Transportation Improvement Plan for the I-96/I-696/I-275 Corridors in Novi and Wixom

Prepared for:

The Michigan Department of Transportation

Prepared by:

The Corradino Group of Michigan, Inc.

In association with:

URS Corporation, and

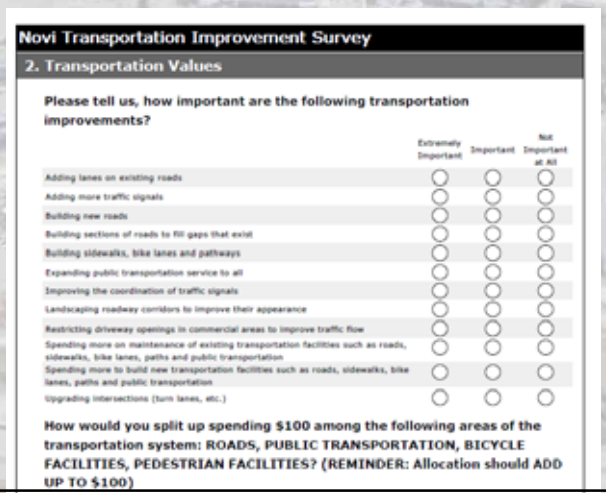
The Greenway Collaborative, Inc.

SC Agenda

- **Introductions**
- **Overview of Project**
- **Public Meeting/Listening Sessions**
- **Survey Results**
- **Data Needs/Collection**
- **First TDM Runs**
- **Non-motorized Demand/Crash Analysis**
- **Access Management**
- **Next Meeting**

On-line Survey -95 Responses

Visit www.noviTIPstudy.com



Novi Transportation Improvement Survey

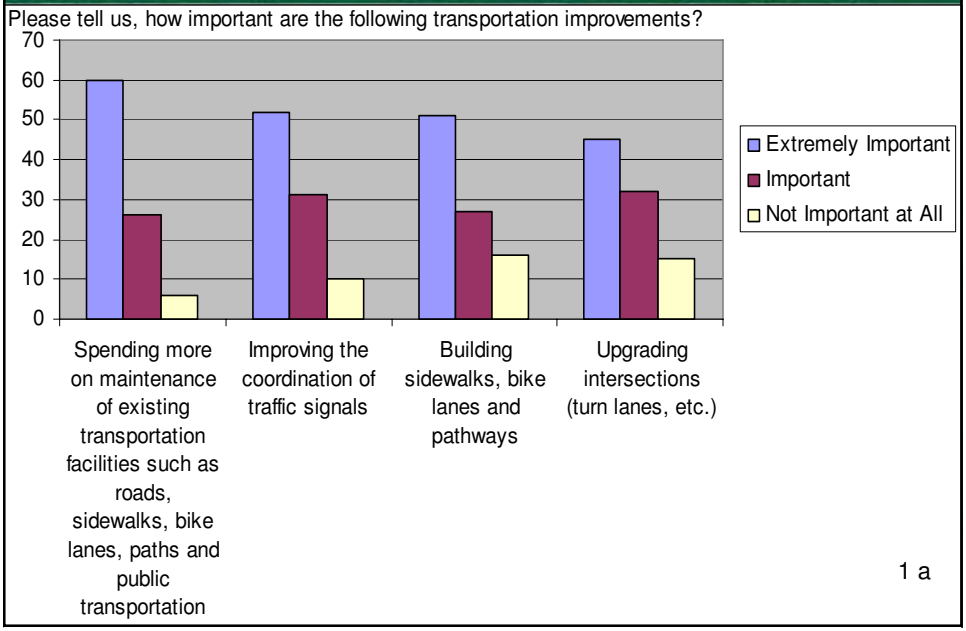
2. Transportation Values

Please tell us, how important are the following transportation improvements?

	Extremely Important	Important	Not Important at All
Adding lanes on existing roads	○	○	○
Adding more traffic signals	○	○	○
Building new roads	○	○	○
Building sections of roads to fill gaps that exist	○	○	○
Building sidewalks, bike lanes and pathways	○	○	○
Expanding public transportation service to all	○	○	○
Improving the coordination of traffic signals	○	○	○
Landscaping roadway corridors to improve their appearance	○	○	○
Restricting driveway openings in commercial areas to improve traffic flow	○	○	○
Spending more on maintenance of existing transportation facilities such as roads, sidewalks, bike lanes, paths and public transportation	○	○	○
Spending more to build new transportation facilities such as roads, sidewalks, bike lanes, paths and public transportation	○	○	○
Upgrading intersections (turn lanes, etc.)	○	○	○

How would you split up spending $100 among the following areas of the transportation system: ROADS, PUBLIC TRANSPORTATION, BICYCLE FACILITIES, PEDESTRIAN FACILITIES? (REMINDER: Allocation should ADD UP TO $100)

Extremely Important Transportation Improvements



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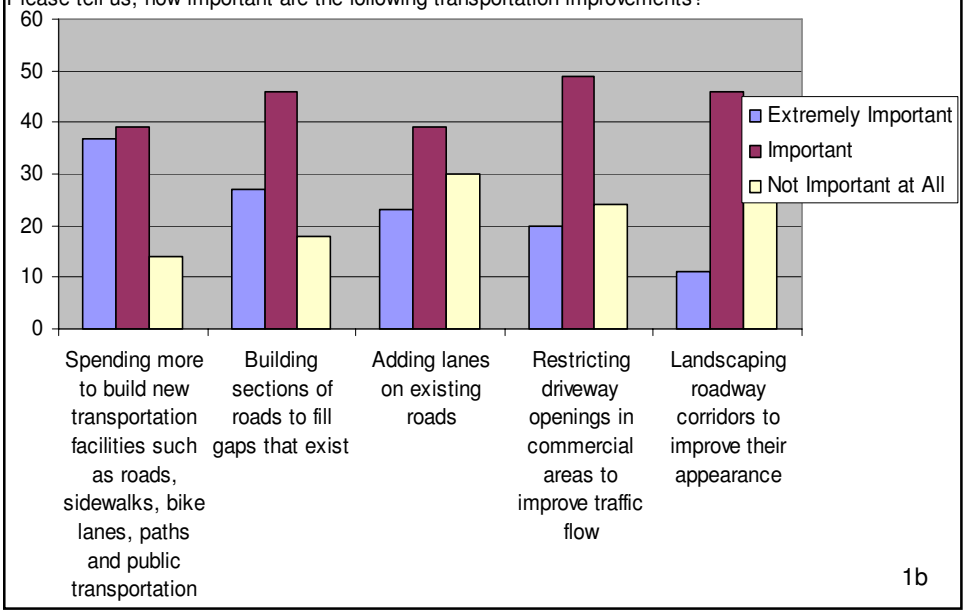
Important Transportation Improvements

Please tell us, how important are the following transportation improvements?



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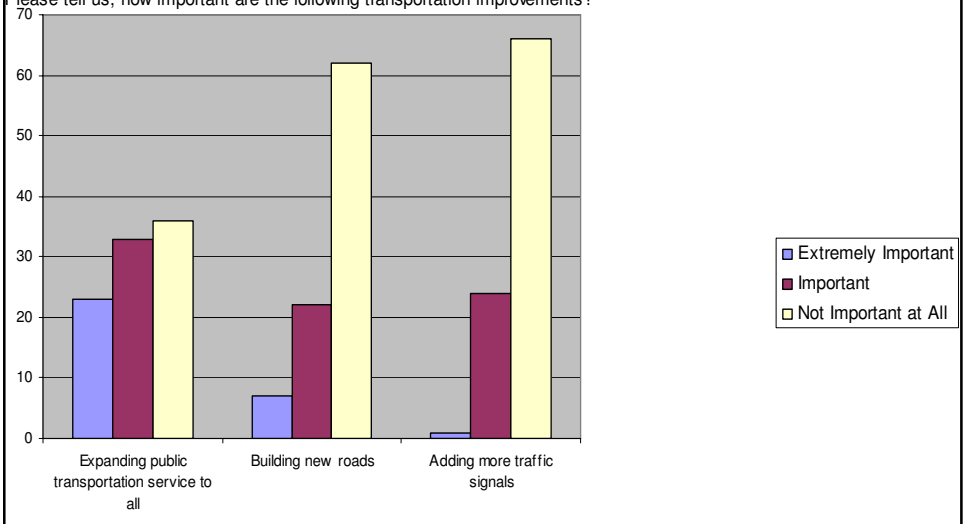
Less Important Transportation Improvements

Please tell us, how important are the following transportation improvements?



