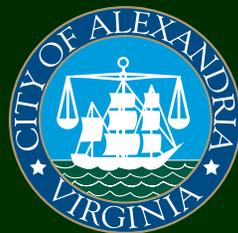


# Pedestrian & Bicycle Mobility Plan



**City of Alexandria, Transportation Commission  
July 2008**

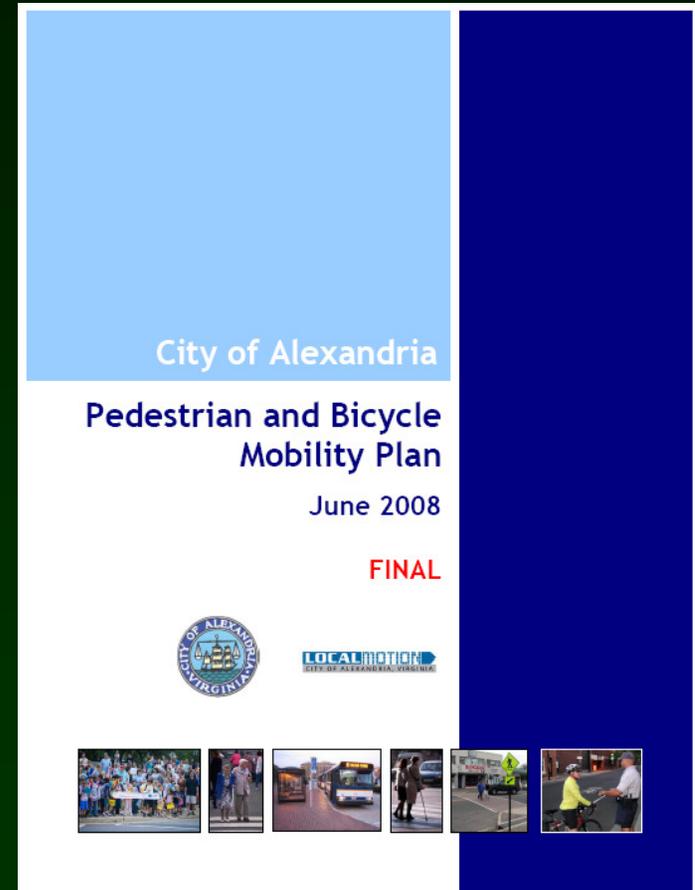
# Agenda

- About the project
- What we found
- How we organized the Plan and how we will use the information



# About the Project

- **Goal**
- **Planning context and focus**
- **Public involvement opportunities**
- **Field data & what we looked at**



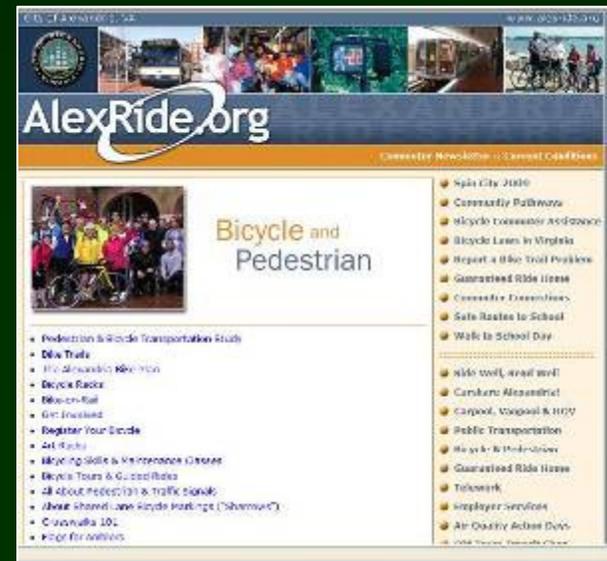
# Planning Context and Focus

- Funded by a State Transportation Planning pilot grant from VDOT & Northern Virginia Regional Commission
- Planning context
  - 2008 Transportation Master Plan
  - Small area plans and site plans
  - Community Pathways Initiative
  - Neighborhood Traffic Calming Program
  - Safe Routes To School Programs
  - Spin City 2009
- Scope and timeline



