DOING BUSINESS AROUND TRANSIT CORRIDORS

TWIN CITIES REGIONAL TRANSIT SYSTEM PROPOSED FOR 2030

Legend
- Hiawatha LRT
- Central Corridor LRT
- Cedar Avenue BRT
- Northstar Commuter Rail
- I-35W BRT
- Southwest LRT
- Other Bus Rapid Transit
- Develop as Rail or Bus Rapid Transit
- Develop as Bus Rapid Transit
- 7-County Metro Area

Minneapolis
St. Paul
Rivers

Created November 23, 2011
Humphrey School of Public Affairs
Minneapolis, Minnesota
Data Source: Metropolitan Council

Yingling Fan & Andrew Guthrie — Presentation to 2012 CTS Research Conference

HUMPHREY SCHOOL OF PUBLIC AFFAIRS

UNIVERSITY OF MINNESOTA
Driven to Discover
Transitway Impacts Research Program

**Program**

- Partnership between:
  - Center for Transportation Studies
  - University of Minnesota research community
  - Twin Cities agencies & local governments involved with fixed-guideway transit development

**Mission**

- Investigate the economic, social, environmental and health impacts of transitway corridors
- Help educate elected officials, agency leaders and staff, and the University research community about current issues, innovations, and trends.
- Serve as a national model of inter-jurisdictional collaboration between government and academia.
- Maximize benefits to local partners by facilitating partnerships that support large-scale studies.
Research Need

- Major transit build-out in Twin Cities
- Overwhelmingly in developed areas
- Controversy in popular press
- Existing impacts research:
  - Development shifts;
  - Property values;
  - Gentrification; etc.
- Little research on individual perceptions
- Do businesses themselves see—
  - Benefits?
  - Harms?
  - Some of each?
Survey of Small Businesses

Objectives
- Measure perceived transit corridor impacts
- Identify who gains and who loses

Survey Sample
- 160 responses from 4 corridors
  - 2 LRT, 1 BRT & 1 commuter rail
  - 40 per corridor
- Cluster sampling from 4 neighborhoods each corridor

Questionnaire
- Questionnaire covers three parts:
  - Perceived neighborhood change
  - Travel behavior
  - Background demographics
Business Survey

- 160 Responses
- 16 Neighborhoods
- Even distribution
- Simple random sample @ neighborhood level
- Response Rate:
  - Central Corridor—43%
  - Hiawatha—37%
  - Cedar Ave—27%
  - Northstar—22%
Questionnaire

- Four key questions about perceptions
  - Neighborhood better/worse
  - Transit corridor positive/negative
  - Past & future
- Remaining questions include:
  - Neighborhood change
  - Employee & customer characteristics, travel behavior
  - Business characteristics
  - Respondent demographics, travel behavior
- Mix of interviews/email questionnaires
Results
Construction Concerns

- Most have moderate to serious concerns
- Especially Central Corridor

Specific Concerns

- Central Corridor concerns fairly even
- Many Cedar businesses cited uncertainty about detours
Key Questions

- Increasing polarization for Central Corridor
- Hiawatha optimism
- Suburban stasis, except Northstar future

Hiawatha LRT a hit
- Central Corridor past-future divide, but-
- Little change in negatives
- Suburbs largely neutral
### Significant Explanatory Variables