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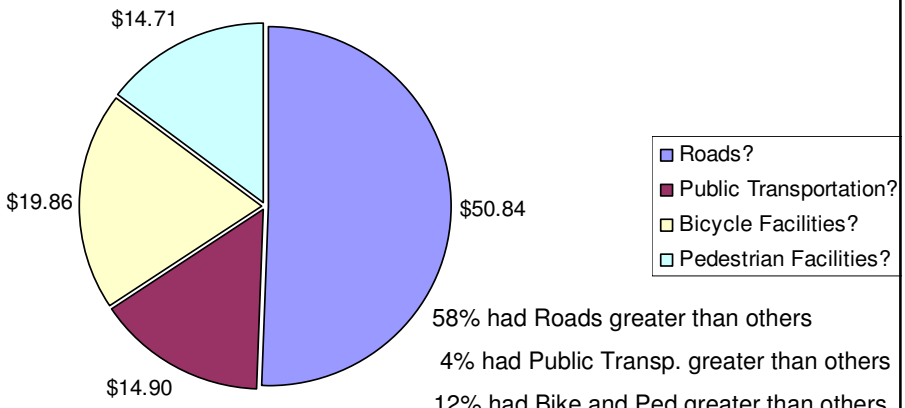
How would you spend/split $100 on Transportation

Split $100 Spending?
Average of all respondents



58% had Roads greater than others

4% had Public Transp. greater than others

12% had Bike and Ped greater than others

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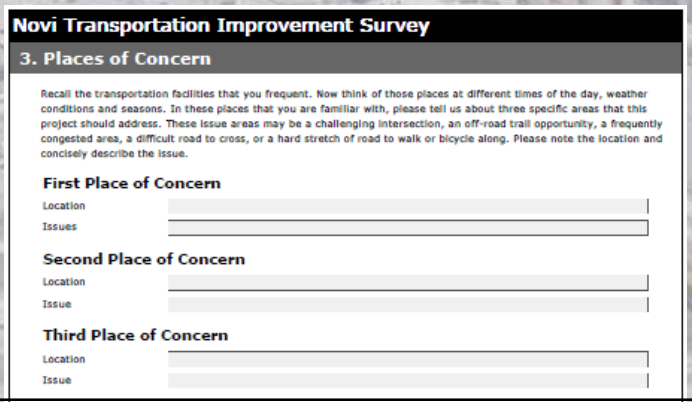
Biggest Challenge & Transportation Issues

- See Handout Of Biggest Challenge & Concerns



Novi Transportation Improvement Survey

3. Places of Concern

Recall the transportation facilities that you frequent. Now think of those places at different times of the day, weather conditions and seasons. In these places that you are familiar with, please tell us about three specific areas that this project should address. These issue areas may be a challenging intersection, an off-road trail opportunity, a frequently congested area, a difficult road to cross, or a hard stretch of road to walk or bicycle along. Please note the location and concisely describe the issue.

First Place of Concern

Location

Issues

Second Place of Concern

Location

Issue

Third Place of Concern

Location

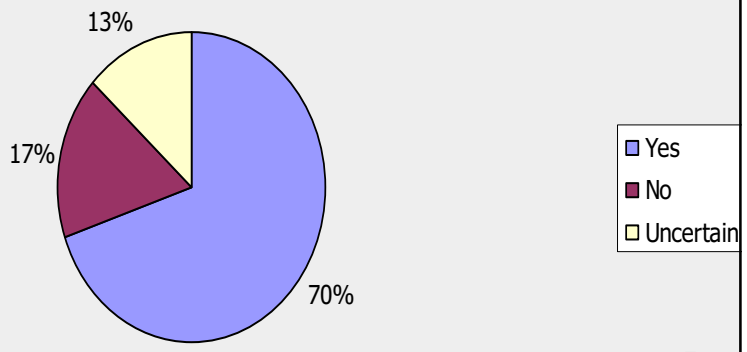
Issue

Non-motorized Issues and Concerns

- Difficult to Cross I-96 Freeway as a Bicyclist or Pedestrian
- Need Safer Bicycle and Pedestrian Routes and Crossings
- Need More Bicycle and Pedestrian Facilities (e.g. Sidewalks, Bike Lanes)
- Connect the Community Through Walking and Bicycling with a continuous system
- Not a very Bicycle/Pedestrian Friendly Area
- I-275 Pathway not accessible
- Too many gaps in existing sidewalk system

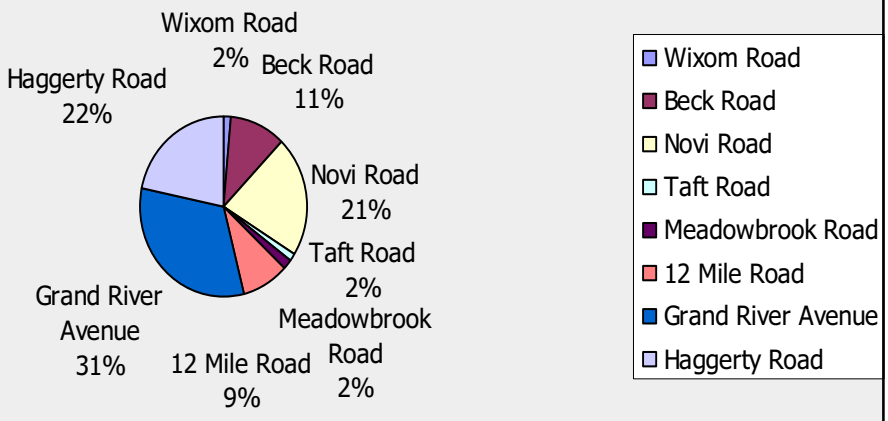
Road Widening?

Should selected major roads in the City be widened to relieve traffic congestion?



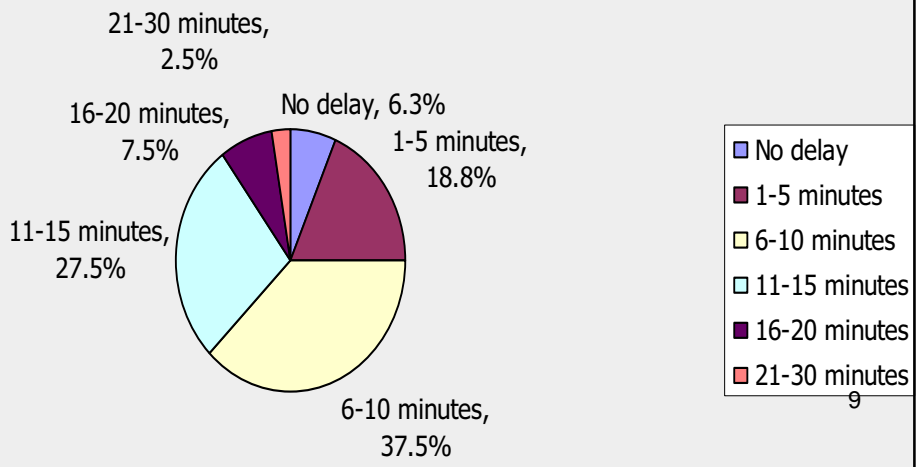
Which one?

If YES to the above question, which ONE major road would you say is most in need of widening?

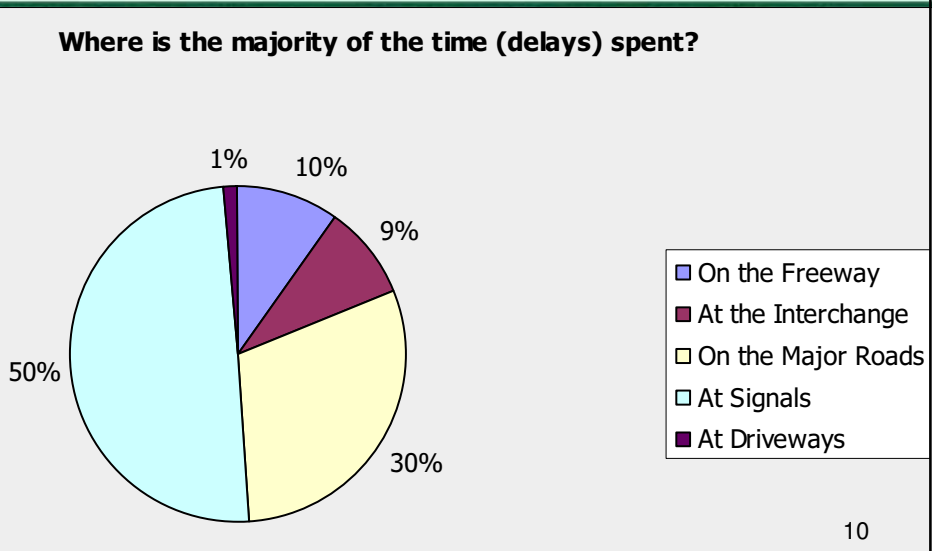


Delay

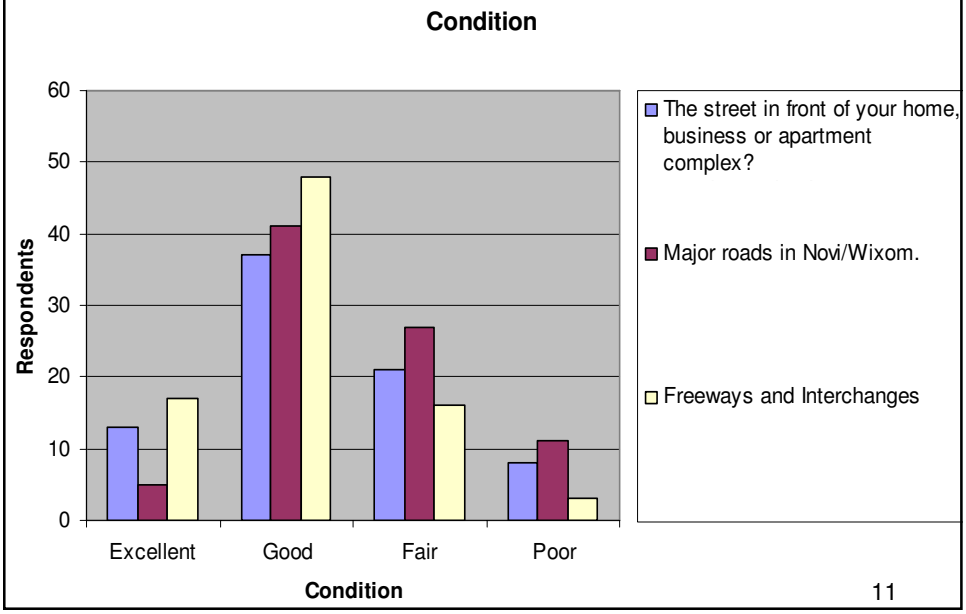
On a normal day, how many minutes would you estimate that you spend stuck in traffic due to local road congestion in Novi/Wixom?