# Public Involvement Opportunities

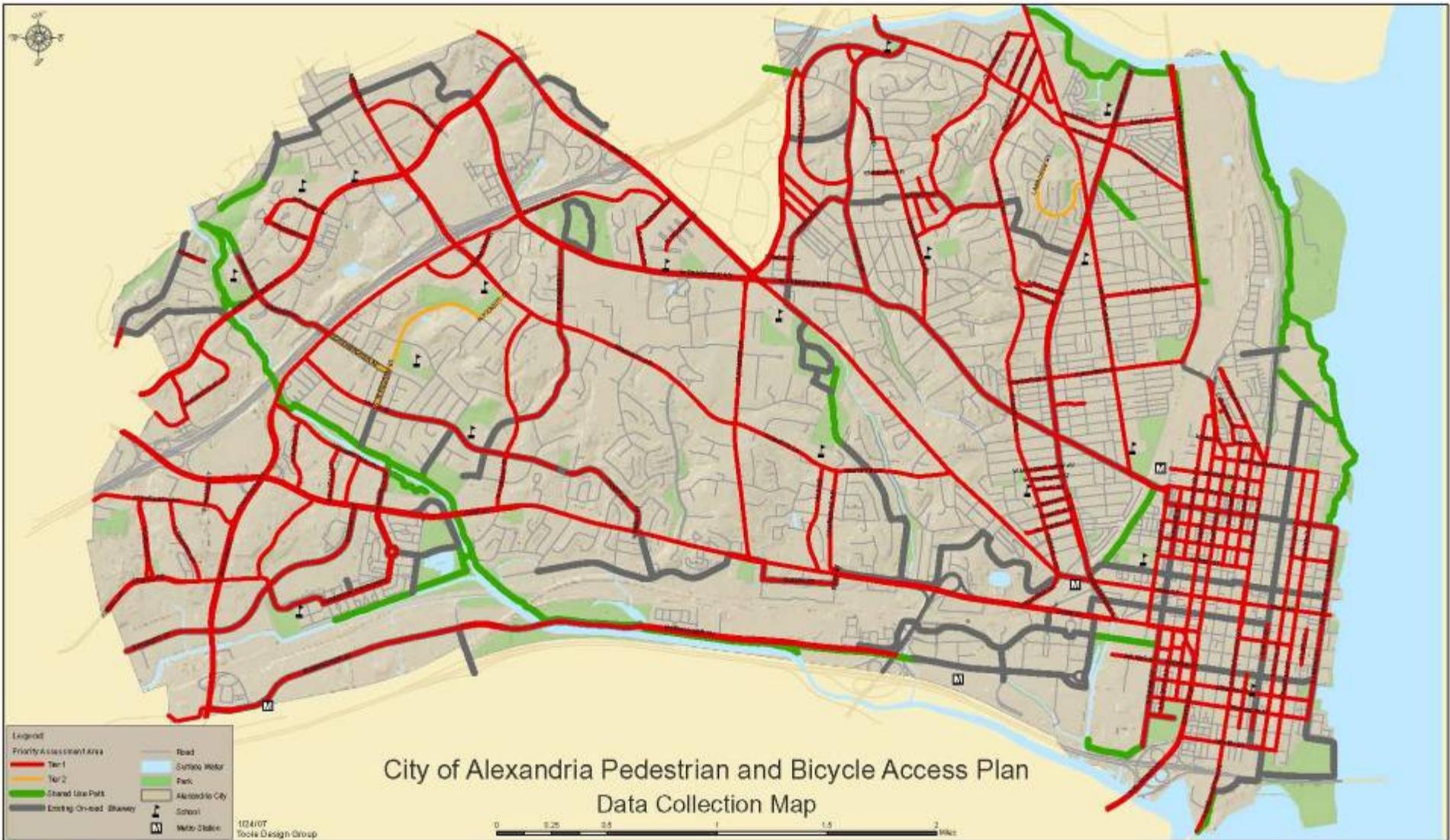
- March 22, 2007 Public Meeting
- Online Questionnaire
- DASH Bus Questionnaire
- City Working Group
- Stakeholder Interviews
- December 6, 2007 Public Meeting



