Main Line Option 1: Findings

Multimodal investment in the Eisenhower Expressway corridor is the focus of Main Line Option 1. In this option, High Occupancy Vehicle (HOV) lanes - one new lane in each direction for the exclusive use of vehicles with 3 or more passengers - combined with Bus Rapid Transit (BRT) service on the I-290 HOV lanes are the core investments comprising the east-west Main Line.

To provide access to other identified major employment centers for reverse commuters and intersuburban commuters, a connecting, high performance transit service is proposed at each of the two ends of the Main Line. The same connecting investments are considered in all Main Line options: the proposed DuPage J Line BRT service and the Mid-City Transitway (in the Main Line options, also as BRT). By keeping the connecting services constant in all five Main Line options, the benefit of alternative east-west Main Line investments can be more clearly understood.

Hubs (major transfer centers) are proposed where the core Main Line investments intersect with the connecting north-south investments. In Main Line Option 1 (as well as Main Line Options 2 and 4), the hubs are proposed in the vicinity of Oakbrook Center in Oak Brook and the Mid-City Transitway in Chicago, just north of the Town of Cicero.

The combination of major transit investments in Main Line Option 1 forms a new Bus Rapid Transit network. All major capital investments comprising Main Line Option 1 are listed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-290 HOV Lanes</td>
<td>Highway+Transit</td>
<td>*</td>
<td>NA</td>
</tr>
<tr>
<td>I-290 BRT (as J Route Connector)</td>
<td>BRT</td>
<td>12.2</td>
<td>8</td>
</tr>
<tr>
<td>DuPage J Line</td>
<td>BRT</td>
<td>40.4</td>
<td>23</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>*</td>
<td>NA</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>77.9</strong></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

*To avoid double-counting, the mileage of a capital investment that is entirely within the termini of another investment is not included.

Goals and Objectives Assessment
Main Line Option 1 ranks third highest among all eleven options examined in the Goal and Objectives analysis, and highest among the five Main Line options. Main Line Option 1 has an estimated construction cost and annual operating cost comparable to or slightly lower than, the other Main Line system options. Main Line Option 1 is also more effective than the other Main Line Options in addressing the Goals, indicating a higher overall value.

Among all eleven options, Main Line Option 1 is a moderate-to-strong performer in nearly all goals and objectives, while not the highest in any area in particular. Main Line Option 1 is most notable in its ability to provide direct access to multiple employment centers, to improve travel efficiency on the Eisenhower Expressway, and overall system value.

Strengths:
- The transportation improvements are proximate to all six identified corridor employment centers,
- Shared use/multi-purpose facility (HOV) in the currently congested I-290 corridor provides travelers with choice of travel options and improves mobility for both auto and transit users in the I-290 corridor;
- BRT network (as is the case for any same mode network) allows a high degree of service interoperability, offering the potential to provide direct, express service between many different end points;
- Flexibility of this BRT mode allows service deviation to avoid incidents that delay traffic (accidents, weather related delays, etc.). It can also allow demand-responsive or temporary increases in capacity, without requiring facility expansion;
- Strong interface with the existing bus and rail system - especially in Chicago at the east end of the main line - may increase use of existing transit;
- Hubs located in residentially dense Cicero and the relatively employment dense/mixed activity center in Oak Brook have a strong potential to encourage “smart”, desired development.

**Areas of Concern:**
- Bus rapid transit (BRT) is a new untested form of transit for our region;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- Requires unprecedented coordination between IDOT, Pace, and RTA in facility design, access, financing and construction schedule;
- HOV lanes have not been tested in our region;
- The I-290 HOV would likely require acquisition of right-of-way in Oak Park, particularly in the vicinity of interchanges;
- Potential of I-290 HOV and BRT facilities to impact historic landmarks in the I-290 Corridor, particularly in Oak Park and Chicago;
- As is the case for all five Main Line options, the 40.4 mile J-Line project may impact wetlands and open space at various locations, if significant new right-of-way is required;
- Funding is currently unavailable.

**Potential Approaches to Address Concerns:**
- BRT could be tested first in a demonstration corridor;
- Additional BRT expertise could be acquired or provided by a third party
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated;
- ROW acquisition along I-290 could be minimized or mitigated, and other positive potential opportunities may exist for Oak Park;
- Innovative management and/or revenue generating strategies could be applied to the HOV lane to ensure its performance and potentially offset the operating/maintenance costs.
Main Line Option 2: Findings

A new major transit investment in the Eisenhower Expressway corridor is the focus of Main Line Option 2. This option considers the extension of the CTA Blue Line to Oak Brook from its current terminus at Des Plaines Avenue in Forest Park as the east-west main line. In this option, the Blue Line extension to Oak Brook replaces the combination of I-290 High Occupancy Vehicle (HOV) lanes and Bus Rapid Transit (BRT) considered in Main Line Option 1.

To provide access to other identified major employment centers for reverse commuters and intersuburban commuters, a connecting, high performance transit service is proposed at each of the two ends of the Main Line. The same connecting investments are considered in all Main Line options: the proposed DuPage J Line BRT service and the Mid-City Transitway (in the Main Line options, also as BRT). By keeping the connecting services constant in all five Main Line options, the benefit of alternative east-west Main Line investments can be more clearly understood.

Hubs (major transfer centers) are proposed where the east-west main line would intersect with the connecting north-south investments. In Main Line Option 2 (as well as Main Line Options 1 and 4), the hubs are proposed in the vicinity of Oakbrook Center in Oak Brook and the Mid-City Transitway in Chicago, just north of the Town of Cicero.

The major transit investments of Main Line Option 2 work together as a system of Bus Rapid Transit (BRT) and heavy rail (locally referred to as rapid transit). All major capital investments comprising Main Line Option 2 are listed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Line extension to Oak Brook</td>
<td>Heavy Rail</td>
<td>7.4</td>
<td>6</td>
</tr>
<tr>
<td>DuPage J Line</td>
<td>BRT</td>
<td>40.4</td>
<td>23</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>77.5</strong></td>
<td><strong>51</strong></td>
</tr>
</tbody>
</table>

Goals and Objectives Assessment

In the Goal and Objectives analysis, Main Line Option 2 ranks sixth among all eleven options examined. The benefits of Main Line Option 2 are generally similar to, but slightly lower than, Main Line Option 1. However, Main Line Option 2 has an estimated construction cost approximately $1 billion higher than all four of the other Main Line system options; the result is that it offers the lowest value among the five Main line options when comparing this system’s cost versus its achievement of other goals.