Where is the Delay?

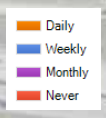


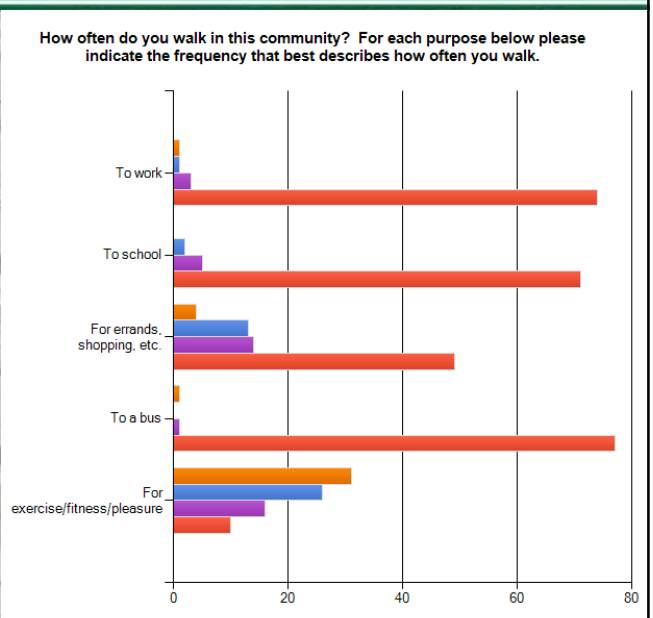
Rate the Road Condition



Pedestrian - Walking Frequency

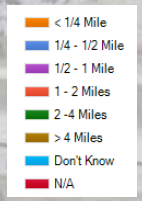
- 6% of Respondents Walk to Work
- 16% of Respondents Walk for Shopping and Errands Weekly and 17% Monthly
- About 90%of Respondents Walk for Exercise/Pleasure
- 37% of Respondents Walk for Exercise/ Pleasure Daily

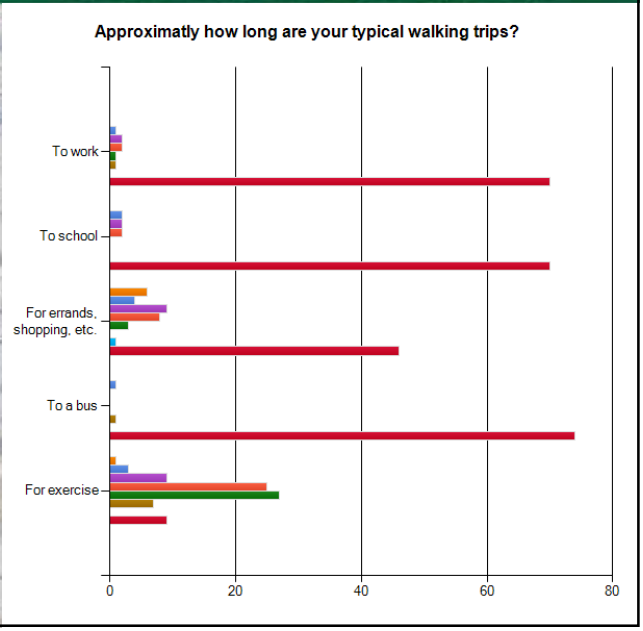




Pedestrian – Walking Distances

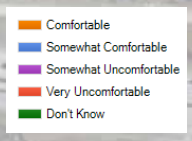
- Average Trip to Work is 1.8 Miles (7/78 responses)
- Average Trip to School is 0.9 Miles (6/77 responses)
- Average Trip for Shopping/Errands is 1 Mile (30/78 responses)
- Average Trip to Bus is 1.7 Miles (2/77 responses)
- Average Trip for Exercise is 2.3 Miles (73/82 responses)

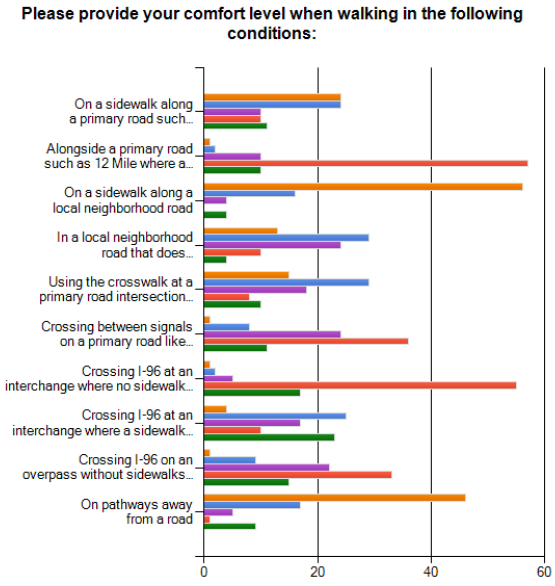




Pedestrian – Comfort Level

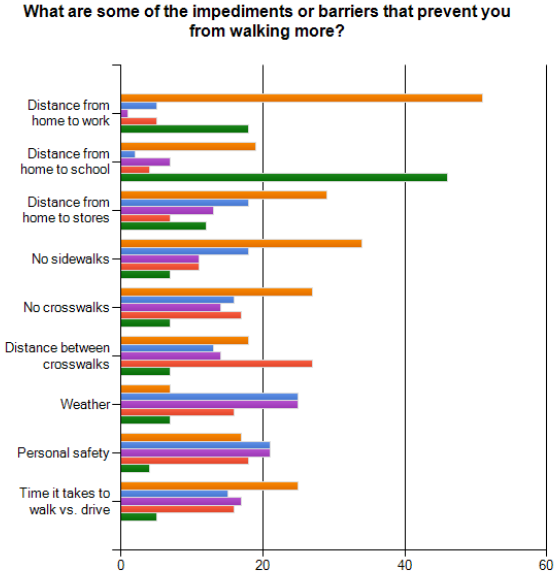
- Most Uncomfortable Areas Are Along Primary Roads and Crossing Interchanges Without Sidewalks
- Next Most Uncomfortable Areas Are Crossing Primary Roads Between Signals and Overpasses Without Sidewalks
- Walking Along Local Roads with Sidewalks Is More Comfortable Than Pathways Away From Roads.





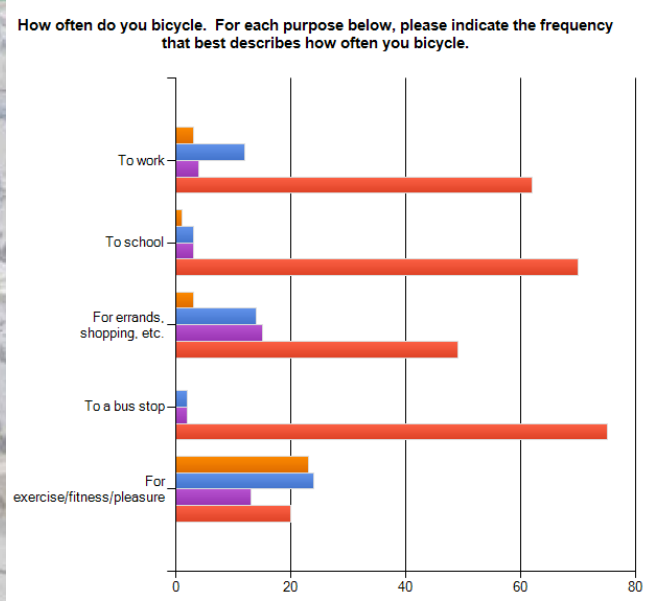
Pedestrian – Impediments and Barriers

- The most significant issue is the Distance from Home to Work
- Other significant issues include:
  - Distance from Home to Stores
  - No Sidewalks
  - No Crosswalks
  - Time it Takes to Walk vs. Drive



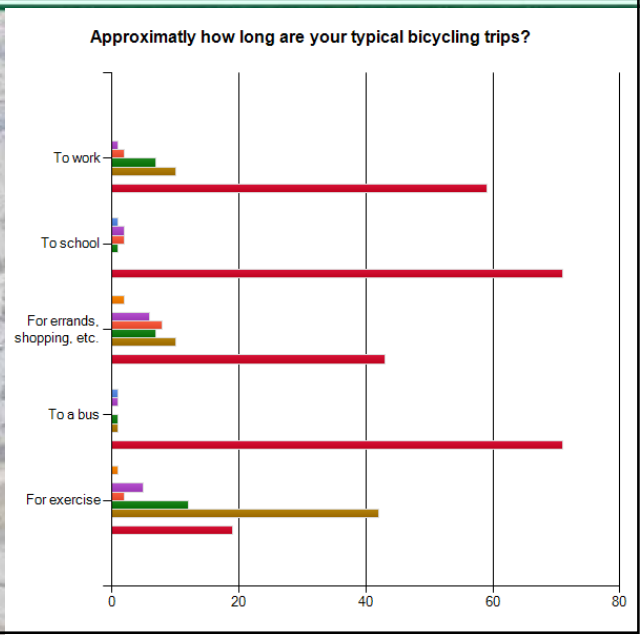
Bicycle - Frequency

- Most Responds Ride Their Bicycle for Exercise, Fitness or Pleasure
- 45% Doing So At Least Weekly
- About 17% Responded that they Bike Weekly to Work or for Errands



