WHO RIDES THE BUS?

Examining Transit Ridership in Marion County

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Public Health and Transit

• Transit use encourages moderate physical activity. Every transit trip starts and ends on foot or bike.

• High quality transit increases a population’s likelihood of choosing an active travel mode over automobile use.

• Transit use reduces traffic congestion and emissions, lowers automobile crash rates, and improves access to health services and health food sources.
Who rides the bus?

Ridership survey data was combined with neighborhood statistics.

This allowed us to consider the role of transit and the service it provides to our community’s diverse ridership.
Who rides the bus?

We used cluster analysis to discover what are the

• Major groupings of transit riders?
• Transit habits of those riders?
• Demographics of those riders?
• Neighborhoods where riders tend to live?
• Major socioeconomic trends in those neighborhoods and how do those compare to the riders’ sociodemographic trends?
IndyGo On-Board Transit Survey

- Occurs about every five years
- Over 4,000 respondents
- Tracked locations for home, getting on the bus, getting off the bus, and final destination
- Gathered demographic information like race, ethnicity, age, language, household members, vehicle ownership
Planning Context

IndyGo Forward Plan

Focused on achieving a high-ridership network, compared to a high-coverage network
Planning Context

Marion County Transit Plan

Achieves a more ridership-focused system by

• Adding more high frequency lines (vehicles arrive every 15 minutes)

• Creating three rapid transit lines (vehicles arrive every ten minutes)

• Consolidating service in low-ridership areas
Planning Context

Our research provides a

• Benchmark before these changes are implemented

• Framework to view how service improvements will impact current ridership
How We Did the Analysis

- Used survey responses to find ridership habits and trends
- Used GIS to link riders to their home neighborhoods
How We Did the Analysis

Created clusters based on four inputs:

<table>
<thead>
<tr>
<th>Language</th>
<th>Race &amp; Ethnicity</th>
<th>Employment Status</th>
<th>Transit Service Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speak English at home</td>
<td>White, Non-Hispanic</td>
<td>Retired, Unemployed, Part-time, Full-time</td>
<td>Revenue Miles per Square Mile</td>
</tr>
</tbody>
</table>
How We Did the Analysis

Here’s how Transit Service Density works.
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.

Bus Line

Bus every 30 minutes
Limited weekends and evenings
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.

Bus Line

Runs 400 Times Per Week
(200 Inbound, 200 Outbound)
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.

1 Mile

Runs 400 Times Per Week
(200 Inbound, 200 Outbound)
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.

Runs 400 Times Per Week
(200 Inbound, 200 Outbound)

400 buses per week
\times 1 \text{ mile of route} = 400 \text{ Revenue Miles per Week}
How We Did the Analysis

Here’s how Transit Service Density works. Imagine a one-mile-square neighborhood.

400 Revenue Miles per Week ÷ 1 sq mile

Transit Service Density is 400
How We Did the Analysis

This led to eight groups, which we refined to five.
All IndyGo Riders
Who Live in Indy

Live in 88 of the 99 Marion County neighborhoods.

Current ridership estimated at 26,132 people.
All IndyGo Riders Who Live in Indy

Trip Purpose (Destination or Origin)

- Work: 46%
- Social: 26%
- Shopping: 12%
- School (K-12): 3%
- Health: 7%
- College: 6%
All IndyGo Riders Who Live in Indy

Race

- Black: 57%
- White: 32%
- Hispanic: 4%
- Other: 7%

Percentage distribution of race among IndyGo riders who live in Indy.
All IndyGo Riders Who Live in Indy

Household Income

2 of every 3 riders have household incomes under $35K.

Indianapolis area median income (2016) is $66.7K*.