Main Line Option 2 is most notable in its ability to provide reverse commuters direct access to the Loyola and Oak Brook employment centers, travel efficiency for transit users in the Eisenhower Expressway Corridor, and notably fewer instances of potential conflict with environmental, natural and historic resources.

While some marginal mode shift from auto to transit in the I-290 corridor could be reasonably anticipated, Main Line Option 2 is unlikely to significantly improve travel efficiency for automobile or other users of I-290.

Strengths:
- The transportation improvements are proximate to all six identified corridor employment centers,
- Exclusive guideway for transit offers the greatest service reliability;
- Offers a one seat ride to two employment centers for westbound Blue Line riders living east of the Corridor;
- Reliance on currently operated mode and interchangeability of vehicles with other elements of the CTA system;
- The strong interface with the existing bus and rail system - especially in Chicago at the east end of the main line - may increase use of existing transit;
- Hubs located in residentially dense Cicero and the relatively employment dense/mixed activity center of Oak Brook have a strong potential to encourage “smart”, desired development;
- Low potential conflict with environmental, natural and historic resources.

**Areas of Concern:**
- Relatively high cost;
- The existing Blue Line may also need to be expanded and/or significantly upgraded between Chicago and Forest Park (adding significantly more cost) to provide express or zoned service to Oak Brook that would make this an attractive travel option from a travel time standpoint;
- A Blue Line alignment in the expressway median is not proximate to the neighborhoods/communities it serves; and alignment to Oak Brook may require considerable purchase of new right of way;
- The Blue Line extension to Oak Brook extends beyond CTA’s statutory service area;
- The lack of modal interoperability with the other two transit components of this system limits the potential for one-seat rides;
- Bus Rapid Transit (BRT) is a new untested form of transit for our region;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- As is the case for all five Main Line options, the 40.4 mile J-Line project may impact wetlands and open space at various locations, if significant new right-of-way is required;
- Funding is currently unavailable.

**Potential Approaches to Address Concerns:**
- The Mid City Transitway could be heavy (rapid) rail service (rather than BRT) for much greater interoperability with the Blue Line extension, although likely at a higher cost;
- Implementation could be timed with the currently unscheduled reconstruction of the Blue Line Forest Park branch to maximize cost efficiency and design considerations;
- Elevate extension to minimize land intrusion, although at a higher cost;
- ROW acquisition could be minimized;
- BRT could be tested first in a demonstration corridor;
- Additional BRT expertise could be acquired or provided by a third party
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated.
Main Line Option 3: Findings

Main Line Option 3 focuses on a new, high frequency intersuburban commuter rail service in the Metra Union Pacific West (UP-W) Line corridor to serve as the east-west main line. The commuter rail investment examined in this option would only operate between hubs in Elmhurst and the Austin neighborhood of Chicago; it would not operate on the full extent of the current Metra UP-W line, nor would it terminate in downtown Chicago. It is important to further note that the Intersuburban Plus considered in this Main Line Option 3 is not the same as the UP-W Premium Service Upgrade that is currently under examination by Metra for potential FTA New Starts funding.

The same connecting investments assumed in all other Main Line options are assumed here, as well: the proposed DuPage J Line Bus Rapid Transit (BRT) service and the Mid-City Transitway (also as BRT). By keeping these connecting services constant in all five Main Line options, the benefit of alternative east-west Main Line investments can be more clearly understood.

Hubs (major transfer centers) are proposed where the core Main Line investment intersects with the connecting north-south investments. In Main Line Option 3, the hubs are assumed in the vicinity of Elmhurst/Villa Park at IL 83 connecting to the J Route, and on the eastern side of Chicago’s Austin neighborhood near Cicero Avenue where the Intersuburban Plus service would connect with the Mid-City Transitway.

The combination of major transit investments in Main Line Option 3 form a network of Bus Rapid Transit and commuter rail. Major capital investments of Main Line Option 3 are detailed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Pacific Intersuburban Plus</td>
<td>Commuter Rail</td>
<td>12.2</td>
<td>9</td>
</tr>
<tr>
<td>DuPage J Line</td>
<td>BRT</td>
<td>40.4</td>
<td>23</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>82.3</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

Goals and Objectives Assessment
Main Line Option 3 **ranks last** among all eleven options examined in the Goal and Objectives analysis. Main Line Option 3 is a poor-to-moderate performer in nearly all goals and objectives, and the lowest performer in several goals. Its poor performance is largely due to Main Line Option 3 not providing access to Loyola/Maywood employment center for both intersuburban or reverse commute, nor providing direct service to Oak Brook for reverse commuters. Further, it is not expected to significantly improve roadway or transit service quality in the I-290 corridor. Main Line Option 3 offers the lowest value of the eleven options examined when comparing its cost with its effectiveness in achieving corridor goals.

On the positive side, Main Line Option 3 provides access to slightly more jobs that are **not within** the six major employment centers than most other options, as there many jobs in west Cook County that are proximate to the UP-W alignment. This options performs relatively well in increasing regional benefits, particularly in providing transit access to disadvantaged communities or populations.
**Strengths:**
- Addition of a new third track between River Forest and Elmhurst is unlikely to have adverse impacts on community cohesion;
- Use of existing Metra stations offers some cost savings and any reconstructed and upgraded stations would positively benefit other Metra UP-W riders;
- Use of existing modal technology allows interchangeability of vehicles/equipment with other lines of the commuter rail system;
- Additional service within this existing commuter rail corridor may enhance redevelopment opportunities in the affected communities;
- Provides direct service (one-seat ride) to multiple employment centers for [intersuburban commute travel markets](#);
- Offers additional connecting service with CTA Green Line in Oak Park;
- BRT elements and UP-W Intersuburban Plus service can be phased in or upgraded over time;
- Strong interface with the existing bus and rail system - especially in Oak Park and at the east end of the main line - may increase use of existing bus and rapid transit lines.