# Field Data Collection

- 110.3 road centerline miles (220.6 counting both sides of the road)
- 147.3 miles of existing sidewalks
- 1,517 existing crosswalks
- 15 miles of multi-use trails
- 60.9 miles road evaluated for Bicycle Level of Service





# What We Looked At

**Sidewalk typical width/Sidewalk typical clear width**  
**Sidewalk clear width obstructions**  
**Buffer width between sidewalk and roadway**  
**Sidewalk surface type**  
**Sidewalk surface condition (general rating)**  
**Driveway crossings (surface type and general ADA accessibility)**  
**Curb ramps (compliant vs. non-compliant with ADA)**  
**Curb radius**  
**Type of buffer (e.g., street trees, grass, landscaping)**  
**On-street parking type (parallel, straight-in, diagonal)**  
**Bicycle rack locations**  
**Bus stop accessibility (ADA compliance)**  
**Bus stop characteristics (sign, bench, shelter, etc.)**  
**Roadway crossing type (intersection or midblock)**  
**Roadway crosswalk type (standard, high-visibility, brick, etc.)**  
**Roadway crosswalk condition**  
**Roadway crossing length (roadway width)**  
**Roadway crossing length (number of lanes to cross)**  
**Roadway crossing traffic control type (stop; yield; conventional, countdown, audible ped signal; uncontrolled)**  
**Presence of push buttons at signalized crossings**



# What We Looked At

**Marked crosswalk width**

**Presence of other crossing facilities (median islands, curb extensions, raised crosswalks)**

**Pedestrian lighting**

**Outside travel lane width**

**Traffic volume (ADT)**

**Posted speed limit**

**Percentage of heavy vehicles**

**Percentage of on-street parking**

**Pavement condition**

**Roadway typical lane width**

**Roadway shoulder width**

**Bicycle lane width**

**Presence of on-street parking**

**Shared-use path typical width**

**Shared-use path surface type**

**Shared-use path surface condition**

**Shared-use path clear width obstructions**

**Shared-use path surface maintenance problems**



# King Street Station











# Summary Pedestrian and Bicycle Recommendations

- **17.5 miles of new sidewalks and 11.8 miles of reconstructed sidewalks**
- **Removal of 274 sidewalk obstructions**
- **645 new marked crosswalks and 672 re-striped crosswalks**
- **251 new pedestrian countdown signals and 243 new pedestrian pushbutton signals**
- **418 new accessible curb ramps and 464 reconstructed accessible curb ramps**
- **148 bus stop improvements**
- **13 new and 2 reconstructed pedestrian and bicycle overpasses/underpasses**



# Summary Pedestrian and Bicycle Recommendations

- **10.1 miles of new shared-use paths and 3.54 miles of reconstructed shared-use paths**
- **Removal of 68 shared-use path surface obstructions and 10 clear width obstructions**
- **16.3 roadway centerline miles of new bicycle lanes**
- **3.7 roadway centerline miles of new climbing lanes for bicycles**
- **16.4 roadway centerline miles of new shared lane markings for bicycles**
- **12.31 miles of shared use pathways alongside roads**



# Programmatic Categories

- Safe Routes to School
- Access to Transit
- Community Pathways
- On Street Bikeways
- Off-Road Trails



# Safe Routes to School

Recommendation Type	Number or Total Length of Recommendations
Bus Stop Improvement	0
Median Improvement	0
Stripe Crosswalk	144
Restripe Crosswalk	230
Curb Ramp Improvement	191
Driveway Improvement	192
Address Obstruction	723
Construct Sidewalk	3.94
Reconstruct Sidewalk	3.48
Improve Landscaping	0.09
Signal Improvement	159

Legend:

Metro Station	Compass/Map
Bike	Study Network
Innovative Signaling	Road
Improve Existing Crosswalks	Safe Routes to School Area
Improve Curb Ramps	Surface Water
Coordinate New Sidewalk	Park
Reconstruct Existing Sidewalk	City of Alexandria

