Brown Line Capacity Expansion Project

Supplemental Service Strategy for Construction-Related Three-Track Operation

February 14, 2007
Description of the Brown Line Reconstruction Project and Customer Impact
Supplemental Service Strategy
Construction Impact Area

North/South
#151 Sheridan  #156 LaSalle
#8 Halsted  #9 Ashland
X9 Ashland Express  #50 Damen
#49 Western  X49 Western Express
#52 Kedzie/California  #82 Kimball/Homan
#53 Pulaski

East/West
#155 Devon  #84 Peterson
#92 Foster  #81 Lawrence
#78 Montrose  #80 Irving Park
X80 Irving Park Express  #152 Addison
#77 Belmont  #76 Diversey
#74 Fullerton  #73 Armitage
#72 North  #70 Division
#66 Chicago  #65 Grand
#20 Madison  X20 Wash.//Madison Exp.

Diagonal
#22 Clark  #36 Broadway
#11 Lincoln/Sedgwick  #56 Milwaukee

Northside Express to Downtown
#134 Stockton/LaSalle  #135 Clarendon/LaSalle
#136 Sheridan/LaSalle  #143 Stockton/Michigan
#144 Marine/Michigan  #145 Wilson/Michigan
#146 Inner Drive/Michigan  #147 Outer Drive Express
#148 Clarendon/Michigan
Supplemental Service Strategy
Overview

Issue
- Reconstruction of the stations and track at Belmont and Fullerton will require closing of one of the four tracks for more than two years (shown on following two slides).
- Supplemental service is required to provide service alternatives and extra capacity in the AM and PM Rush Periods.

Customer Impact
- Northbound running time between the Loop and Belmont will increase.
- Wait times will be longer due to reduced frequency, especially on the Brown Line and Purple Line.
- Total capacity will be reduced in the AM and PM Rush Periods.
- This transit dense environment provides multiple service alternatives.

Guiding Principles
- Continue to run service throughout the construction period.
- Reliably, effectively and safely transport the maximum number of customers.
- Focus attention in the peak direction to meet the greatest demand.
- Provide supplemental service to increase customer capacity in corridors adjacent to North Red Line and Brown Line stations.
Supplemental Service Strategy

Phase I Operations – Northbound Reroutes

**Fullerton**
- All northbound trains operate on the new Track 4
- North of Armitage, northbound Red Line trains move to Track 4
- Leaving Fullerton, northbound Red Line trains return to Track 3

**Belmont**
- Northbound Red Line trains remain on Track 3
- Northbound Brown and Purple Express trains move to Track 3 after serving Wellington
- Northbound Purple Express trains return to Track 4 at Clark Junction or north of Addison
Supplemental Service Strategy

Reversible Tracks
Customer Impact
Supplemental Service Strategy
Scheduled Capacity and Utilization - PM Northbound

Northside Northbound PM Rush Capacity

- Current Loads Leaving Downtown
- Current Capacity
- 3-Track Capacity

Passenger Loads per 15 Minute Interval

Time Leaving Downtown (Chicago Ave)

Capacities adjusted for service variation
Supplemental Service Strategy
Phase 1 – Track Closure / Capacity Reductions - PM Rush Period

P.M. Rush Combined Service Levels, Northbound through Clark Junction

<table>
<thead>
<tr>
<th>Half hour starting (P.M.)</th>
<th>Current Service Level</th>
<th>Revised 3-track Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>4:00</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>4:30</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>5:00</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>5:30</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>6:00</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>6:30</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>7:00</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>7:30</td>
<td>9</td>
<td>11</td>
</tr>
</tbody>
</table>
Supplemental Service Strategy

Scheduled Capacity and Utilization – Belmont Station AM Southbound

Northside Southbound AM Rush Capacity

- Belmont
- Current Capacity
- 3-Track Capacity

Capacities adjusted for service variation

Time at Clark Junction

Passenger Loads per 15 Minute Interval

6:00a 6:15a 6:30a 6:45a 7:00a 7:15a 7:30a 7:45a 8:00a 8:15a 8:30a 8:45a 9:00a
Supplemental Service Strategy
Scheduled Capacity and Utilization – Fullerton Station AM Southbound

Northside Southbound AM Rush Capacity

- Fullerton
- Current Capacity
- 3-Track Capacity

Capacities adjusted for service variation

Time at Clark Junction

Passenger Loads per 15 Minute Interval
Supplemental Service Strategy
Scheduled Capacity and Utilization - AM Southbound

Northside Southbound AM Rush Capacity

Capacities adjusted for service variation
### Supplemental Service Strategy

**Phase 1 – Track Closure / Capacity Reductions - AM Peak Period**

<table>
<thead>
<tr>
<th>Half hour starting (A.M.)</th>
<th>Current Service Level</th>
<th>Revised 3-track Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>6:30</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>7:00</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>7:30</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>8:00</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>8:30</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>9:00</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>9:30</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>10:00</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>10:30</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
Construction Impact Zone
Supplemental Service Strategy
Mode Preference

- Chicago Card Plus customers use both rail and express bus services.
- Customers in close proximity to the rail line tend to be rail users.
- Customers along the lakefront tend to prefer buses.
- The area between Broadway and Halsted is a transition zone with customers choosing both bus and rail.
- This transit dense neighborhood allows customers to use different modes by time of day if desired.
- Customers may commute using one mode in the AM and another in the PM.
Supplemental Service Strategy
Brown Line Station Preference