**Areas of Concern:**
- Cost and feasibility of the Intersuburban Plus is very uncertain and requires extensive additional operational and physical analysis;
- It may not be operationally feasible to provide the assumed frequency, given capacity constraints and potential conflict with freight and existing, local commuter rail traffic;
- Intersuburban Plus service may conflict with facility and/or service plans that result from Metra’s on-going New Starts Alternatives Analysis;
- The Elmhurst/Villa Park hub conflicts with Metra’s ¼ mile minimum spacing requirement for new stations;
- Lack of access provided to the Maywood/Loyola employment center;
- Bus rapid transit (BRT) is a new untested form of transit for our region;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- As is the case for all five Main Line options, the 40.4 mile J-Line project may impact wetlands and open space at various locations, if significant new right-of-way is required;
- Low level of overall system value;
- Funding is currently unavailable.

**Potential Approaches to Address Concerns:**
- Line capacity analysis could be undertaken for UP-W Metra line, in addition to operating and physical feasibility studies of Intersuburban Plus service;
- Existing UP-W commuter service schedules could be coordinated with new intersuburban service at the hubs (Elmhurst and Austin – Chicago) or Oak Park to benefit additional intersuburban and reverse commuters;
- Service plan could be integrated with operating plans of existing commuter rail or the New Starts UP-W improvement under study;
- Existing UP-W schedules could be modified along with strategic, lower capital-intensive physical investments to serve as the intersuburban Main Line;
- BRT could be tested first in a demonstration corridor;
- Additional BRT expertise could be acquired or provided by a third party;
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated.
Main Line Option 4: Findings

As was the case with Mainline Options 1 and 2, the Eisenhower Expressway Corridor is also the focus of Main Line Option 4. This option considers a westward extension of the CTA Blue Line from Des Plaines Avenue in Forest Park to 1st Avenue at the Loyola/Maywood employment center; the main line then continues west of the Loyola/Maywood employment center as a multimodal corridor – a combination of I-290 Bus Rapid Transit (BRT) and High Occupancy Vehicle (HOV) lanes, adding one HOV lane in each direction from 1st Avenue to Hillside.

The same connecting investments assumed in all other Main Line options are assumed in Main Line Option 4, as well: the proposed DuPage J Line Bus Rapid Transit (BRT) service and the Mid-City Transitway (also as BRT). By keeping these connecting services constant in all five Main Line options, the benefit of alternative east-west Main Line investments can be more clearly understood.

Hubs (major transfer centers) are proposed where the core Main Line investment intersects with the connecting north-south investments. In Main Line Option 4, the hubs are assumed in the vicinity of Oakbrook Center and where the Blue Line would intersect the Mid-City transitway in Chicago, just north of the town of Cicero. A key intermodal transfer point would also occur at 1st Avenue/I-290 (Loyola/Maywood).

The combination of major transit investments in Main Line Option 4 form an intermodal network of Bus Rapid Transit and rapid rail. Major capital investments of Main Line Option 4 are detailed below.

### Proposed Capital Investments

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Line extension to 1st Avenue</td>
<td>Heavy Rail</td>
<td>0.6</td>
<td>1</td>
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<tr>
<td>I-290 HOV Lanes</td>
<td>Highway+Transit</td>
<td>4.3</td>
<td>0</td>
</tr>
<tr>
<td>I-290 BRT as J Route Connector</td>
<td>BRT</td>
<td>7.3</td>
<td>6</td>
</tr>
<tr>
<td>DuPage J Line</td>
<td>BRT</td>
<td>40.4</td>
<td>23</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
</tbody>
</table>

**TOTAL**: 82.3

52

### Goals and Objectives Assessment

Main Line Option 4 ranks fifth among all eleven options and is the second strongest of the five Main Line systems examined in the Goals and Objectives analysis. While the performance of Option 4 in achieving mobility goals is similar to that of Option 2 (Blue Line extension to Oak Brook), the considerably lower cost of Option 4 results in a significantly higher value.

Main Line Option 4 is most notable in its ability to provide reverse commuters direct access (one seat ride) to the Loyola/Maywood employment center, direct intersuburban access to all six employment centers, travel efficiency for both transit and auto users in the Eisenhower Expressway corridor, and notably few instances of potential conflict with environmental, natural and historic resources. With its extensive reliance on BRT, Main Line Option 4 has the potential to provide a one-seat ride to multiple employment centers for intersuburban travel markets that originate in both Cook (west of 1st Avenue) and DuPage.

Nevertheless, Main Line Option 4 is not designed to provide direct service (one-seat ride) to multiple corridor employment centers for the reverse commute travel market. A combination of
rapid transit and BRT in the east-west main line, and BRT in the Mid-City Transitway require multiple transfers for most reverse commute travel.

**Strengths:**
- The transportation improvements are proximate to all six identified corridor employment centers,
- Offers a one seat ride to one corridor employment center for westbound Blue Line riders living east of the Corridor;
- Reliance on currently operated mode and interchangeability of vehicles with other elements of the CTA system;
- Interoperability of BRT system west of Loyola/Maywood;
- Strong potential to enhance economic and redevelopment opportunities, particularly at the two hubs and the Maywood/Loyola transfer center;
- The strong interface with the existing bus and rail system - especially in Chicago at the east end of the main line - may increase use of existing transit lines;
- Does not require I-290 expansion east of 1st Ave., resulting in a lower potential for conflict with environmental, natural and historic resources in Oak Park and Chicago.

**Areas of Concern:**
- A Blue Line alignment to 1st Ave. may require use of or run adjacent to a portion of the Illinois Prairie Path;
- The lack of modal/service interoperability between the two segments of the Main Line and the eastern connecting investment imposes multiple transfers;
- Bus Rapid Transit (BRT) is a new untested form of transit for our region;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- HOV and HOT managed lanes have not been tested in our region;
- As is the case for all five Main line options, the 40.4 mile J-Line project may impact wetlands and open space at various locations, if significant new right-of-way is required;
- High cost;
- CTA Blue Line extension may warrant relocation of Forest Park rail yard to new terminal station near 1st Ave. at considerable additional cost ($60 million, est.);
- Funding is currently unavailable.