City of Alexandria  
Safe Routes To School Program



# Access to Transit

Recommendation Type	Number or Total Length of Recommendations
Bus Stop Improvement	255
Median Improvement	3
Stripe Crosswalk	372
Restripe Crosswalk	401
Curb Ramp Improvement	565
Driveway Improvement	292
Address Obstruction	1064
Construct Sidewalk	11.82
Reconstruct Sidewalk	7.9
Improve Landscaping	0.62
New Signal HAWK or Full	2
Signal Improvement	463

Legend

Bus Stop	Construct/Improve Bicycle Path
School	Water Network
Install New Signal (HAWK)	Road
Improve Existing Signal	Address in Transit
Improve Crosswalk	Surface Water
Improve Curb Ramps	Park
Improve Bus Stop	City of Alexandria
Construct New Sidewalk	
Reconstruct Existing Sidewalk	

City of Alexandria  
Access to Transit Program



# Community Pathways

Recommendation Type	Number or Total Length of Recommendations
Bus Stop Improvement	0
Median Improvement	0
Stripe Crosswalk	129
Restripe Crosswalk	41
Curb Ramp Improvement	126
Driveway Improvement	95
Address Obstruction	350
Construct Sidewalk	1.8
Reconstruct Sidewalk	0.57
Improve Landscaping	0.04
Signal Improvement	8

Legend

Senior Resident Facility	Community Senior Center Facility
Water Station	Study Boundary
Station	Road
Proposed Access Point	Community Pathway
Improve Crosswalks	Water Ways
Improve Curb Ramps	Park
Construct New Sidewalk	City of Alexandria
Reconstructed Existing Sidewalk	

City of Alexandria  
Community Pathways Program



# On-Street Bikeways

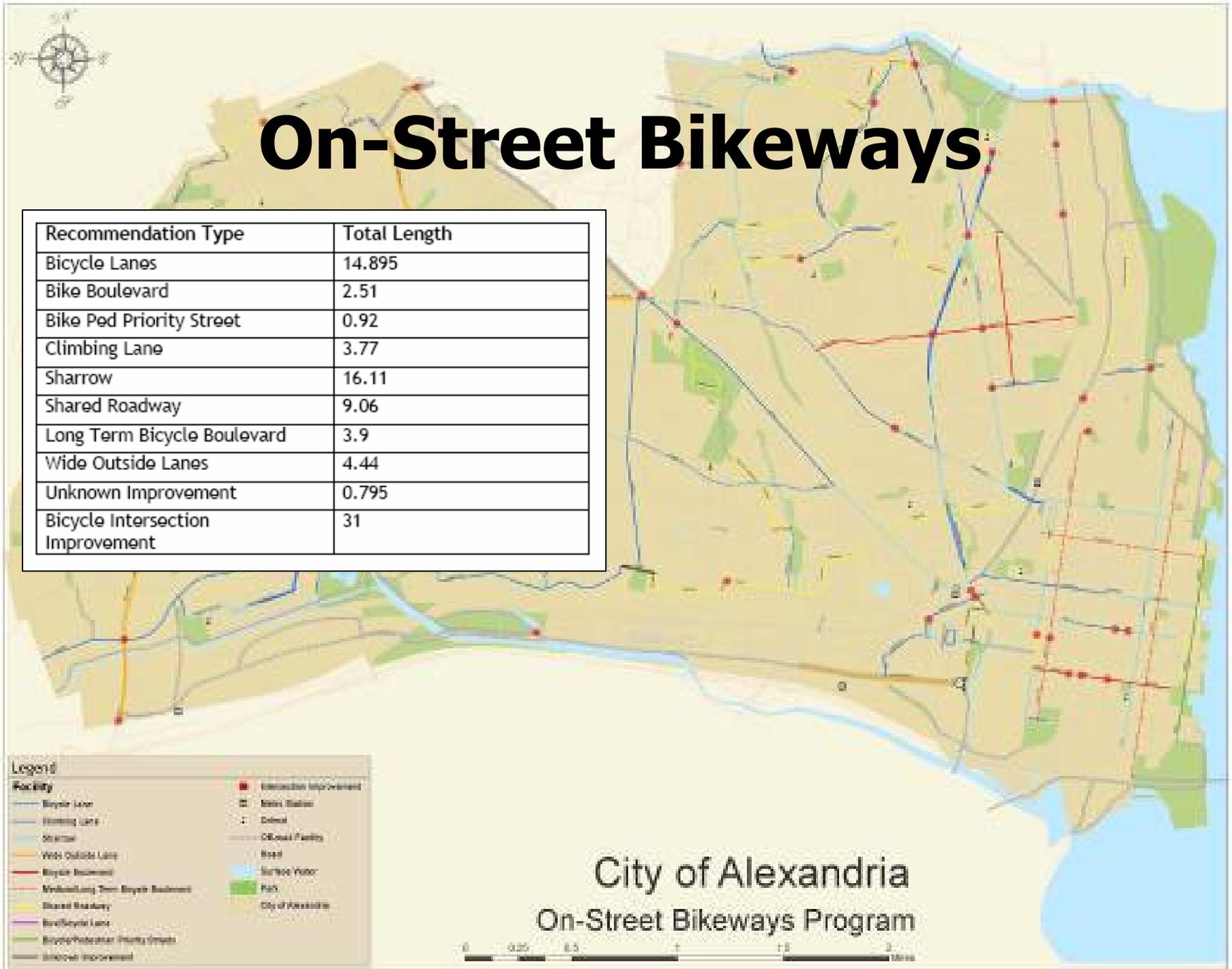
Recommendation Type	Total Length
Bicycle Lanes	14.895
Bike Boulevard	2.51
Bike Ped Priority Street	0.92
Climbing Lane	3.77
Sharrow	16.11
Shared Roadway	9.06
Long Term Bicycle Boulevard	3.9
Wide Outside Lanes	4.44
Unknown Improvement	0.795
Bicycle Intersection Improvement	31