<table>
<thead>
<tr>
<th>Location</th>
<th>Past</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Corridor Light Rail</td>
<td>-0.7805</td>
<td>-3.5051***</td>
</tr>
<tr>
<td>Cedar Avenue Bus Rapid Transit</td>
<td>-0.9336</td>
<td>-4.2936***</td>
</tr>
<tr>
<td>Northstar Commuter Rail</td>
<td>-0.7271</td>
<td>-2.9393***</td>
</tr>
<tr>
<td>Airline Distance from Business to Transitway Alignment</td>
<td>-0.0002</td>
<td>0.0027***</td>
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<table>
<thead>
<tr>
<th>Business Characteristics</th>
<th>Past</th>
<th>Future</th>
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</thead>
<tbody>
<tr>
<td>Automobile Sales/Service Business</td>
<td>-1.5731**</td>
<td>-2.0016**</td>
</tr>
<tr>
<td>Traditional Storefront Building</td>
<td>0.657</td>
<td>-1.2901</td>
</tr>
<tr>
<td>Detached Building, with Parking Lot</td>
<td>0.0346</td>
<td>-0.3457</td>
</tr>
<tr>
<td>Multi-Story Office Building</td>
<td>0.2689</td>
<td>-0.0858</td>
</tr>
<tr>
<td>Building Owned by Business</td>
<td>0.5485</td>
<td>0.8479</td>
</tr>
<tr>
<td>Age of Business, in Years</td>
<td>-0.0104</td>
<td>-0.0504***</td>
</tr>
<tr>
<td>CY 2010 Sales</td>
<td>0.1076</td>
<td>0.2937</td>
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<table>
<thead>
<tr>
<th>Travel Behavior</th>
<th>Past</th>
<th>Future</th>
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<tbody>
<tr>
<td>Alternative Transportation &gt;= 2x/wk, Respondent</td>
<td>-0.1347</td>
<td>0.5287</td>
</tr>
<tr>
<td>Many or Most Employees use Alternative Transportation</td>
<td>-1.8744**</td>
<td>0.4503</td>
</tr>
<tr>
<td>Many or Most Employees or Customers Park on the Street</td>
<td>0.5338</td>
<td>-1.2640*</td>
</tr>
<tr>
<td>Customers’ use of Transitway</td>
<td>0.2878</td>
<td>1.3997***</td>
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<table>
<thead>
<tr>
<th>Demographics</th>
<th>Past</th>
<th>Future</th>
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</thead>
<tbody>
<tr>
<td>Minority Respondent</td>
<td>-0.0456</td>
<td>-2.8492**</td>
</tr>
<tr>
<td>Many or Most Employees African-American</td>
<td>0.1083</td>
<td>4.8882***</td>
</tr>
<tr>
<td>Many or Most Employees Hispanic</td>
<td>1.1235</td>
<td>-4.3856***</td>
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<tr>
<td>Many or Most Customers African-American</td>
<td>2.3106*</td>
<td>0.2072</td>
</tr>
<tr>
<td>Many or Most Customers Immigrants</td>
<td>-0.0986</td>
<td>0.2584</td>
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- Ordered logistic regression
- Key questions are dependent variables
- 4 models—1 for each key question
- Explanatory variables cover:
  - Location
  - Business characteristics
  - Travel behavior
  - Demographics
• Probabilities of each dependent variable value.
• Manipulate one statistically significant variable.
• Hold others at median.
• Automotive businesses consistent departure from positive trend.
Model Predictions

- Past: Hiawatha vs. everybody else
- Northstar past slightly higher prob. of positives than unfinished lines
- Future perceptions less controversial

Perceptions of Transitway Impacts, by Corridor

- Strongly Positive
- Somewhat Positive
- Neutral
- Somewhat Negative
- Strongly Negative

(Hiawatha) Central Corridor Cedar Ave Northstar (Hiawatha) Cedar Ave

Past Future

(Reference cat's in parentheses)
Model Predictions

- Positive, but-
- Large increase in prob. of positives with distance from line.

- Similar trend, but-
- Positives more likely overall.
- Especially for businesses near line
Model Predictions

- New businesses much more likely to perceive past impacts in positive light.
- Self selection?

- Again, less controversy over future impacts than past impacts
- Older businesses still slightly less likely to be positive
Model Predictions

- Significant difference in perceptions based on sales volume
- Positives much less likely, negatives more likely for smallest businesses
Customers’ transitway use has dramatic effect on future impacts perceptions.
Even “none” to “a few” shifts from 46% to 90% probability of positive.
Past impacts quite similar.
Key Conclusions
Key Conclusions

- Businesses are more generally positive about future than past.
- Significant concerns about construction impacts.
- Positive perceptions of future impacts out-number negatives for all corridors, but-
  - Significant corridor-to-corridor difference in number of positives, and
  - Number and strength of negatives.
  - Central Corridor’s vanishing middle.
- Some businesses may feel like they’re being “planned out” of transitway areas.
  - Type
  - Size
  - Age
- Racial/nativity status divisions are powerful, but complex-
  - Why the African-American—Hispanic/immigrant difference?
  - Underscores need for community outreach and dialogue.
- Belief that customers (will) ride is a major plus.
Thank you!

**Sponsored by the Transitway Impacts Research Program**

**Partners and supporters**
- Anoka County
- Center for Transportation Studies
- Center for Urban and Regional Affairs
- Central Corridor Funders Collaborative
- City of Minneapolis
- City of St. Paul
- Dakota County
- Federal Transit Administration
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- Metro Transit
- Metropolitan Council
- Minneapolis Regional Chamber of Commerce
- Minnesota Dept. of Transportation
- Ramsey County
- Saint Paul Area Chamber of Commerce
- University Metropolitan Consortium
- Washington County

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