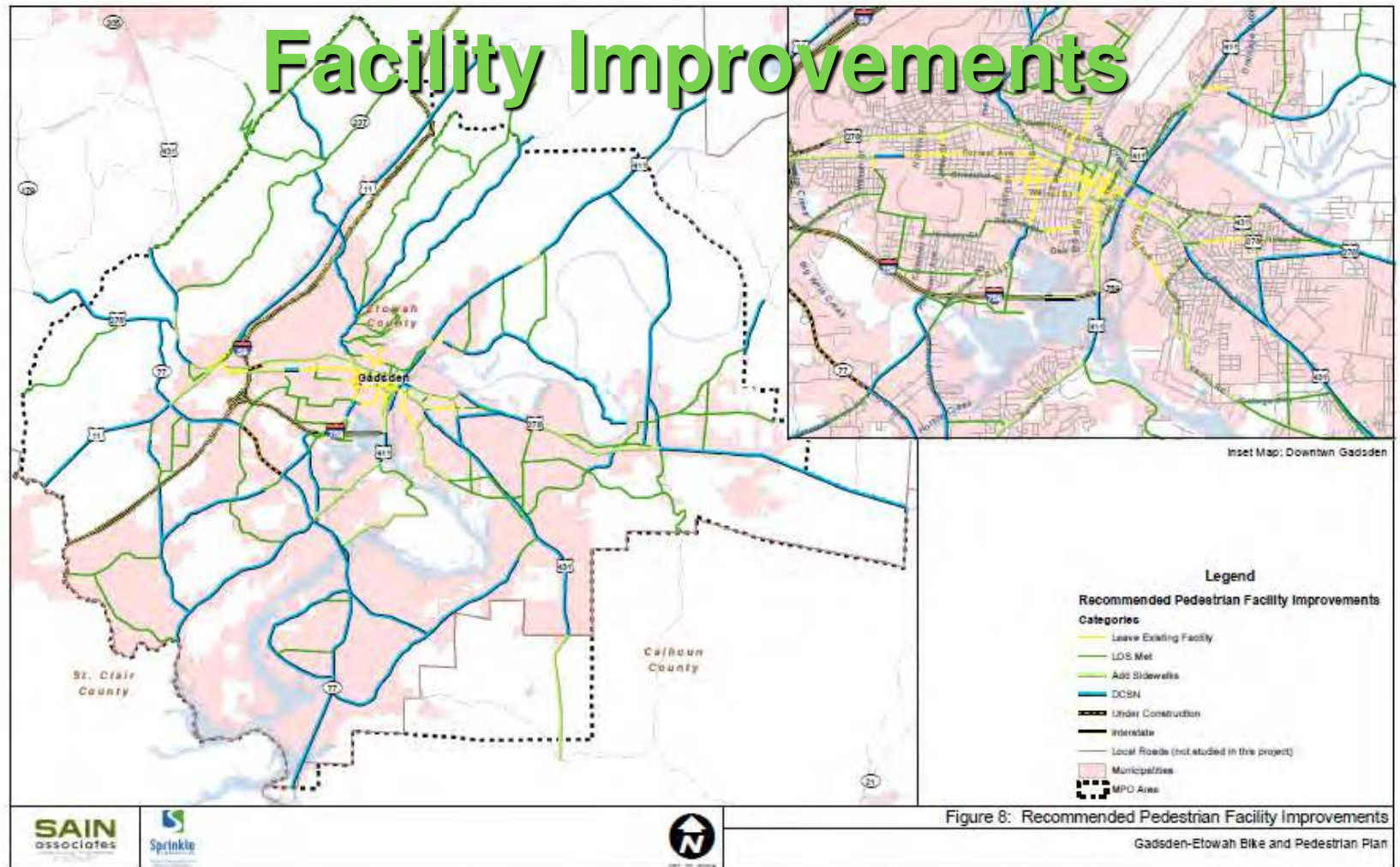
Facility Construction Cost



Identification of Potential Bike Facility Improvements



Identification of Potential Pedestrian Facility Improvements



SAIN
associates

Sprinkle
CONSULTING



SAIN
associates
consulting engineers
& surveyors

Sprinkle
CONSULTING
Active Transportation
Planners+Engineers

Identification of Potential Facility Improvements

Costs and Mileage by Priority Tier- Bicycle

	Segments	Miles	Cost	Cost/Mile	
Tier 1		25	12.23	\$4,557,880	\$372,680
Tier 2		25	15.19	\$16,045,960	\$1,056,350
Tier 3		24	23.96	\$26,888,594	\$1,122,228
Tier 4		25	34.45	\$44,119,848	\$1,280,692
Tier 5		25	37.43	\$52,206,659	\$1,394,781
				\$143,818,941	

Costs and Mileage by Priority Tier- Pedestrian

	Segments	Miles	Cost	Cost/Mile	
Tier 1		33	14.74	\$5,803,935	\$393,754
Tier 2		33	27.75	\$34,197,456	\$1,232,341
Tier 3		32	29.80	\$54,238,033	\$1,820,068
Tier 4		33	46.98	\$84,583,383	\$1,800,413
Tier 5		33	60.41	\$107,470,763	\$1,779,023
				\$286,293,570	



Final Project Prioritization

- ❖ Segment ID
- ❖ Bike / Ped LOS Existing
- ❖ Facility Recommendation for Bike & Ped to reach LOS C
- ❖ Benefit Cost Index Score based on LOS Delta, Demand & Cost
- ❖ Priority Tier 1 - 5

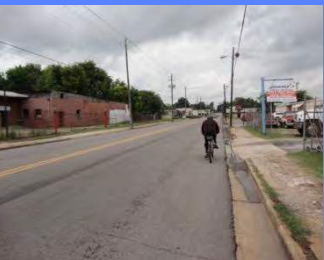


Bicycle Pedestrian Plan Elements

- ❖ Funding sources
- ❖ Policy proposals
 - ❖ Commit to meeting with performance measures
 - ❖ Develop bike parking
 - ❖ Develop a bike map
 - ❖ Develop routes/ wayfinding
- ❖ Crash report analysis and countermeasures



Observations from the Project



- ❖ Pay attention to Funding Concerns
- ❖ Public interest and recreational trails
- ❖ Estimating demand is tricky
- ❖ Share the road signs
- ❖ Tie need to economic benefits



Questions???

Becky White, PTP

Sain Associates

bwhite@sain.com

Chris Fellerhoff

Sprinkle Consulting

cfellerhoff@sprinkleconsulting.com