**Legend**

**Facility**

- Bicycle Lane
- Shared Lane
- Sharrow
- Wide Outside Lane
- Bicycle Boulevard
- Multi-Use Long Term Bicycle Boulevard
- Shared Roadway
- Bicycle Lane
- Bicycle/Pedestrian Priority Street
- Unknown Improvement
- Intersection Improvement
- Metro Station
- + Depot
- Off-Leash Facility
- Road
- Surface Water
- Park
- City of Alexandria

City of Alexandria  
On-Street Bikeways Program



# Off-Street Trails

Recommendation Type	Total Length
Construct Shared Use Path	10.11
Construct Sidepath or Widen Existing Sidewalk	8.105
Construct Overpass/Underpass	1.34
Reconstruct Shared Use Path	3.54
Reconstruct Overpass/Underpass	0.09

**Legend**

- Address Surface Problem
- Address Clear Width Problem
- Bike Station
- School
- Existing Off-road Facility
- On-road Facility
- Road
- Park
- Surface Water
- City of Alexandria

**Off-Road Facility Recommendation**

- Construct Overpass/Underpass
- Construct Shared Use Path
- Construct Sidepath or Widen Existing Sidewalk
- Reconstruct Shared Use Path

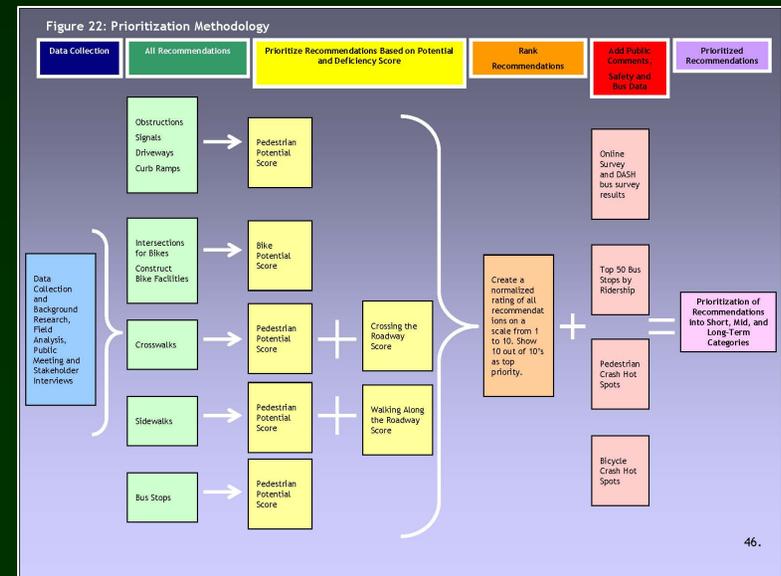
City of Alexandria  
Off-Street Bikeways Program