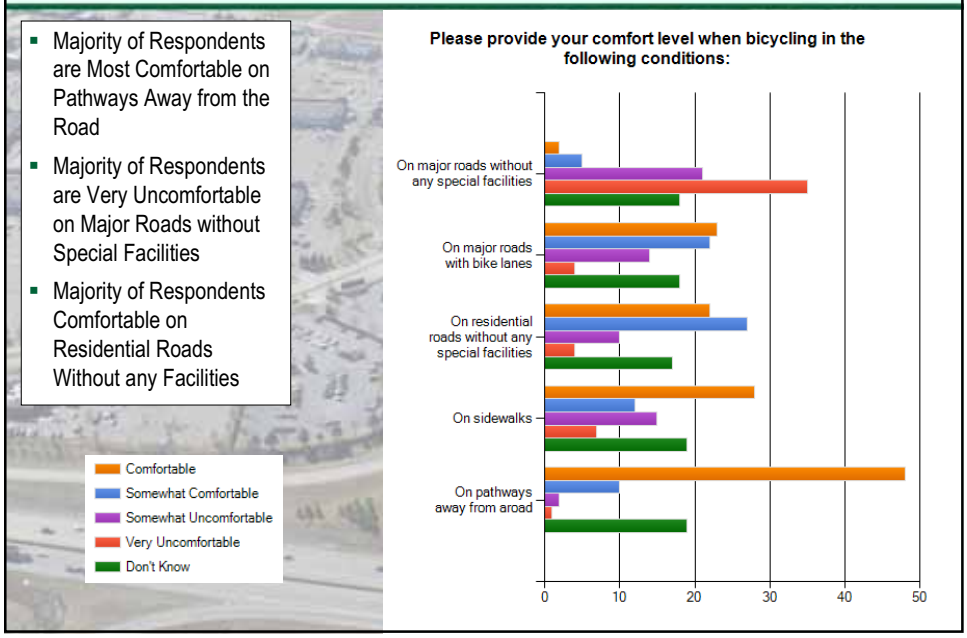
Bicycle – Travel Distances

- Average Trip to Work is 3.8 Miles (20/80 responses)
- Average Trip to School is 1.1 Miles (6/78 responses)
- Average Trip for Shopping/Errands is 2.7 Miles (33/77 responses)
- Average Trip to Bus is 2.3 Miles (4/76 responses)
- Average Trip for Exercise is 4.1 Miles (63/82 responses)



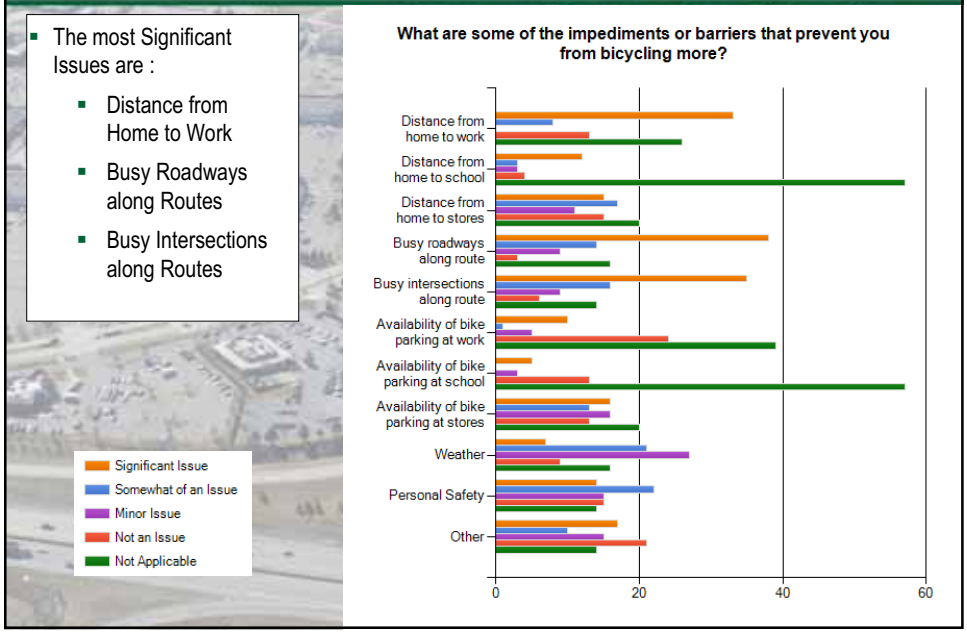
Bicycle – Comfort Level

- Majority of Respondents are Most Comfortable on Pathways Away from the Road
- Majority of Respondents are Very Uncomfortable on Major Roads without Special Facilities
- Majority of Respondents Comfortable on Residential Roads Without any Facilities



Bicycle – Impediments and Barriers

- The most Significant Issues are :
  - Distance from Home to Work
  - Busy Roadways along Routes
  - Busy Intersections along Routes



Key Non-motorized Survey Observations

- Bike and Walk Trips are Longer Than Typical
- Distance to Work and Shopping is A Major Factor
- High Number of People who Walk and/or Ride Their Bike for Shopping/Errands
- Recreation is Main Reason for Walking and Bicycling in the City
  - This Corresponds with Community Surveys
  - Large Potential User Group if Conditions and Land Use Mix Can Be Improved

Bicycle Statistics:

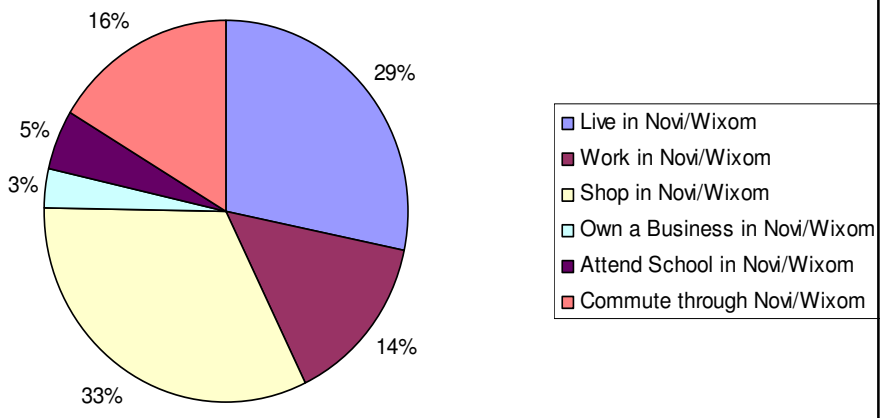
- 25% of Respondents Bike to Work
- 8% of Respondents Bike to School
- 43% of Respondents Bike for Shopping/Errands
- 5% of Respondents Bike to Bus
- 77% of Respondents Bike for Exercise

Pedestrian Statistics:

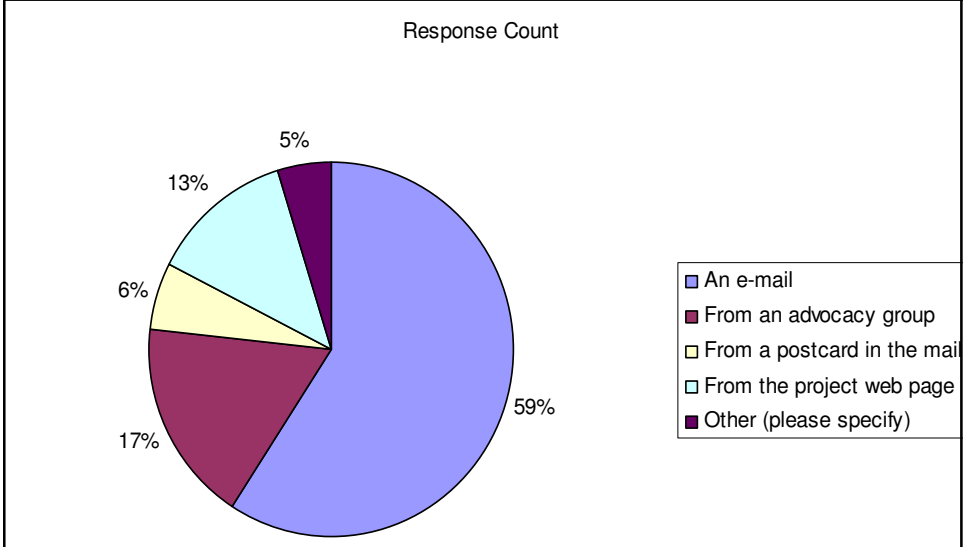
- 9% of Respondents Walk to Work
- 8% of Respondents Walk to School
- 38% of Respondents Walk for Shopping/Errands
- 3% of Respondents Walk to Bus
- 90% of Respondents Walk for Exercise

Who am I?