**Potential Approaches to Address Concerns:**
- The Mid City Transitway could be heavy (rapid) rail service (rather than BRT) for greater interoperability with the Blue Line extension, although likely at a higher cost;
- BRT could be tested first in a demonstration corridor;
- Additional BRT expertise could be acquired or provided by a third party
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated.
- Innovative management and/or revenue generating strategies could be applied to the HOV lane to ensure its performance and potentially offset the operating/maintenance costs.
Main Line Option 5: Findings

A Bus Rapid Transit (BRT) facility in the Cermak Road corridor to serve as the east-west main line is the focus of investment in Main Line Option 5.

To provide access to other identified major employment centers for reverse commuters and intersuburban commuters, a connecting, high performance transit service is proposed at each of the two ends of the Main Line. The same connecting investments are considered in all Main Line options: the proposed DuPage J Line BRT service and the Mid-City Transitway (in the Main Line options, also as BRT). By keeping the connecting services constant in all five Main Line options, the benefit of alternative east-west Main Line investments can be more clearly understood.

Hubs (major transfer centers) are proposed where the east-west main line would intersect with the connecting north-south investments. In Main Line Option 5, hubs are located at the Oakbrook Center Mall in DuPage and the intersection of Cermak Road and the Mid-City Transitway in Cicero.

The major transit investments comprise a major new Bus Rapid Transit network. Major capital investments comprising Main Line Option 5 are detailed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cermak Road BRT</td>
<td>BRT</td>
<td>14.2</td>
<td>10</td>
</tr>
<tr>
<td>DuPage J Line</td>
<td>BRT</td>
<td>40.4</td>
<td>23</td>
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<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Elgin-O‘Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>84.3</td>
<td>55</td>
</tr>
</tbody>
</table>

Goals and Objectives Assessment
Main Line Option 5 ranks ninth of the eleven options evaluated. While Main Line Option 5 is moderate to strong in many of the goals and objectives, Cermak Road is not proximate enough to I-290 to reasonably anticipate a significant improvement for auto and transit users in the I-290 corridor. However, this option provides good access to jobs in employment centers relative to the other four Main Line systems.

Cermak Road bus service is assumed as a connector in all options, but in this option, it is upgraded to a BRT which includes an assumption of exclusive right-of-way and stations. A connector is a new north-south or east-west bus service with limited stops that provides a basic grid of public transportation throughout the Cook DuPage Corridor.

The results of the evaluation reveal the valuable role that existing transit service (Pace #322) on Cermak Road must already play in connecting Cook County residents with employment opportunities in the west suburbs. Evaluation of the goals and objectives indicate that this is likely a high priority connector for all systems, irrespective of any other capital investment.

Cermak Road does not appear to be proximate to as many jobs located outside of the identified corridor employment centers, nor as many reverse commute work and non-work destinations. Similarly, since investment is focused on Cermak Road, this option does nothing to improve travel efficiency in the I-290 corridor.

Among all options, Main Line Option 5 does best or falls within the top tier at providing transit access to identified employment centers, in its potential to enhance economic
development/redevelopment and in its potential to provide direct service to multiple employment centers. Again, this is because of its proximity to all of the employment centers. It ranks among the worst in its ability to improve travel efficiency in the I-290 travel corridor – because investment is focused on Cermak Road.

**Overall Strengths of Option:**
- BRT network (as is the case for any same mode network) allows a high degree of service interoperability, offering the potential to provide direct, express service between many different end points;
- Can be phased in or upgraded over time;
- Flexibility of BRT allows service deviation to avoid incidences that cause delay (accidents, weather related delays, etc.). It can also allow demand-responsive or temporary increases in capacity, without requiring facility expansion;
- Strong interface with the existing bus and rail system - especially in Chicago at the east end of the main line - may increase use of existing bus and rapid transit lines;
- Hubs located in residentially dense Cicero and the relatively employment dense/mixed activity center of Oak Brook have a strong potential to encourage “smart”, desired development.
- The transportation improvements are proximate to all six identified corridor employment centers,

**Areas of Concern:**
- BRT is a new untested form of transit for our region;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- Potential to impact open space along the Cermak Road Corridor and wetlands along the J Route alignment, if significant new right-of-way is required;
- Difficulty of integrating BRT in a major arterial/commercial corridor like Cermak Road and its potential impacts on traffic operations and the local environment;
- ROW acquisition;
- Funding for implementation is currently unavailable; however, Cermak Road BRT is identified in SAFTEA-LU.

**Potential Approaches to Address Concerns:**
- BRT could be tested first in a demonstration corridor;
- Additional BRT expertise could be acquired or provided by a third party;
- Less capital intensive approaches could be taken to increase overall value, such as what Pace refers to as an “Arterial Rapid Transit” service; this might offer more local stops (rather than stations) and be a better fit for the surrounding environment;
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated by operating in a non-exclusive lane, where needed or practical.
Concentric System Option 1: Findings

IL 59, the Kingery Highway (IL 83), Cumberland/1st Avenue (IL 171), and the Cicero Avenue/Mid-City Corridor are the focus of Concentric Option 1. These concentric north-south bands (corridors) include new Bus Rapid Transit, alone or in combination with managed lanes. Managed lanes are presumed to be either High Occupancy Vehicle (HOV) lanes or High Occupancy Toll (HOT) lanes, depending on whether the roadway is currently a tolled facility. In addition, an I-290/I-88 BRT is included in this option as part of a new, multi-modal east-west investment that connects the concentric bands.

In this Concentric System option, the IL 59 BRT functions as a collector of intersuburban and traditional commuters from southeast Aurora and southwest Naperville. Similarly, the Mid-City Transitway in the Cicero Avenue corridor acts as a collector of reverse commuters from Chicago; from the CTA rapid transit and bus network, and Metra commuter rail lines. Hubs – or major transfer centers - are located at Yorktown Center in Lombard, IL 83 and I-290 in Oak Brook, 1st Avenue and I-290 in Maywood, the Mid-City Transitway and I-290 in Chicago just north of the town of Cicero.