# Normalization

- Normalized rating of all recommendations
- 10 relatively even categories
- Scale from 1 to 10
- 10 out of 10 are top priority

Priority Score	Phasing Category
10	Short-Term
8-9	Medium-Term
1-7	Long-Term



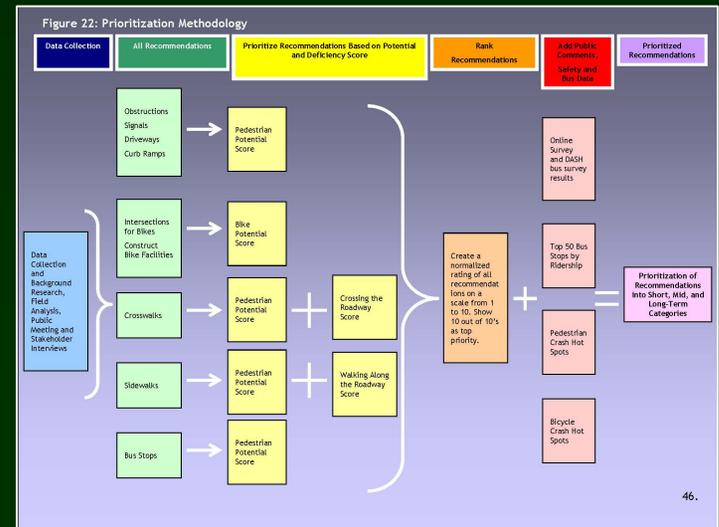
# Crashes, Public Input and Bus Ridership



AlexRide.org

**Bicycle and Pedestrian**

- Pedestrian & Bicycle Transportation Study
- Bike Trails
- How to Advocate for Bicycles
- Bicycle Rack
- Bike-on-Rail
- Bicycling
- Register Your Bicycle
- Ask a Question
- Bicycle Signage & Maintenance Classes
- Bicycle Tours & Guided Rides
- About Pedestrian & Traffic Signals
- Crosswalk 101
- Bike for Analysis





Legend

● Improve Intersection for Bicyclists	<b>Sidewalk Improvement</b>
○ Address Obstruction	— Construct New Sidewalk
— Improve Signal	— Reconstruct Existing Sidewalk
— Improve Crosswalk	— Construct/Improve Bicycle Facility
— Improve Driveway	— Road
— Improve Curb Ramp	— Project Region
— Improve Bus Stop	— Park
	— Surface Water

