Managing Data for Suburban Bus Planning

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Pace Suburban Bus
Data Request

- Aurora Transit Center is getting reconfigured
- We need to know which busses have the most transfers between them, and...
- Which routes have the most Metra riders?
Overview of Plan

- Existing Bus Bays become parking for Roundhouse
- New Bus Bays along Metra track North of platform
Transactional Data

- Pulled data for September and October of 2017
- Division = ‘Fox Valley’
- Lat/Lon filter yields Aurora Transit Center (ATC)
- All transactions pulled
- Transfer information pulled
Raw Data View

- Route on color
- Area too large
Transfers at Aurora Transit Center

- Narrow focus on transit center
- Some transactions delayed
- Position of bus bays becomes visible
- Odd patterns in the North
Bus Bays Found?

- Used average lat/lon to find bus bays
- Filter out 65535’s
Not Bad
Busses in Taxi Lane?

- There are a significant number of boardings outside the designated transit bays
Boardings by Hour

- Hour on color
- Darker is later
Late Service

• Busses relocated after 8:00 PM?
Transfers

- Boarding Routes across top
- Previous route along left
- Null previous route indicates “Initial Ride”
- Transfers between ATC routes labeled “ATC”
- Out of area Pace and all CTA rides indicate “Metra”
## Transfers

Transfers compared to Initial Rides and Metra

<table>
<thead>
<tr>
<th>Previous Ro.</th>
<th>524</th>
<th>530</th>
<th>532</th>
<th>533</th>
<th>540</th>
<th>802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Ride</td>
<td>424</td>
<td>849</td>
<td>13</td>
<td>764</td>
<td>3</td>
<td>934</td>
</tr>
<tr>
<td>ATC</td>
<td>927</td>
<td>2,273</td>
<td>34</td>
<td>1,389</td>
<td>1</td>
<td>1,946</td>
</tr>
<tr>
<td>Metra</td>
<td>3</td>
<td>54</td>
<td>38</td>
<td>38</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>1,354</td>
<td>3,176</td>
<td>47</td>
<td>2,191</td>
<td>4</td>
<td>2,915</td>
</tr>
</tbody>
</table>
Transfers by Route

- 524, 530, 533, 802 have a lot of transfers at ATC
- 530, 533, 802 have the most Metra rides
Results

• Based on Transfers alone:
  530 - 802 - 533 - 524

• Based on Initial Ride alone:
  802 - 530 - 533 - 524

• Based on Metra alone:
  530 - 533 - 802 - 524
Most Efficient Layout

- Proposed layout puts 4 high transfer routes together
- Route 524 has the least Metra rides, so farthest from station
- 532 and 540 have very low transfers
Results May Vary