The Built Environment, Transportation Choices and Health on Noble Road

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Introduction + Background

Research and Analysis

Conclusions and Future Recommendations

Questions
Introduction and Background
Introduction and Background

Eastside Greenway Plan

- Develop transportation projects that provide more active travel options
- Promote reinvestment in underutilized or vacant properties
- Integrate accessibility, environmental justice, and community health considerations
Introduction and Background

Eastside Greenway Plan Priority Routes
Introduction and Background

Noble Road Corridor
Introduction and Background

NOBLE RD. - DESIGN

Section A - Bike Lanes
EXTENT: EUCLID AVE. TO MAYFIELD RD.

Section A is most applicable in commercial areas where on-street parking is desired. Currently, the roadway is configured as a 4-lane road with the wide outside lanes allowing on-street parking. These lanes could be converted into a narrower parking lane with a designated bike facility. This would reduce roadway capacity to two travel lanes.

- Maintains two travel lanes
- Converts wide outside lane to parking lane and designated bike lane
- Provides streetscape enhancements throughout
- Removes parking at major intersections to accommodate turn lanes

Section B - Buffered Bike Lanes
EXTENT: EUCLID AVE. TO MAYFIELD RD.

- Explores lane reduction opportunities (4-lane to 3-lane) in residential areas to allow creation of buffered bike lanes
- Provides street trees for pedestrian shade throughout the corridor
- Explores opportunities for stormwater management in front lawn areas, particularly on publicly owned properties
Research and Analysis

NOBLE ROAD CORRIDOR: NEIGHBORHOOD ASSESSMENT

Ecological Level: Demographics and Disease Rates
- Evaluated demographic data using census data from the American Community Survey 5 Year Estimates.
- Evaluated disease rates in neighborhoods adjacent to the Noble Road Corridor using CDC databases.

Built Environment: Street and Neighborhood Audit
- Conducted street audit along Noble Road to identify the features that do and do not support active transportation.
- Utilized the Active Neighborhood Checklist to assess:
  - Land use characteristics
  - Public transportation
  - Street characteristics
    - Quality of the environment
    - Sidewalks
    - Shoulders and bike lanes

Individual Level: Beliefs and Behaviors
- Conducted survey of neighborhood residents on modes and frequency of transportation and how features of the built environment influence their transportation choices.
- Performed manual count of non-motorized traffic on Noble Road as part of the National Bicycle and Pedestrian Documentation project.
Ecological Level

DEMOGRAPHICS AND DISEASE RATES
Introduction and Background

Noble Road Corridor
Research and Analysis

DEMOGRAPHICS AND DISEASE RATES – HEART DISEASE RATES
Built Environment
STREET AND NEIGHBORHOOD AUDIT
Research and Analysis

BUILT ENVIRONMENT: STREET AND NEIGHBORHOOD AUDIT

Active Neighborhood Checklist (n=31):

- Land use characteristics
- Public transportation
- Street Characteristics,
- Quality of the Environment
- Sidewalks
- Shoulders and Bike Lanes


http://activelivingresearch.org/sites/default/files/Protocol_ActiveNeighborhoodChecklist.v2.pdf
Percentage of Segments (n=31) with Features that Encourage Active Transportation

- 47% Pedestrian Signalization
- 76% Public Transportation
- 81% Non-residential
Research and Analysis
BUILT ENVIRONMENT: STREET AND NEIGHBORHOOD AUDIT

Percentage of Segments (n=31) with Features that Discourage Active Transportation

➢ 48% Poor Sidewalk Conditions
➢ 32% Vacant Lots and Abandoned Buildings
➢ 0% Dedicated Bicycle Facilities
Individual Level
BELIEFS AND BEHAVIORS
Research and Analysis

INDIVIDUAL LEVEL: BEHAVIORS AND BELIEFS

Means of Transportation to Work

- Census Tract 1512
- Census Tract 1511
- Census Tract 1405
- Census Tract 1404
- Census Tract 1403.02
- Census Tract 1403.01
- Census Tract 1401

Legend:
- Drive Alone
- Carpool
- Public Transportation
- Walk
- Other
Research and Analysis

INDIVIDUAL LEVEL: BEHAVIORS AND BELIEFS

ACTIVE TRANSPORTATION AND NOBLE ROAD CORRIDOR SURVEY

Convenience Sample (n=16)

Walking/Running

This section includes questions regarding the frequency and purpose of your walking trips, if you would like to walk on Noble Road more, and barriers to this activity.

4. I walk for fun, exercise and/or transportation

<table>
<thead>
<tr>
<th>Daily</th>
<th>At Least Once A Week</th>
<th>At Least Once A Month</th>
<th>At Least Once A Year</th>
<th>Never</th>
</tr>
</thead>
</table>

5. On average, how frequently do you walk outside for the following reasons:

<table>
<thead>
<tr>
<th>Daily</th>
<th>At Least Once A Week</th>
<th>At Least Once A Month</th>
<th>At Least Once A Year</th>
<th>Never</th>
</tr>
</thead>
</table>

7. How would you rate the following as reasons you do not walk more frequently on Noble Road?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not A Reason</th>
<th>Minor Reason</th>
<th>Major Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Sidewalks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewalks In Poor Condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsafe Intersections to cross (pedestrian signal/crosswalks)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad Driver Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile Traffic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Unappealing Surroundings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Do Not Have Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destinations Are Too Far Away</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad Weather</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Worksite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amenities (lockers, Showers, Dressing Rooms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel With Small Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too Many Stops To Make</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too Much To Carry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsure Of Route</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Do Not Like To Walk</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Research and Analysis

**INDIVIDUAL LEVEL: BEHAVIORS AND BELIEFS**

### BICYCLE AND PEDESTRIAN COUNT

<table>
<thead>
<tr>
<th>Date</th>
<th>Bicyclists</th>
<th>Pedestrians</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 17, 2016</td>
<td>5</td>
<td>73</td>
</tr>
<tr>
<td>May 19, 2016</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>September 13, 2016</td>
<td>6</td>
<td>66</td>
</tr>
<tr>
<td>September 15, 2016</td>
<td>8</td>
<td>79</td>
</tr>
</tbody>
</table>

## ACTIVE TRANSPORTATION AND NOBLE ROAD CORRIDOR SURVEY

### Reasons For Not Walking

<table>
<thead>
<tr>
<th>Reason</th>
<th>Minor Reason</th>
<th>Major Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visually Unappealing Surroundings</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Personal Safety</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Automobile Traffic</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Bad Driver Behaviors</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

### Reasons For Not Bicycling

<table>
<thead>
<tr>
<th>Reason</th>
<th>Minor Reason</th>
<th>Major Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Safety Concerns</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Automobile Traffic</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Bad Driver Behaviors</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Unsafe Intersections to Cross</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>
Conclusions and Future Recommendations

- Higher rates of death from heart disease occurred in census tracts along the corridor that had higher percentages of minorities and lower incomes.

- Noble Road Corridor has been designed primarily for vehicular traffic and lacks lighting and has poor sidewalk conditions that invoke safety concerns among local residents.

- Integrate the three levels of data and evaluate changes in active transportation and overall physical activity based on road resurfacing.
Conclusions and Future Recommendations

Infrastructure improvements that could increase physical activity and active transportation in the area include:

- Implement design improvements for improved safety and comfort for cyclists, and pedestrians on Noble Road, including designated bike lanes.

- Include traffic calming measures to help reduce motor vehicle speeds.

- Add streetscape improvements such as improved lighting and revitalization of vacant lots.
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➢ Brenda May, Noble Neighbors Association

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QUESTIONS