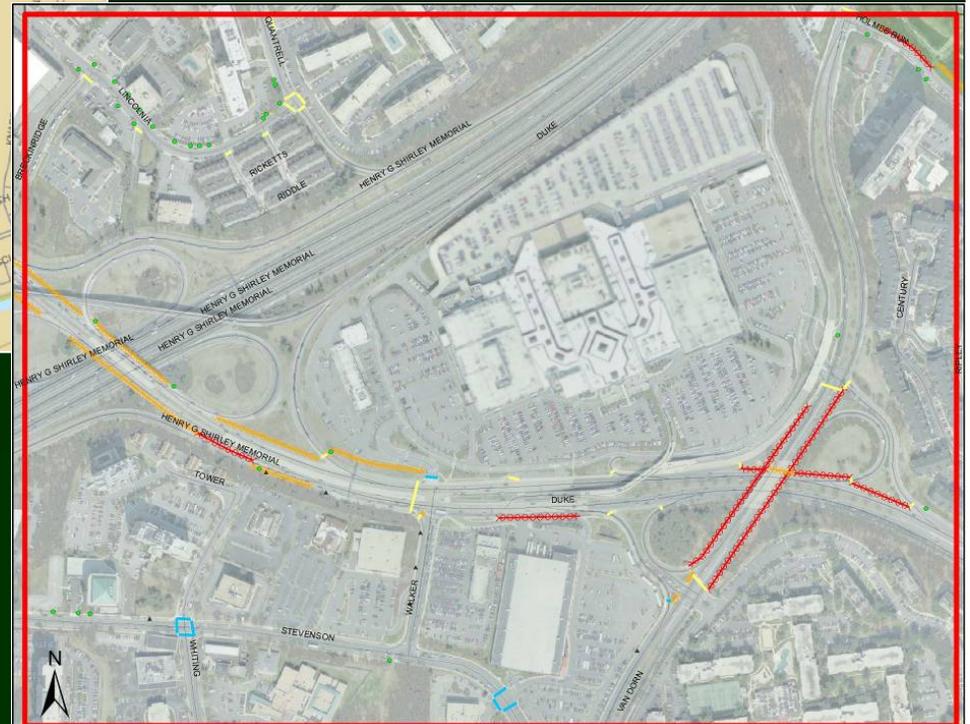
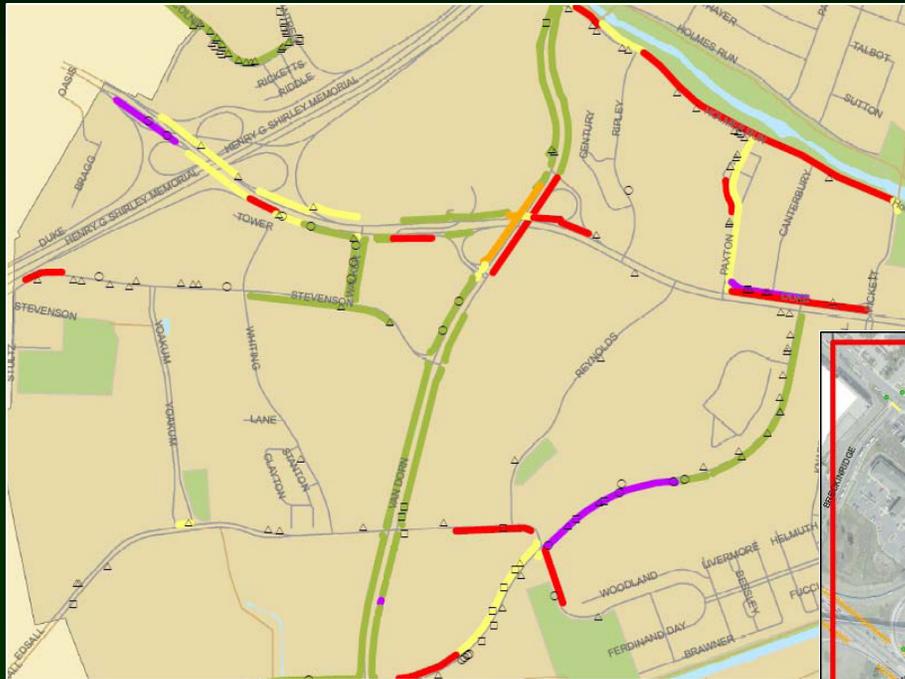
# City of Alexandria High Priority Projects



# Planning Level Cost Estimates

Program	Short-Term	Medium-Term	Long-Term	Total
Safe Routes to School	\$1,680,074	\$375,823	\$2,268,923	\$4,324,820
Access to Transit	\$4,080,367	\$1,944,613	\$6,308,372	\$12,333,352
Community Pathways	\$120,597	\$144,321	\$1,041,930	\$1,306,848
On-Road Bicycle Facilities	\$820,599	\$361,787	\$1,306,944	\$2,489,330
Off-Road Trails	\$5,624,198	\$5,372,642	\$4,648,497	\$15,645,337
Total (All Programs)	\$12,325,836	\$8,199,186	\$15,574,666	\$36,099,688