* U.S. Dept. of Housing and Urban Development
IndyGo Riders’ Neighborhoods

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Riders’ Neighborhoods</th>
<th>County Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>People of Color</td>
<td>52%</td>
<td>42%</td>
</tr>
<tr>
<td>Housing Burdened</td>
<td>41%</td>
<td>35%</td>
</tr>
<tr>
<td>Poverty Rates</td>
<td>29%</td>
<td>21%</td>
</tr>
</tbody>
</table>
IndyGo Riders’ Neighborhoods

- Riders’ Neighborhoods
- County Overall

**Density**
- People per Acre: 5.6
- Jobs per Acre: 12.1

**Land Val.**
- Land Value Density: $307K
- $212K

**Access to Parks**
- Park Access: 43%
- Greenway Access: 12%

- Other: 32%, 8%
IndyGo Riders’ Neighborhoods

Riders’ Neighborhoods

County Overall

Transit Density

2016: 593
2021: 622

Non-Car Commuters

Mode

2016: 9%
2021: 5%
Group A

52% Of total ridership

“Working age person of color, living in Center Township or on the east side of Indianapolis, using transit daily to get to work or for social purposes.”
Group A

52% Of total ridership

Ridership by Age

Ridership by Race

Ridership by Employment

Black: 59%
Hisp/Latino: 5%
White: 29%
Other: 6%

100% Full-Time
Group A

52% Of total ridership

Miles of Bus Service per Week per Square Mile

<table>
<thead>
<tr>
<th>Year</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>978</td>
</tr>
<tr>
<td>2021</td>
<td>1,095</td>
</tr>
</tbody>
</table>

Trip Purpose (Origin or Destination)

- College: 72%
- Health: 19%
- K-12 School: 9%
- Shopping: 9%
- Work: 4%
- Social: 2%

How Frequently Riders Use the Bus

- First Time: 6%
- Less than Once a Month: 5%
- Once a Month: 3%
- Twice a Month: 3%
- 1-2 Days/Wk: 11%
- 3-5 Days/Wk: 55%
- 6-7 Days/Wk: 21%
Group A

52% Of total ridership

- These riders all work full time, but half earn less than $25K. They live in neighborhoods with lower per capita income, higher poverty.
- Affordable transportation, such as public transit, provides these riders and their neighbors with some options for economic mobility.
- 20% responded on the survey that they would not have made their current trip without transit. Of those, a third were taking the bus to work.
“Young person of color working part-time, living in the Near Eastside or along Meridian Street corridor, using transit several days a week for work, college, shopping, and social purposes.”
Group B

25% Of total ridership

Ridership by Age

Ridership by Race

- Black: 53%
- Hisp/Latino: 5%
- White: 34%
- Other: 8%

Ridership by Employment

- 92% Part-Time
- 8% Full-Time
Group B

25% of total ridership

Miles of Bus Service per Week per Square Mile

- 2016: 1,285
- 2021: 3,402

Trip Purpose (Origin or Destination)

- College: 12%
- Health: 5%
- K-12 School: 2%
- Shopping: 7%
- Work: 48%
- Social: 2%

How Frequently Riders Use the Bus

- First Time: 9%
- Less than Once a Month: 5%
- Once a Month: 6%
- Twice a Month: 4%
- 1-2 Days/Wk: 26%
- 3-5 Days/Wk: 48%
- 6-7 Days/Wk: 13%
Group B

- Home neighborhoods have above-average transit service.
- Group B is multimodal, using a combination of walking, biking, and ride sharing to get around.
- Live in neighborhoods with higher housing values and higher rates of housing cost burden. Affordable transportation, such as transit, may help these riders stay in their home neighborhoods.
Group C

15% Of total ridership

“Older person of color, not employed, using transit for a variety of non-work related needs. Or, student of color using the bus for school or social purposes.”
Group C

15% of total ridership

Ridership by Age

Ridership by Race

- Black: 87%
- Hisp/Latino: 4%
- White: 0%
- Other: 10%

Ridership by Employment

- 20% Retired
- 80% Unemployed
Group C

15% Of total ridership

Miles of Bus Service per Week per Square Mile

<table>
<thead>
<tr>
<th>Year</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1,118</td>
</tr>
<tr>
<td>2021</td>
<td>1,224</td>
</tr>
</tbody>
</table>

Trip Purpose (Origin or Destination)

- College: 10%
- Health: 17%
- K-12 School: 8%
- Shopping: 17%
- Work: 5%
- Social: 47%

How Frequently Riders Use the Bus

- First Time: 6%
- Less than Once a Month: 6%
- Once a Month: 7%
- Twice a Month: 6%
- 1-2 Days/Wk: 22%
- 3-5 Days/Wk: 30%
- 6-7 Days/Wk: 11%
Group C

- Home neighborhoods have high job densities, but this group is largely unemployed.
- May benefit from improved access to other jobs or job training.
- Youth and older, retired riders in this group would benefit from improved access to shopping and social destinations.