The major investments comprise a major new, multi-modal Bus Rapid Transit and HOV/HOT network. Major capital investments comprising Concentric Option 1 are detailed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles*</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL 59 BRT</td>
<td>BRT</td>
<td>7.7</td>
<td>7</td>
</tr>
<tr>
<td>I-355 BRT</td>
<td>BRT</td>
<td>*</td>
<td>18</td>
</tr>
<tr>
<td>I-355 HOT</td>
<td>Highway+Transit</td>
<td>25.9</td>
<td>0</td>
</tr>
<tr>
<td>IL 83 BRT</td>
<td>BRT</td>
<td>16.7</td>
<td>16</td>
</tr>
<tr>
<td>1st Avenue BRT</td>
<td>BRT</td>
<td>19.3</td>
<td>16</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>I-290/I-88 BRT</td>
<td>BRT</td>
<td>26.1</td>
<td>19</td>
</tr>
<tr>
<td>I-88 HOT</td>
<td>Highway+Transit</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>I-290+Extension HOV</td>
<td>Highway+Transit</td>
<td>5.0</td>
<td>0</td>
</tr>
<tr>
<td>I-290+Extension BRT</td>
<td>BRT</td>
<td>*</td>
<td>12</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>130.4</strong></td>
<td><strong>110</strong></td>
</tr>
</tbody>
</table>

*To avoid double-counting, the mileage of a capital investment that is entirely within the termini of another investment is not included.

Goals and Objectives Assessment
Concentric Option 1 ranked highest, and far outperforms the other options, in addressing the collective goals and objectives. This option has the third highest total construction cost, and a middle range annual operating cost. Concentric Option 1 also has the best overall system value out of the eleven options, when comparing its cost to its achievement of the goal and objectives.

Concentric Option 1 performs well in achieving these goals because it is a relatively large system (though not the largest), serves many travel patterns in the corridor and it is proximate to all six identified corridor employment centers. Concentric Option 1 has a high potential for interoperability of services to provide a one-seat ride, is well integrated with the existing Interstate and commuter rail service network and is expected to improve service quality for both transit and auto users of the Eisenhower Expressway.
Overall Strengths of Option:
- Provides a very high level of connectivity to a rich mix of work places, commercial centers, recreational activities and both of the region’s International airports;
- The transportation improvements are proximate to all six major employment centers,
- IL 59, IL 83, 1st Ave. and Mid-City BRT facilities are shared only with emergency vehicles, offering the potential for high reliability;
- Shared use/multi-purpose facility (BRT with HOV or HOT) in the I-290, I-88 and I-355 corridors provide travelers with a choice of travel options and are anticipated to improve mobility for both auto and transit users in these corridors;
- BRT mode allows service deviation to avoid incidences that cause delay (accidents, weather related delays, etc.). It can also allow demand-responsive or temporary increases in capacity, without requiring facility expansion;
- BRT network (as is the case for any same mode network) allows a high degree of service interoperability, offering the potential to provide direct, express service between many different end points;
- Strong interface with the existing bus and rail system may increase use of existing bus, commuter rail and rapid transit lines;
- The four hubs (Yorktown Center in Lombard, Oak Brook center in Oak Brook, 1st Avenue and I-290 in Maywood, the Mid-City Transitway and I-290 in Chicago) offer a strong potential to strengthen and encourage economic development and are proximate to a wide range of both work and non-work activities;
- I-355 BRT provides a more direct path for people traveling from Lisle/Naperville to Schaumburg than the J Route considered in the Main Line options;
- The southern endpoints of I-355 and IL 83 improvements at park and rides in the I-55 corridor provide benefits to others outside of the Corridor;
- Can be phased or upgraded over time;
- Major capital investments have independent utility.

Areas of Concern:
- High cost of system;
- HOV and HOT managed lanes have not been tested in our region;
- Bus Rapid Transit is a new untested form of transit for our region. This option relies very heavily on BRT;
- Pace and/or CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- Requires unprecedented coordination between IDOT, ISTHA, Pace, and RTA in design;
- The I-290 HOV may require acquisition of additional right-of-way with potential stated negative consequences for Oak Park;
- Integration of BRT service on arterial roadways;
- Feasibility of acquiring Cook County Forest Preserve property along much of 1st Avenue;
- Potential wetland and floodplain concerns along I-355.

Potential Approaches to Address Concerns:
- Phase implementation;
- Explore less capital-intensive and/or less land-intensive alternatives to individual components to lower system cost;
- Test BRT first in a demonstration corridor;
- Additional expertise could be acquired or provided by a third party;
- Intrusion on wetlands and open space could potentially be avoided, minimized or mitigated;
- ROW acquisition along I-290 could be minimized or mitigated, and other positive potential opportunities may exist for Oak Park;
- Innovative management and/or revenue generating strategies could be applied to HOV lane to ensure its performance and potentially offset the operating/maintenance costs.
**Concentric System Option 2: Findings**

Three concentric north-south bands (corridors) of major capital investments are the focus of Concentric Option 2: I-355 multimodal High Occupancy Toll (HOT)/Bus Rapid Transit (BRT) investment, a diesel multiple unit (DMU) passenger rail investment in the Indiana Harbor Belt / Belt Railway of Chicago freight corridor, and the Mid-City Transitway BRT. A BRT service in the I-290/I-88 corridor provides a new east-west connection between the concentric bands, without High Occupancy Vehicles lanes.

In Option 2, the proposed Inner Circumferential DMU replaces both the IL 83 and 1st Avenue BRT investments that were considered as part of Option 1, concentrating north–south travel in the central part of the Cook DuPage Corridor, while still providing access to both major international airports. Option 2 eliminates the HOV investment in the I-88 and I-290 corridors considered in Option 1 and substitutes bus lanes on I-88 and I-290.

The Mid-City Transitway in the Cicero Avenue corridor acts as a collector of reverse commuters from Chicago; from the CTA rapid transit and bus network, and Metra commuter rail lines. Hubs – or major transfer centers - are located at Yorktown Center in Lombard, 25th Avenue/Inner Circumferential at I-290 and the Mid-City Transitway at I-290. A major transfer point is also assumed at 1st Avenue at the new terminal of the Blue Line extension.

The major transit investments form a new multimodal, Bus Rapid Transit network in DuPage, and a combined BRT/rapid transit and DMU commuter rail system in west Cook. Major capital investments comprising Concentric Option 2 are detailed below.