About me: Response Percent



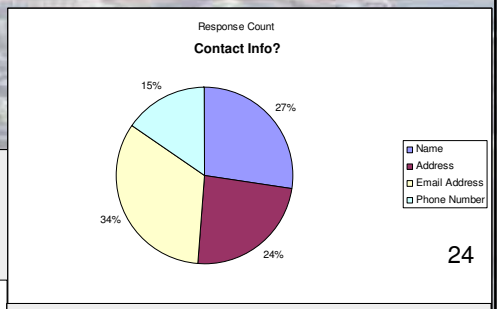
How did you find the Survey?



21

Workshop & Contact Info

23



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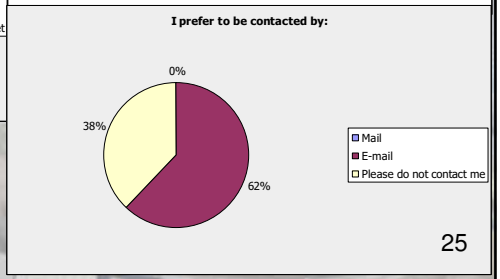
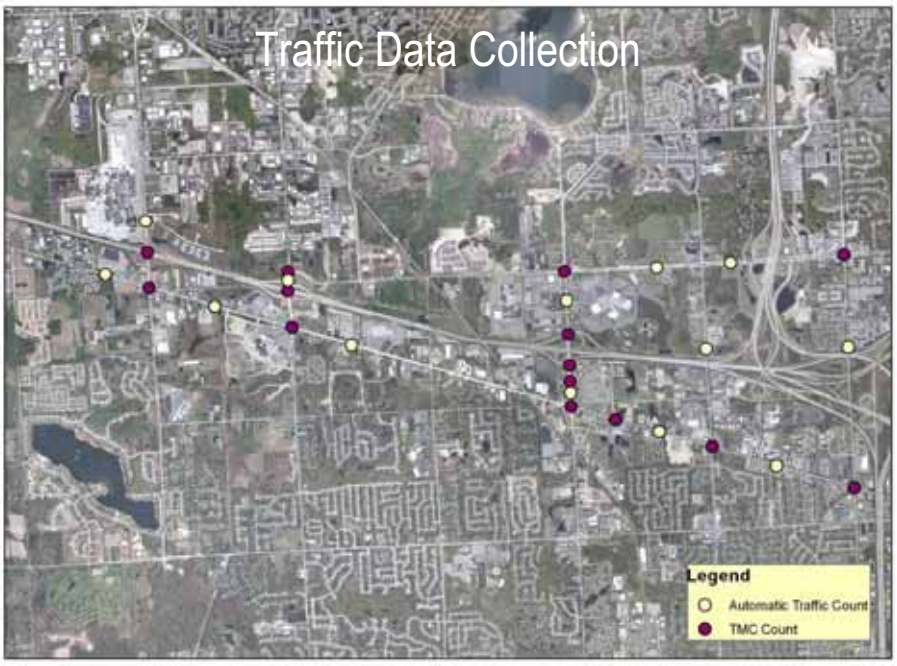
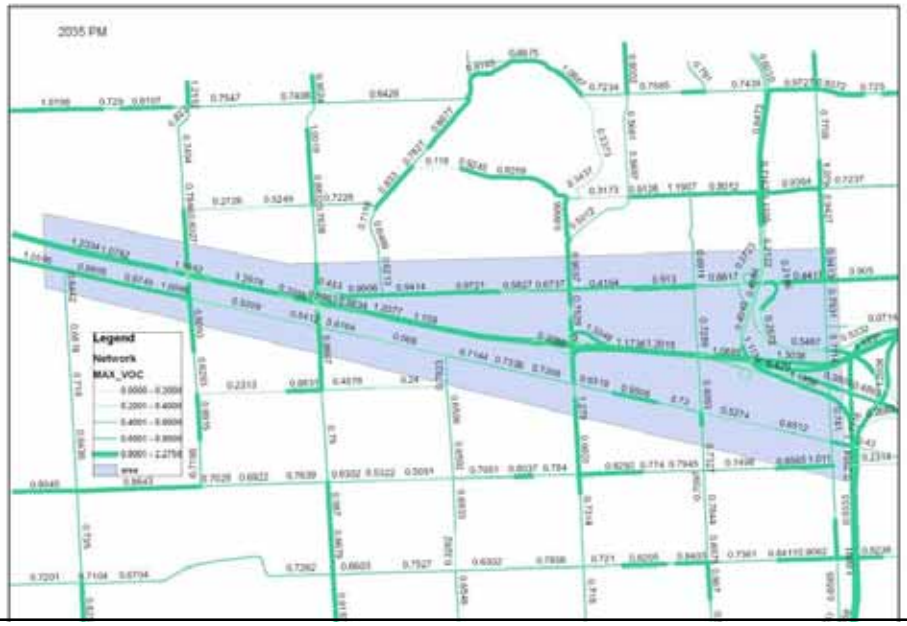


25

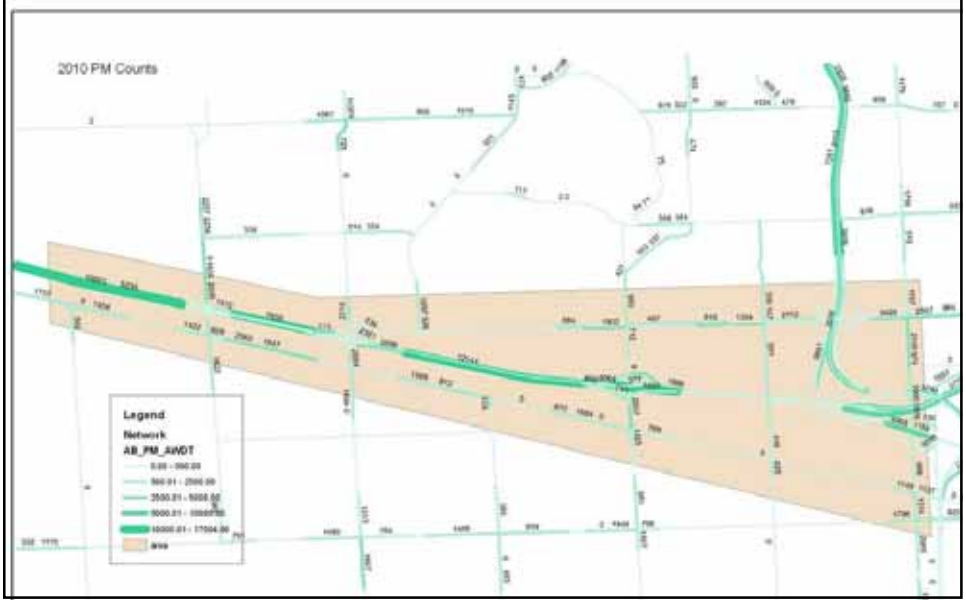
Traffic Data Collection



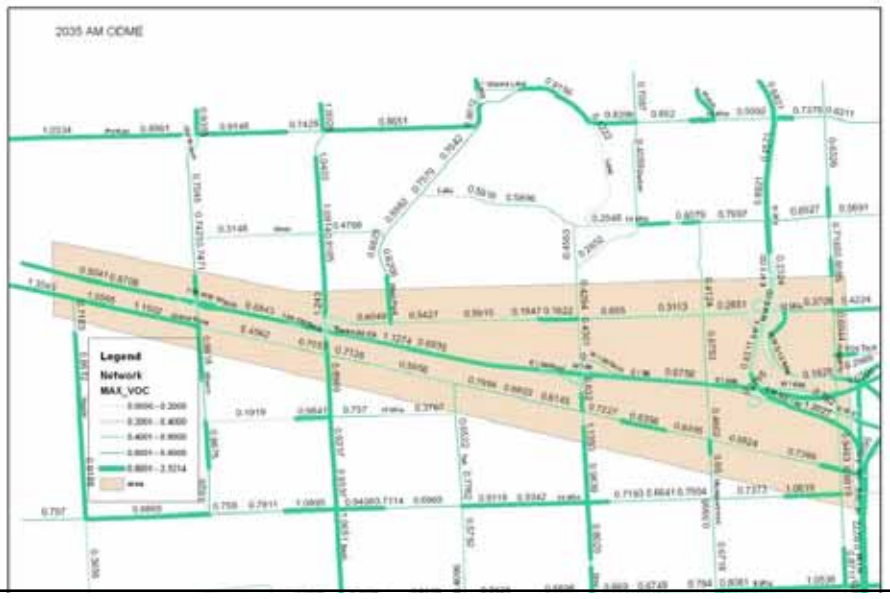
Initial Model Runs



Traffic Counts

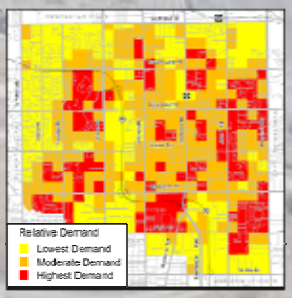


ODME Process



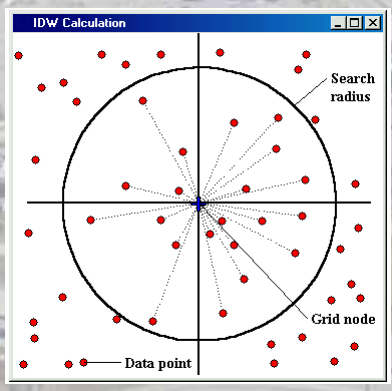
Relative Demand Analysis

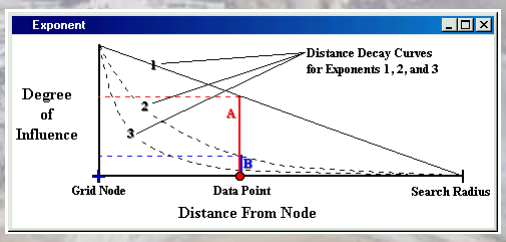
- OBJECTIVE: Identify Where There is Demand for Pedestrian and Bicycle Use
- The Relative Demand Analysis is based on the following data:
  1. Population Density (persons per acre)
  2. Land Use Diversity (e.g. commercial, office, residential, school)
  3. Activity Generators (e.g. schools, parks, downtown)
  4. Transit (where applicable)
  5. Connectivity (based on block size analysis)
- Reflects Latent Demand As Existing Conditions May Inhibit Potential Trips
- This Data is Used to Help Prioritize Improvements
- Can Be Updated to Reflect Future Conditions



Relative Demand Analysis

- METHOD: Inverse Distance Weighting (IDW) interpolation calculates a value from each grid node by examining surrounding data points that lie within a user-defined search radius. The node value is calculated by averaging the weighted sum of all of the points. Data points that lie progressively farther from the node influence the computed value far less than those lying closer to the node.