- Chicago Card Plus customers select rail stations based on geography.
- Thin bands can be seen around smaller stations such as Wellington indicating the station draws from the local area.
- East-west bands extending from Brown Line reflect connecting bus lines.
- Larger stations draw from greater distances and may reflect travel patterns in non-rush directions.
- Chicago Card and Chicago Card Plus customers in this sub-region of the City represent roughly 50 percent of all customers.
Supplemental Service Options
Supplemental Service Strategy
Bus Placement for PM Peak

#11 Lincoln/Sedgwick: NB from Jackson to Paulina
  Current frequency: Every 10 - 15 minutes
  Proposed frequency: Every 3 1/2 - 4 minutes

#22 Clark: NB from Jackson to Belmont
  Current frequency: Every 5 - 10 minutes
  Proposed frequency: Every 2 1/2 - 5 minutes

#147 Outer Drive Express: Congress/State to Devon/Broadway or Howard Terminal
  Current frequency: Every 5 - 10 minutes
  Proposed frequency: Every 2 1/2 - 5 minutes

#148 Clarendon/Michigan Express: Congress/State to Broadway/Wilson or Damen/Wilson
  Current frequency: Every 10 - 15 minutes
  Proposed frequency: Every 5 - 7 1/2 minutes

Staged Buses
  Maintain ability to make adjustments as people change their travel patterns.
Supplemental Service Strategy
Bus Placement for PM Peak

#11 Lincoln/Sedgwick: NB from Jackson to Paulina
Current frequency: Every 10 - 15 minutes
Proposed frequency: Every 3 1/2 - 4 minutes

#22 Clark: NB from Jackson to Belmont
Current frequency: Every 5 - 10 minutes
Proposed frequency: Every 2 1/2 - 5 minutes

#147 Outer Drive Express: Congress/State to Devon/Broadway or Howard Terminal
Current frequency: Every 5 - 10 minutes
Proposed frequency: Every 2 1/2 - 5 minutes

#148 Clarendon/Michigan Express: Congress/State to Broadway/Wilson or Damen/Wilson
Current frequency: Every 10 - 15 minutes
Proposed frequency: Every 5 - 7 1/2 minutes

Staged Buses
Maintain ability to make adjustments as people change their travel patterns.
Supplemental Service Strategy
Bus Placement for AM Peak

#11 Lincoln/Sedgwick: SB Addison to Jackson
Current frequency: Every 10 – 15 minutes
Proposed frequency: Every 2 - 12 minutes

#22 Clark: SB Belmont to Jackson
Current frequency: Every 3 - 8 minutes
Proposed frequency: Every 2 - 8 minutes

#134 Stockton/LaSalle Express: SB from Belmont to Adams/Wacker
Current frequency: Every 4 -10 minutes
Proposed frequency: Every 3 - 10 minutes

#135 Clarendon/LaSalle Express: SB Wilson to Adams/Wacker
Current frequency: Every 3 - 10 minutes
Proposed frequency: Every 3 - 10 minutes for a longer time period

#151 Sheridan: SB Belmont to Union Station
Current Frequency: Every 3 - 12 Minutes
Proposed Frequency: Every 3 - 12 Minutes for a longer time period

Staged Buses
Maintain ability to make adjustments as people change their travel patterns.
Supplemental Service Strategy

Bus Placement for AM Peak

#11 Lincoln/Sedgwick: SB Addison to Jackson
Current frequency: Every 10 – 15 minutes
Proposed frequency: Every 2 - 12 minutes

#22 Clark: SB Belmont to Jackson
Current frequency: Every 3 - 8 minutes
Proposed frequency: Every 2 - 8 minutes

#134 Stockton/LaSalle Express: SB from Belmont to Adams/Wacker
Current frequency: Every 4 -10 minutes
Proposed frequency: Every 3 - 10 minutes

#135 Clarendon/LaSalle Express: SB Wilson to Adams/Wacker
Current frequency: Every 3 - 10 minutes
Proposed frequency: Every 3 - 10 minutes for a longer period

#151 Sheridan: SB Belmont to Union Station
Current Frequency: Every 3 - 12 Minutes
Proposed Frequency: Every 3 - 12 Minutes for a longer period

Staged Buses
Maintain ability to make adjustments as people change their travel patterns.
Supplemental Service Strategy
Rail Support Strategies

**Brown Line**
- Several AM rush trains will operate on the Brown Line between Belmont and the Loop to focus more capacity in the area with the highest demand.
- Certain trains in the AM Peak will be routed south from the Loop to reduce train congestion through the construction zone. In the evening rush, these trains will provide needed capacity in the Loop.

**Blue Line**
- Operate several trains south from Jefferson Park and north from UIC/Halsted to focus more capacity between Jefferson Park and Downtown due to expected increase use of Blue Line as an alternative.

**Purple Line**
- Purple Line trains will operate on the Outer Loop to follow the route of the Brown Line and limit downtown delays.
Supplemental Plan Summary
Supplemental Service Strategy
Service and Coordination

**Service Components**

- Supplement lakeshore corridor service
  - AM #134, #135, #151
  - PM #147, #148
- Expand parallel peak period service
  - #11 Lincoln/Sedgwick
  - #22 Clark
- Monitor key routes
  - #156 LaSalle
  - #8 Halsted
- Deploy resources as needed
  - Improve existing service
  - Manage hot spots
- Maximize train utilization
  - Supplement Brown Line from Belmont south
  - Route Purple Line on Outer Loop
  - Supplement core of Blue Line
Supplemental Service Strategy

Service and Coordination

Additional Coordination

- Coordinate emergency response (Fire and Police) to minimize delays.
- Expand capacity for buses (with City) in key corridors in AM/PM rush.
  - Coordinate with Office of Emergency Management
Questions?