# How We Are Using The Plan

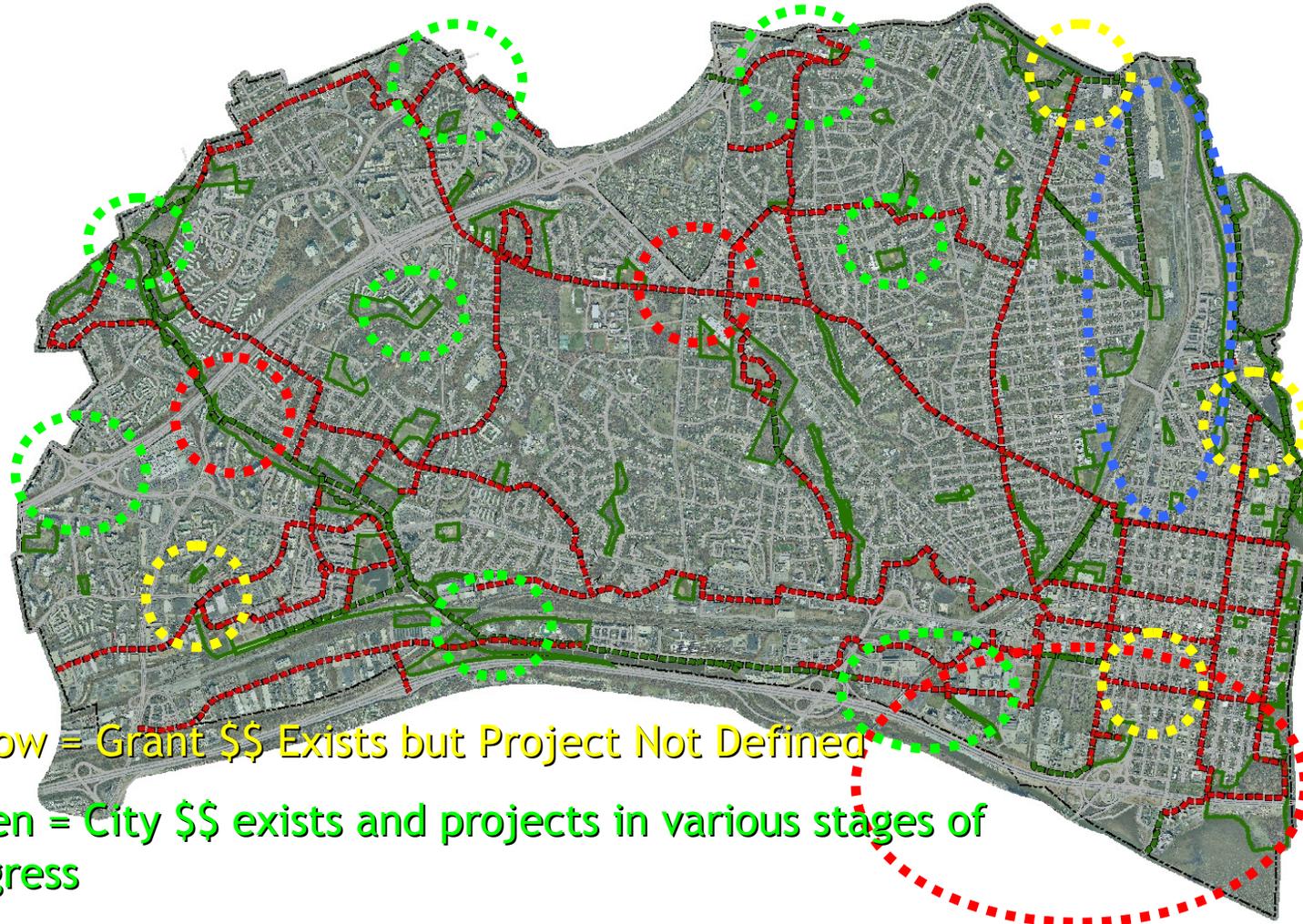


# Implementation and Funding

- Regular maintenance
- Existing capital improvement programs
- Existing grants set aside for pedestrian and bicycle improvements
- Development proposals
- Streetscape projects



# Ped-Bike Network Improvements



Yellow = Grant \$\$ Exists but Project Not Defined

Green = City \$\$ exists and projects in various stages of progress

Blue = Major development project

Red = Study area

# Questions and Discussion