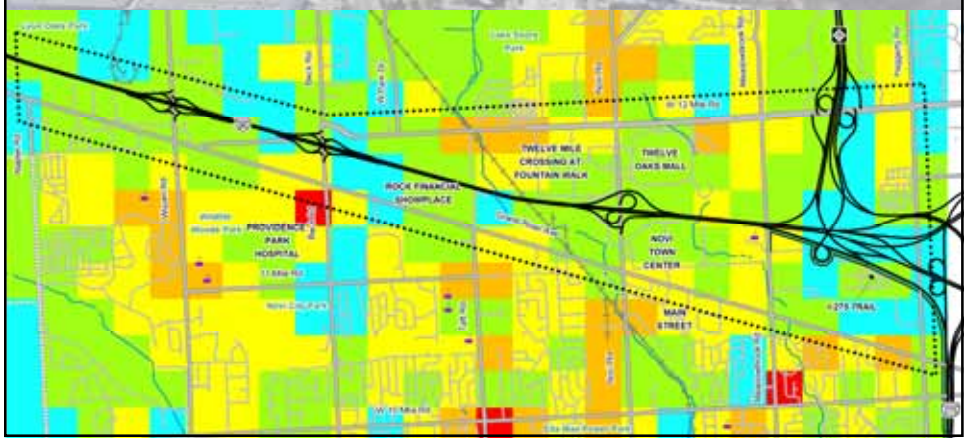
- 1.5 Mile Search Radius

Demand Analysis – Population Density

- Based on 2000 Census Data, some developments that have been built after 2000 may not be reflected in this data
- There are typically 0 to 5 people per acre in the project area

Demand Analysis - Land Use Diversity

- Generally an area with many different types of land uses within close proximity of each other is beneficial to non-motorized users because they do not have to travel great distances to get from one place to another.

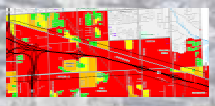


Demand Analysis – Activity Generators

- Activity generators include primary destinations for non-motorized user groups such as schools, parks, regional shopping centers and downtown areas.

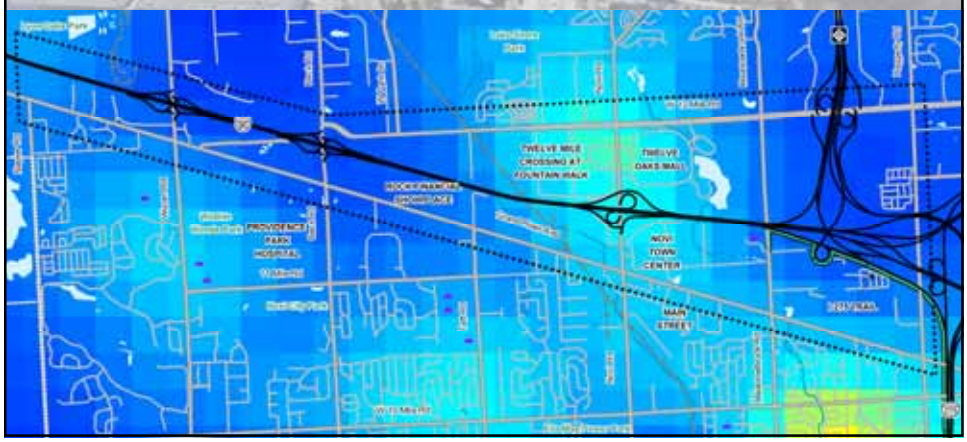
Demand Analysis – Connectivity

- A way to normalize the measurement of the directness of travel found in the block size analysis to the relative demand grid
- This analysis determines how much bicycle and pedestrian connectivity is in a selected area



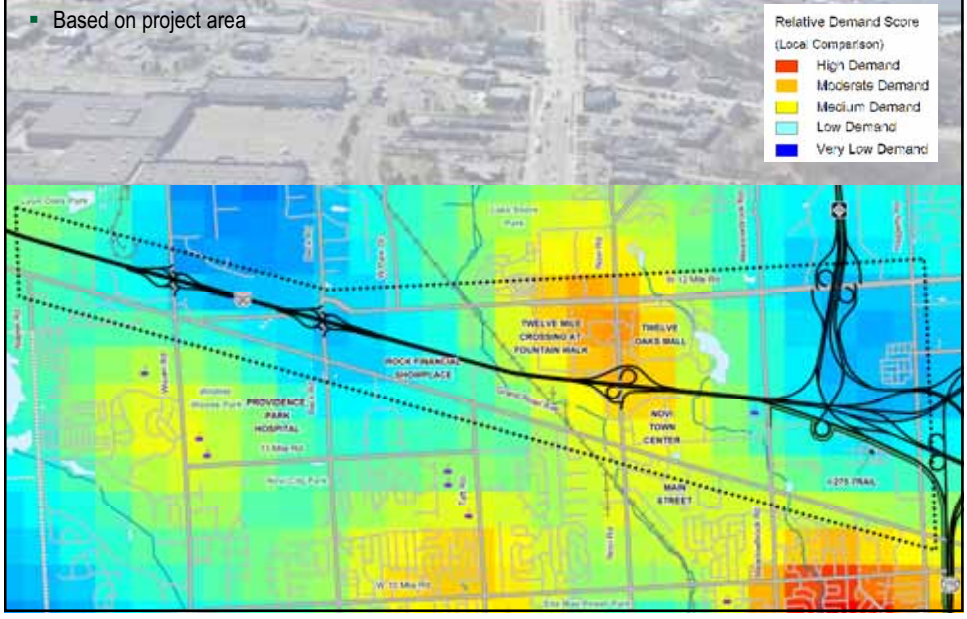
Relative Demand Analysis – Regional Scale

- Statewide comparison
- In general the project area in not very bicycle/pedestrian friendly



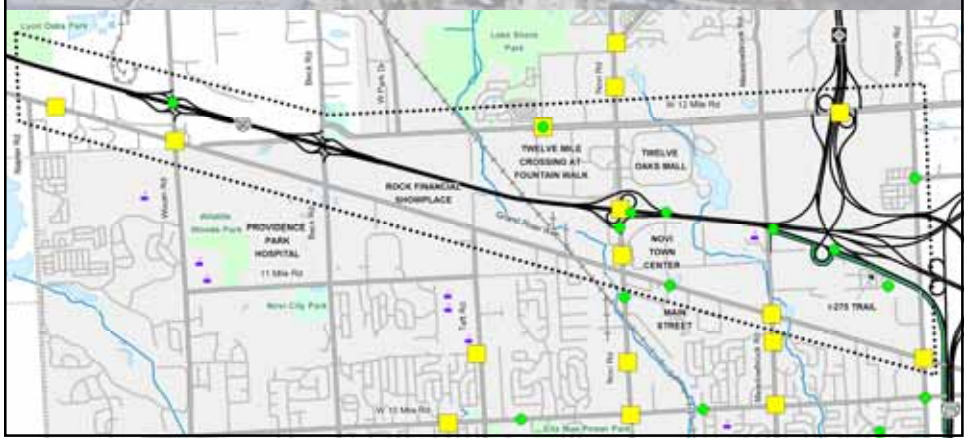
Relative Demand Analysis – Project Scale

- Based on project area



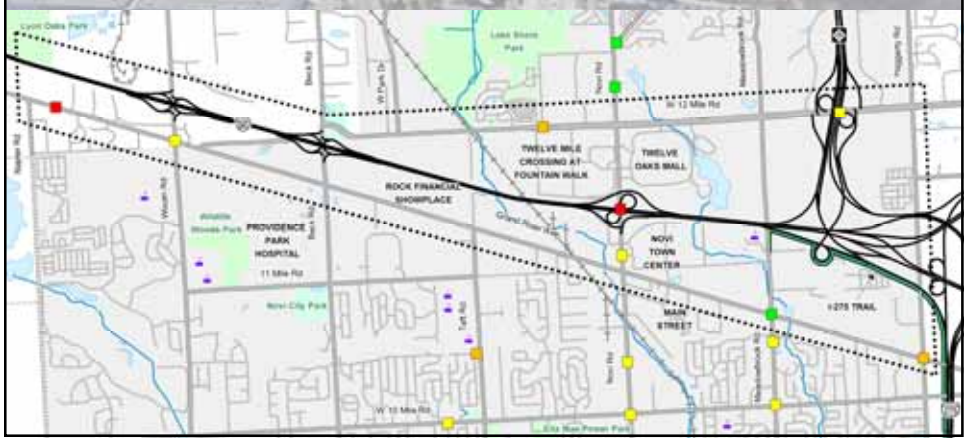
Crash Data– Bicycle and Pedestrian

- Data Collected over a 9-year Period from 1999-2008
- 8 Bicycle Crashes
- 10 Pedestrian Crashes
- The Intersection of W 12 Mile Road and Dixon Road is the only place where more then one crash occurred, one bicycle crash and one pedestrian crash