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner Circumferential</td>
<td>DMU</td>
<td>21.0</td>
<td>16</td>
</tr>
<tr>
<td>I-355 HOT</td>
<td>Highway+Transit</td>
<td>25.9</td>
<td>0</td>
</tr>
<tr>
<td>I-355 BRT</td>
<td>BRT</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>BRT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>Blue Line extension – 1st Ave.</td>
<td>Heavy Rail</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>I-290/I-88 BRT</td>
<td>BRT</td>
<td>21.2</td>
<td>17</td>
</tr>
<tr>
<td>Elgin-O'Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>98.4</strong></td>
<td><strong>73</strong></td>
</tr>
</tbody>
</table>

*To avoid double-counting, the mileage of a capital investment that is entirely within the termini of another investment is not included.

**Goals and Objectives Assessment**

Concentric Option 2 ranks fourth highest among all eleven options examined in the Goals and Objectives analysis. Concentric Option 2 has an estimated total construction cost comparable to Concentric Option 1, but reveals significantly lower benefits.

Among all eleven options, Concentric Option 2 is a moderate-to-strong performer in nearly all of the goals and objectives. Concentric Option 2 performs well in its potential to provide access to a very high number of jobs that are located outside the six identified corridor employment centers; this is largely due to the proximity of the Inner Circumferential to the job/industry rich 25th Avenue corridor in west suburban Cook County.

Concentric Option 2 has very low potential for interoperability of services due to the mix of modes, and offers a one seat ride only to the Loyola/Maywood employment center for reverse commuters whose trips originate along the existing Blue Line east of Cicero Avenue. Also, this option is not expected to significantly improve mobility for auto users in the I-290 corridor.
Strengths:
- Extensive BRT network in DuPage offers a high degree of interoperability and flexibility of alternative alignments
- There is a strong reliance on the existing system especially in Chicago to feed the Mid-City transitway
- Can be phased or upgraded over time
- Major capital investments have independent utility.
- Good connections to both Chicago airports.

Areas of Concern:
- Bus Rapid Transit (BRT) and Diesel Multiple Units (DMU) are new untested forms of transit for our region.
- Pace and CTA may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- HOV and HOT managed lanes have not been tested in our region;
- A mix of commuter rail/DMU, rapid transit and BRT in the Cook portion of the corridor limits interoperability.
- The IHB portion of the Inner Circumferential is a key part of the CREATE Beltway Corridor and may not have the capacity to add commuter service.
- Requires unprecedented coordination between ISTHA, Pace, and RTA in design stages.
- CTA Blue Line extension may warrant relocation of Forest Park rail yard to new terminal station near 1st Ave. at additional cost ($60 million, estimated);

Potential Approaches to Address Concerns:
- Test BRT first in a demonstration corridor
- Additional expertise could be acquired or provided by a third party
Concentric System Option 3: Findings

The Kingery Highway (IL 83), 1st Avenue/Cumberland Avenue (IL 171) and Cicero Avenue corridors are the focus of this Concentric Option 3. These three concentric north-south corridors are explored as the primary components of an Automated Guideway Transit (AGT) network. Additionally, an AGT transit investment in the I-290/I-88 corridor provides a critical east-west connection between the concentric bands. The Mid-City Transitway in the Cicero Avenue corridor acts as a collector of reverse commuters from Chicago; from the CTA rapid transit and bus network, and Metra commuter rail lines.

Hubs (major transfer centers) are proposed where the north-south lines of service intersect with existing and proposed service in the I-290/I-88 corridor. In Concentric Option 3, the hubs are proposed in the vicinity of Oakbrook Center in Oak Brook, the 1st Avenue AGT in Maywood and the Mid-City Transitway in Chicago, just north of the Town of Cicero.

The combination of major transit investments in Concentric Option 3 forms a major new Automated Guideway Transit (AGT) network. Major capital investments comprising concentric Option 3 are detailed below.

### Proposed Capital Investments

<table>
<thead>
<tr>
<th></th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL 83 AGT</td>
<td>AGT</td>
<td>16.9</td>
<td>16</td>
</tr>
<tr>
<td>1st Avenue AGT</td>
<td>AGT</td>
<td>19.1</td>
<td>16</td>
</tr>
<tr>
<td>Mid-City Transitway</td>
<td>AGT or RT</td>
<td>25.3</td>
<td>22</td>
</tr>
<tr>
<td>I-290/I-88 AGT</td>
<td>AGT</td>
<td>21.2</td>
<td>17</td>
</tr>
<tr>
<td>Blue Line extension – 1st Ave.</td>
<td>Heavy Rail</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>Elgin-O’Hare Expressway east ext.</td>
<td>Highway+Transit</td>
<td>4.4</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>87.5</strong></td>
<td></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>

### Goals and Objectives Assessment

Concentric Option 3 ranks seventh among all eleven options examined in the Goals and Objectives assessment, and lowest of the three Concentric system options evaluated. Concentric Option 3 has an estimated construction cost that is 50% higher than both Concentric Options 1 and 2, and more than twice that of the five Main Line options, and has the third highest estimated annual operating cost.

Concentric Option 3 is a moderate-to-strong performer in many goals and objectives, although not the highest in any in particular. Concentric Option 3 performs well in its potential to provide direct service to multiple employment centers, improve efficiency for transit travel on the Eisenhower Expressway, and increase access and mobility for disadvantaged communities/populations. However, it does have the lowest overall system value of any option– in part due to its heavy reliance on high cost AGT.

### Overall Strengths

- AGT network in DuPage and west Cook offers a high degree of interoperability
- AGT can potentially have low operating costs
- Strong reliance on the existing system especially in Chicago to connect to the Mid-City Transitway may increase ridership on existing bus and rapid transit lines
- Major capital investments have independent utility

### Overall Concerns

- AGT is a new untested form of transit in our region.
- AGT has a very high initial capital cost.
There is no evident existing operating organization for AGT, and none of the regional transit agencies has any experience building, operating or maintaining AGT. (The O’Hare People Mover is the most similar thing our region has).

Exclusive guideway for AGT – potentially on aerial structure – may not be compatible with or integrate well with local communities.