15% Of total ridership
Group D

7% Of total ridership

“White, unemployed person living on the east side of Indianapolis. Middle-aged and using transit weekly for social, shopping, and health needs.”
Group D

7% Of total ridership

Ridership by Age

Ridership by Race

Ridership by Employment

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>0%</td>
</tr>
<tr>
<td>Hisp/Latino</td>
<td>0%</td>
</tr>
<tr>
<td>White</td>
<td>100%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired</td>
<td>30%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>70%</td>
</tr>
</tbody>
</table>
Group D

7% Of total ridership

Miles of Bus Service per Week per Square Mile

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>2016</td>
<td>703</td>
</tr>
<tr>
<td>2021</td>
<td>895</td>
</tr>
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How Frequently Riders Use the Bus

<table>
<thead>
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<th>Frequency</th>
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<th>Less than Once a Month</th>
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<tbody>
<tr>
<td>%</td>
<td>2%</td>
<td>9%</td>
<td>10%</td>
<td>11%</td>
<td>27%</td>
<td>28%</td>
<td>13%</td>
</tr>
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Trip Purpose (Origin or Destination)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>College</td>
<td>8%</td>
</tr>
<tr>
<td>Health</td>
<td>20%</td>
</tr>
<tr>
<td>K-12 School</td>
<td>2%</td>
</tr>
<tr>
<td>Shopping</td>
<td>28%</td>
</tr>
<tr>
<td>Work</td>
<td>6%</td>
</tr>
<tr>
<td>Social</td>
<td>41%</td>
</tr>
</tbody>
</table>
Group D

7% of total ridership

- Infrequent transit service
- Low employment density
- Low high school graduation rates
- Fewer adults with high school diplomas
Group E

1% Of total ridership

“White, older person, living along Meridian Street corridor. Unemployed and using transit infrequently for non-work purposes.”
Group E

1% Of total ridership

Ridership by Age

Ridership by Race

Ridership by Employment

21% Retired 73% Unemployed 6% Part-Time
Group E

Of total ridership

1%

Miles of Bus Service per Week per Square Mile

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2021</th>
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<tbody>
<tr>
<td>Miles</td>
<td>3,381</td>
<td>3,408</td>
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How Frequently Riders Use the Bus

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<tr>
<td>%</td>
<td>11%</td>
<td>5%</td>
<td>28%</td>
<td>3%</td>
<td>33%</td>
<td>9%</td>
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Trip Purpose (Origin or Destination)

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<tr>
<td>Shopping</td>
<td>26%</td>
</tr>
<tr>
<td>Work</td>
<td>2%</td>
</tr>
<tr>
<td>Social</td>
<td>49%</td>
</tr>
</tbody>
</table>
Group E

1% of total ridership

These riders’ characteristics contrast with their home neighborhood characteristics. Social isolation may be a concern.
What We Can Conclude

Transit improves access to health services and healthy food.

• For groups C, D, and E, one in five transit trips has a health-related origin or destination. These groups make up a quarter of IndyGo riders.

• Shopping is a top trip purpose for these groups as well. This would include grocery shopping.
What We Can Conclude

Transit in Indianapolis promotes economic mobility in some areas of need.

• More than 70% of Group A riders and about 50% of group B riders use the bus for work.

• If 2021 buildout occurs as planned, more employment options may be available for all riders.
What We Can Conclude

Transit in Indianapolis promotes social mobility to some groups in need.

• Youth and retired or senior riders in Group C use the bus largely for shopping and social purposes.

• Transit may help connect Group D riders to social destinations that may help them age in place.
What We Can Conclude

Transit in Indianapolis provides an affordable transportation option.

• In addition to affordable housing, affordable transportation contributes to neighborhood stability.

• Some riders, such as those in Group B, may be unwilling or unable to move to a locations without transit access, even if those areas have lower housing costs.
Thank you.

Any questions?