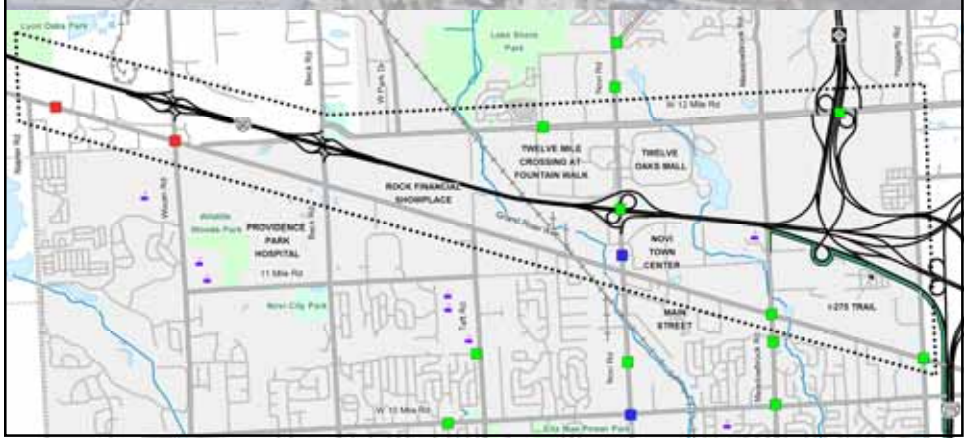
Bicycle Crashes – Injury Level

- There were No Fatal Crashes
- There were two A-Level Injury (incapacitating) Crashes



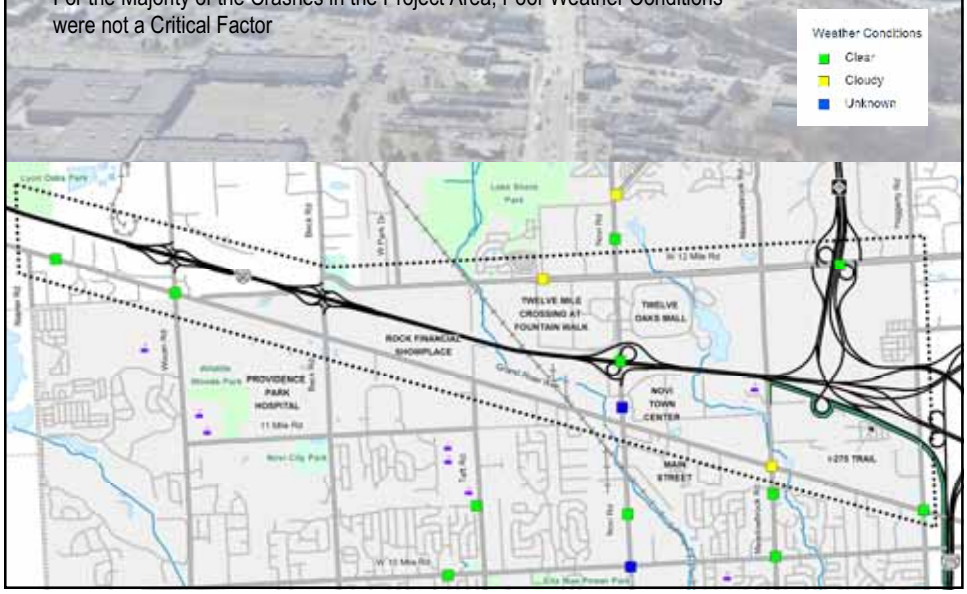
Bicycle Crashes – Lighting Conditions

- Two Crashes Occurred in the Dark with No Street Lights On, and one involved a Level A (incapacitated) injury



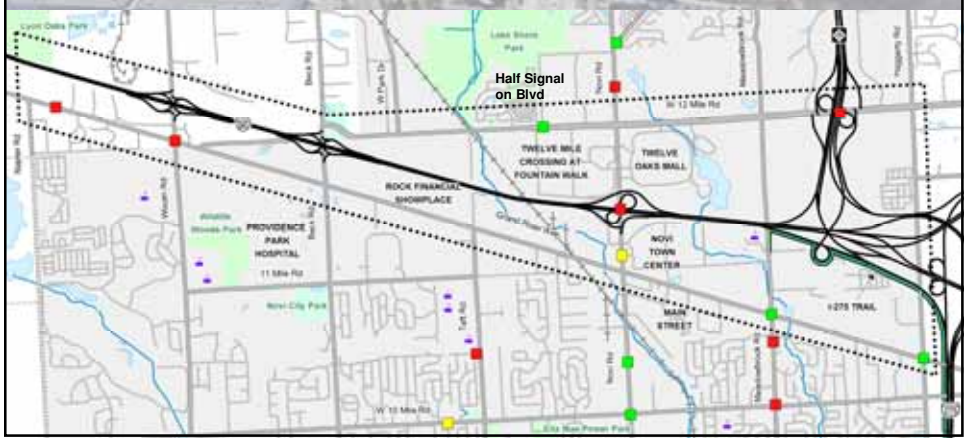
Bicycle Crashes – Weather Conditions

- For the Majority of the Crashes in the Project Area, Poor Weather Conditions were not a Critical Factor



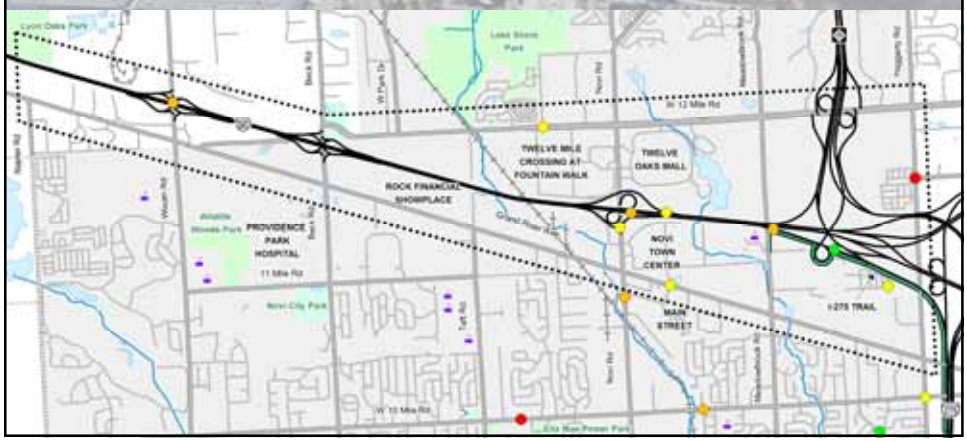
Bicycle Crashes – Traffic Control Device

- 50% of the Crashes were in Areas Where Traffic Control Devices Were Not Present



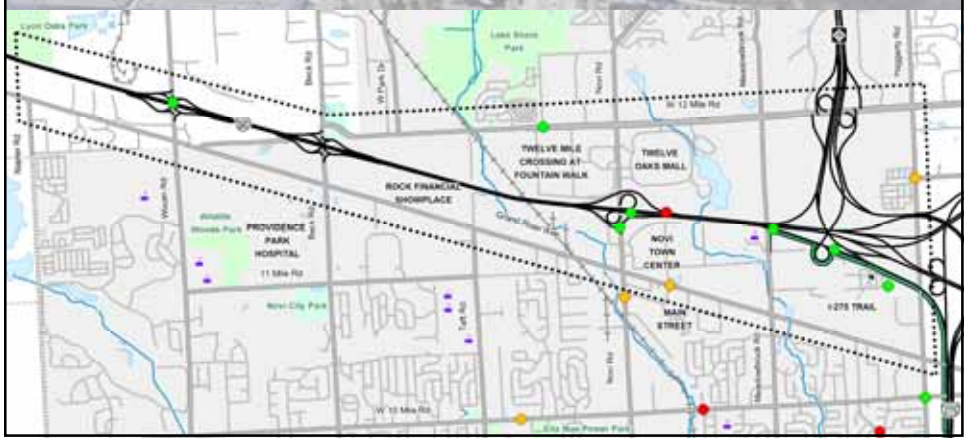
Pedestrian Crashes – Injury Level

- No Fatal Crashes Occurred in the Project Area
- One A-Level Injury (incapacitating) Occurred