Would require unprecedented coordination between IDOT, ISTHA and the designated AGT implementing authority in design.

Mix of AGT and rapid transit in the I-290 and Mid-City corridors is not conducive to interoperability or a one seat ride for reverse commuters.

There is no improvement for auto users in the I-290 corridor

Potential to impact open space and parklands along 1st Avenue and I-88.

Potential of the 1st Avenue AGT and IL 83 AGT to impact national historic landmarks.

CTA Blue Line extension may warrant relocation of Forest Park rail yard to new terminal station near 1st Ave. at additional cost ($60 million, estimated);

Lack of available funding.

Potential Approaches to Address Concerns

- AGT could be tested first in a demonstration corridor;
- A new AGT operating entity could be established, or experience acquired by an existing agency;
- Mid-City and I-290 AGT could be implemented as Rapid Transit (RT);
- Intrusion on open space and parklands, and historic landmarks could potentially be avoided, minimized or mitigated;
- Corridor Planning Standards must be applied to ensure context sensitive design, integration of AGT with towns.
Radial Reliant System Option 1: Findings

The three existing commuter rail lines and additional new radial transit investments are the focus of Radial Reliant Option 1. This option involves a major upgrade of the Metra Milwaukee District West, Union Pacific West and Burlington Northern Santa Fe radial commuter rail lines. It also includes an extension of the Blue Line to the Loyola Maywood employment Center at 1st Ave., a multimodal investment in the I-290/I-88 corridor from Cicero Ave. to I-355/Yorktown (BRT and one additional lane in each direction for HOV/HOT), and one reversible HOV lane along the I-290 extension.

The intent of all three Radial Reliant options is to direct investment in existing transportation facilities that “radiate” outward from the city of Chicago. However, the Radial Reliant system requires significant supplementation to provide connectivity to the Cook-DuPage Corridor’s six major employment centers, which are located in the major expressway corridors. To address this needed connectivity, Radial Reliant Option 1 also includes a north-south BRT/HOT investment in the IL 53/I-355 corridor.

Existing Metra stations and the addition of generally low capital/small scale new stations – rather than hubs - address the dispersed usage of the Radial Reliant options. In Radial Reliant 1, however, a multi-modal transit center (with park and ride) is proposed in the Yorktown/I-355 area.

The major investments in Radial Reliant Option 1 present a new use for existing radial commuter rail lines and a major new multi-modal Bus Rapid Transit (BRT) and High Occupancy Vehicle / High Occupancy Toll (HOV/HOT) network. Major capital investments comprising Radial Reliant Option 1 are detailed below.

### Radial Reliant Option 1

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukee District West Line upgrade</td>
<td>Commuter Rail</td>
<td>32.9</td>
<td>22</td>
</tr>
<tr>
<td>Union Pacific West Line upgrade</td>
<td>Commuter Rail</td>
<td>30.3</td>
<td>17</td>
</tr>
<tr>
<td>Burlington Northern Santa Fe upgrade</td>
<td>Commuter Rail</td>
<td>31.7</td>
<td>28</td>
</tr>
<tr>
<td>I-290 Eisenhower Expressway HOV</td>
<td>Highway+Transit</td>
<td>9.4</td>
<td>0</td>
</tr>
<tr>
<td>I-88 HOT</td>
<td>Highway+Transit</td>
<td>7.3</td>
<td>0</td>
</tr>
<tr>
<td>I-290/I-88 BRT</td>
<td>BRT</td>
<td>*</td>
<td>12</td>
</tr>
<tr>
<td>I-290 Extension Reversible HOV</td>
<td>Highway+Transit</td>
<td>5.4</td>
<td>0</td>
</tr>
<tr>
<td>IL 83 BRT</td>
<td>BRT</td>
<td>16.9</td>
<td>16</td>
</tr>
<tr>
<td>I-355 HOT</td>
<td>Highway+Transit</td>
<td>25.9</td>
<td>0</td>
</tr>
<tr>
<td>I-355 BRT</td>
<td>BRT</td>
<td>*</td>
<td>18</td>
</tr>
<tr>
<td>Blue Line extension – 1st Ave.</td>
<td>Heavy Rail</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>159.8</strong></td>
<td><strong>114</strong></td>
</tr>
</tbody>
</table>

*To avoid double-counting, the mileage of a capital investment that is entirely within the termini of another investment is not included.

### Goals and Objectives Assessment

Radial Reliant Option 1 is second highest among all eleven options examined in the Goal and Objectives analysis, and is significantly stronger than the other two Radial Reliant options. Radial Reliant Option 1 has an estimated construction cost that is higher than all five Main Line system options but lower than all three concentric options.

Among all eleven options, Radial Reliant Option 1 is a moderate-to-strong performer in many goals and objectives, and is the highest in a few. Radial Reliant Option 1 performs well in its
potential to serve other work related and non-work trips, to serve multiple travel markets and to reduce travel time on I-290 for both auto and transit users.

Radial Reliant options 1, 2 and 3 are all poor performers in their interoperability and potential to provide a one-seat ride for intersuburban commuters to multiple employment centers. This is due to the reliance on different transit modes for east-west and north-south travel, and the need to transfer between the radial commuter rail lines and bus rapid transit for many intersuburban commute trips to identified corridor employment centers.

**Overall Strengths of Option:**
- New use of Metra Lines can potentially enhance vitality of suburban downtowns.
- Extensive reliance on existing radial system – principally Metra commuter rail lines can leverage existing investment in these facilities.
- Investment in existing Metra lines may also benefit traditional commute.
- BRT network offers a high degree of interoperability and flexibility of alternative alignments
- Some elements can be phased-in or upgraded over time
- Strong reliance on the existing system especially in Chicago may increase ridership on existing bus and rapid transit lines
- High Occupancy Vehicle (HOV) network would benefit regional travel, as well as Cook DuPage Corridor travel.