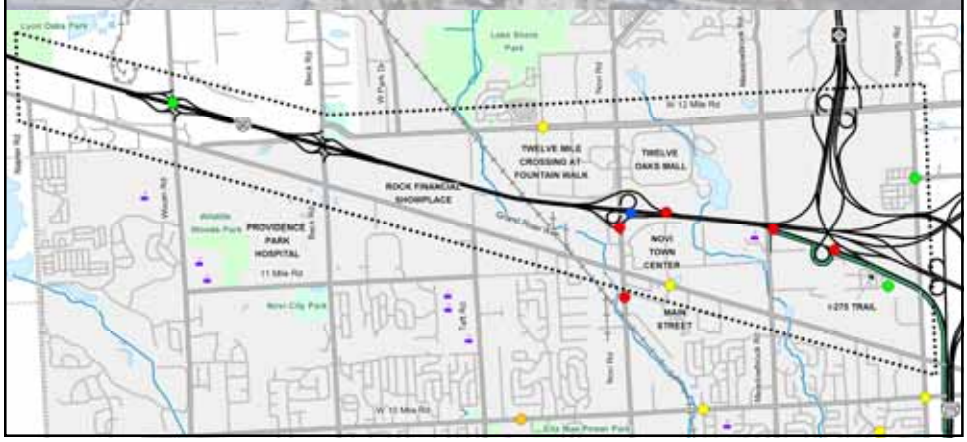
Pedestrian Crashes – Lighting Conditions

- Majority of Crashes Occurred in Daylight
- One of the Crashes at Dust included an A-Level Injury (incapacitating)



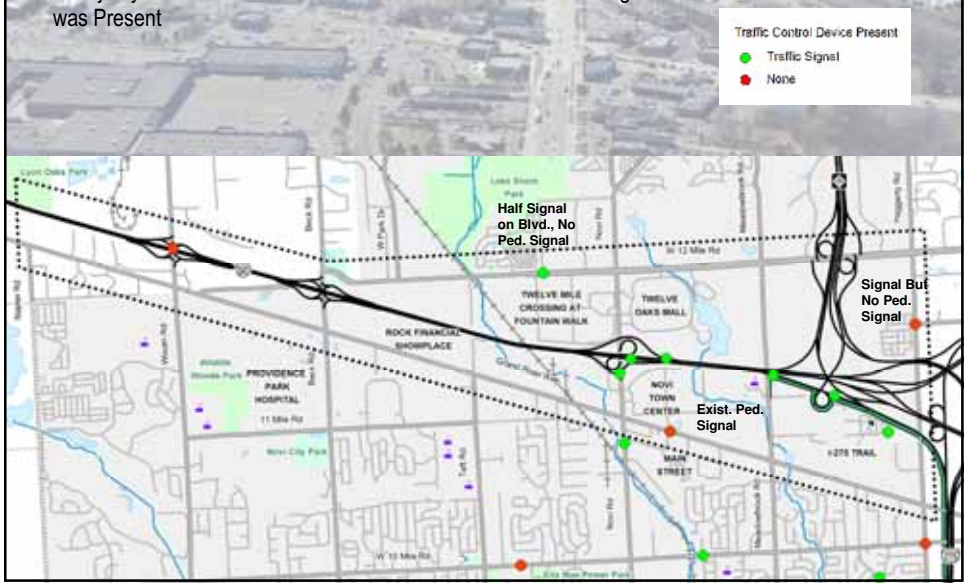
Pedestrian Crashes – Weather Conditions

- 50% of Pedestrian Crashes in the Project Area Occurred under Snowy Weather



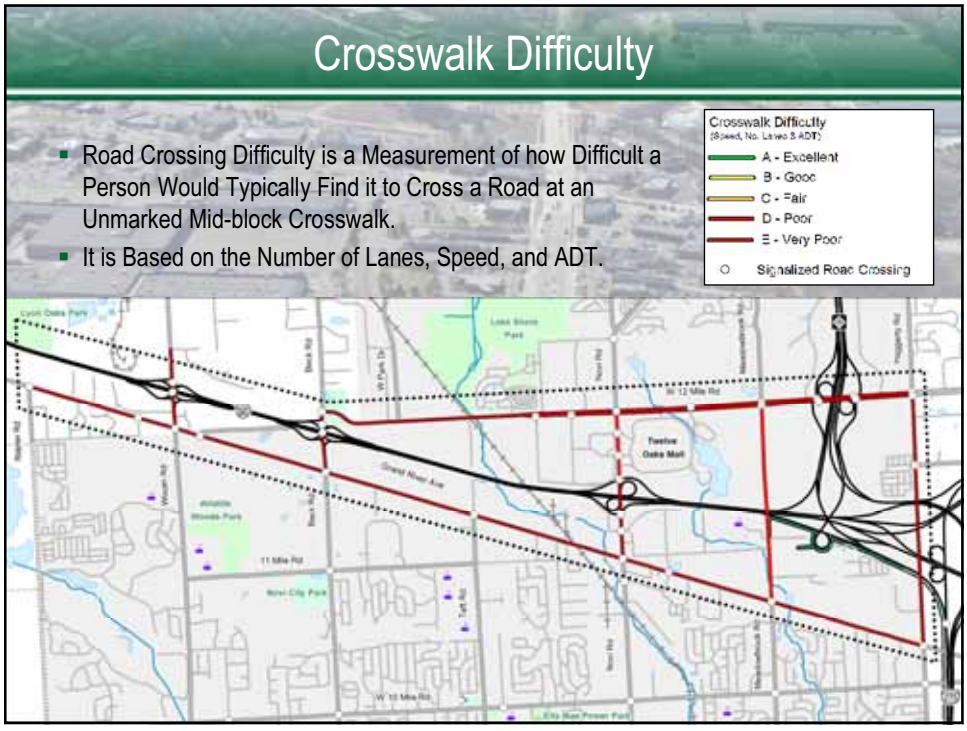
Pedestrian Crashes – Traffic Control Device

- A Majority of the Pedestrian Crashes Occurred where a Traffic Signal was Present



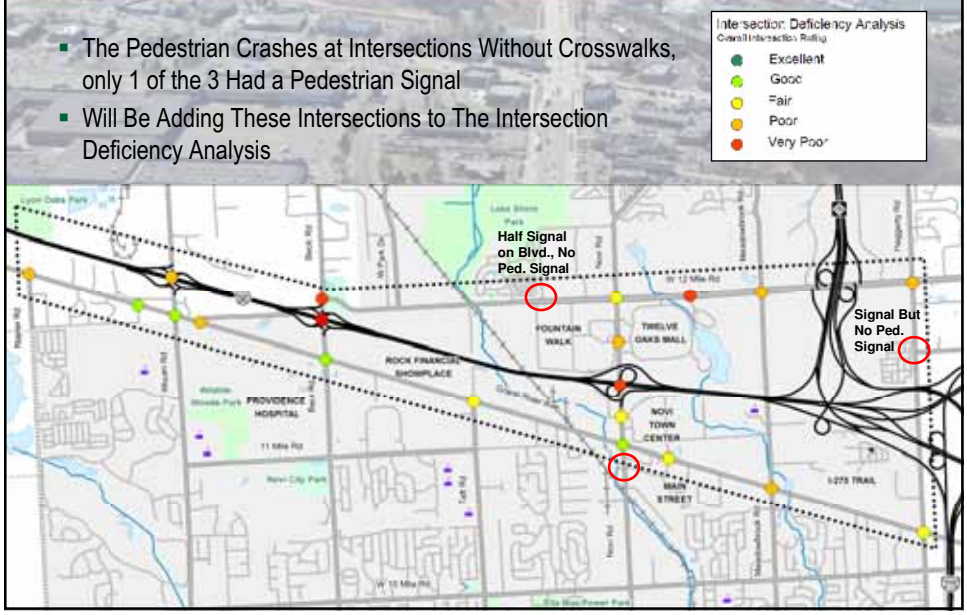
Crosswalk Difficulty

- Road Crossing Difficulty is a Measurement of how Difficult a Person Would Typically Find it to Cross a Road at an Unmarked Mid-block Crosswalk.
- It is Based on the Number of Lanes, Speed, and ADT.



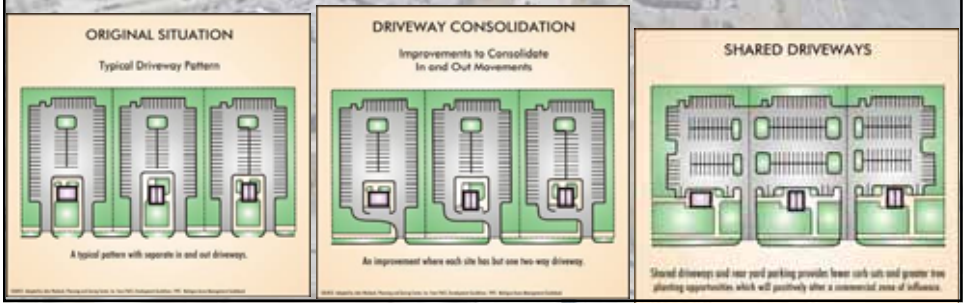
Non-motorized Intersection Deficiency Analysis

- The Pedestrian Crashes at Intersections Without Crosswalks, only 1 of the 3 Had a Pedestrian Signal
- Will Be Adding These Intersections to The Intersection Deficiency Analysis



Access Management Objectives

- Reduce congestion/delay within the study area;
- Maintain the traffic carrying capacity of the roadway
- Reduce the number of traffic crashes;
- Identify acceleration/deceleration lanes to reduce delay;
- Improve ingress and egress to businesses;
- Coordinate land use decisions; and,
- Improve the aesthetic appeal of the corridors.



Access Management Concepts

1

Access Management Concepts

12

Access Management Concepts

17

Access Management Concepts

19

Access Management Concepts

21

Access Management Concepts

18

Comments