**Areas of Concern:**
- Cost and feasibility of proposed Metra line improvements are very uncertain – requires extensive further operational and physical analysis;
- Metra rail lines are not proximate to the Cook-DuPage Corridor’s six employment centers. Connecting lines of service and at least one transfer are required;
- UP-W and BNSF are owned and operated by private railroad companies who must approve expansion of service. Some portions of the Milwaukee District West Line are leased from CP Rail which may need to approve expansion of commuter service;
- Likely requires some service reduction and/or modification for Metra traditional commuters;
- May require additional track space/time in downtown terminals, especially Union Station for the MD-W and BNSF;
- Two proposed new stations on commuter rail lines may not meet Metra’s ¼ mile minimum station spacing standards;
- Lack of available parking at most Metra stations could limit access by intersuburban commuters;
- Proposed new service assumptions may conflict with facility and/or service plans that result from Metra’s on-going New Starts Alternatives Analysis for the UP-W Line Premium Service Upgrade;
- CTA Blue Line extension may warrant relocation of Forest Park rail yard to new terminal station near 1st Ave. at additional cost ($60 million, estimated);
- Many major capital investments do not have independent utility;
- Bus rapid transit is a new untested form of transit for our region;
- Pacificity and feasibility of single lane reversible HOV on Eisenhower Extension;
- HOV and HOT managed lanes have not been tested in our region;
- Requires unprecedented coordination between IDOT, ISTHA, Pace, and RTA in design;
- The I-290 HOV may require acquisition of right-of-way with potentially negative consequences for Oak Park;
- Potential of I-290 HOV lanes to impact historic landmarks in the I-290 Corridor, particularly in Oak Park and Chicago;
- Potential to impact wetlands and floodplains in the I-290/I-355 HOT/BRT corridor;
- Potential of commuter rail line upgrades to impact wetlands, floodplains, open space, parklands and national historic landmarks;
- Current lack of funding.

**Potential Approaches to Address Concerns:**
- Line capacity analysis could be undertaken for three Metra lines, in addition to operating and physical feasibility studies of proposed new services;
- Connector bus network could be used as primary means of access to and from Metra lines;
- Modify proposed north-south services to access existing Metra stations where spacing standards conflict, with potential decrease in efficiency of connecting service;
- Intersuburban commute service could be operated as a line within a line to reduce need for downtown terminal track space/time;
- BRT could be tested first in a demonstration corridor;
- Additional expertise could be acquired or provided by a third party;
- Monitoring and enforcement programs could be implemented for HOV and HOT;
- Intrusion on wetlands, floodplains, open space, parklands and national historic landmarks could potentially be avoided, minimized or mitigated;
- ROW acquisition along I-290 could be minimized or mitigated, and other positive potential opportunities may exist for Oak Park.
Radial Reliant System Option 2: Findings

Upgrade of the Metra Milwaukee District West, Union Pacific West and Burlington Northern Santa Fe radial commuter rail lines, and an extension of the Blue Line to 1st Ave. is the focus of Radial Reliant Option 2. This option also includes a single, reversible High Occupancy Vehicle (HOV) lane in the I-290 and I-290 extension median from Cicero Ave to IL 83.

The intent of all three Radial Reliant options is to direct investment in existing transportation facilities that “radiate” outward from the city of Chicago. However, the Radial Reliant system requires significant supplementation to provide connectivity to the Cook-DuPage Corridor’s six major employment centers, which are located in the major expressway corridors. To address this needed connectivity, Radial Reliant Option 2 also includes Bus Rapid Transit (BRT) service on enhanced shoulder lanes on I-355 and IL 83.

The major transit investments in Radial Reliant Option 2 comprise a commuter rail and BRT (BRT) system, which makes significant new use of existing radial commuter rail lines and expressway shoulder lanes. Major capital investments comprising Radial Reliant Option 2 are detailed below.

### Radial Reliant Option 2

**Proposed Capital Investments**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukee District West Line upgrade</td>
<td>32.9</td>
<td>22</td>
</tr>
<tr>
<td>Union Pacific West Line upgrade</td>
<td>30.3</td>
<td>17</td>
</tr>
<tr>
<td>Burlington Northern Santa Fe upgrade</td>
<td>31.7</td>
<td>28</td>
</tr>
<tr>
<td>I-290 reversible HOV</td>
<td>14.2</td>
<td>0</td>
</tr>
<tr>
<td>IL 83 shoulder riding BRT</td>
<td>16.9</td>
<td>16</td>
</tr>
<tr>
<td>I-355/I-290 shoulder riding BRT</td>
<td>25.9</td>
<td>18</td>
</tr>
<tr>
<td>Blue Line extension – 1st Ave.</td>
<td>Heavy Rail</td>
<td>* 1</td>
</tr>
</tbody>
</table>

**TOTAL** 151.9 102

*To avoid double-counting, the mileage of a capital investment that is entirely within the termini of another investment is not included.

All Radial Reliant options directly serve the same five (out of nine) previously identified Cook-DuPage Corridor travel markets; this is due to the large number of improvements that are common to all Radial Reliant options. The Radial Reliant options distinguish themselves on how well they each serve the travel markets based on their level or intensity of investment. Radial Reliant Option 2 is particularly noteworthy in its potential to serve the Reverse Commute; and the Central DuPage, South Central Cook, East Central DuPage and North Central Cook intersuburban travel markets.

### Goals and Objectives Assessment

Radial Reliant Option 2 ranks eighth among the eleven options examined in the Goal and Objectives analysis. However, it offers a relatively strong balance between costs and mobility benefits relative to the other options considered, due to its low estimated construction cost.

Radial Reliant Option 2 is a low to moderate performer in nearly all goals and objectives, and is the lowest in a few areas. Radial Reliant Option 2 performs well in its potential to serve other work related and non-work trips, to serve multiple travel markets and to reduce travel time on I-290 for westbound auto and transit users in the AM peak.

Radial Reliant 2 has a low potential to provide a one-seat ride for intersuburban commuters and lacks good proximity to major portions of the Oak Brook / Yorktown employment centers. The
Lisle/Naperville/Warrenville employment center is not connected into the network via a new major investment. Further, because the I-290 HOV is designed for the reverse commute orientation, this option is a poor performer in its ability to improve travel time on I-290 for eastbound auto and transit users in the AM peak.

**Overall Strengths of Option:**
- Relatively low construction cost;
- Invests in existing transportation infrastructure;
- Enhanced shoulder lanes may also improve safety for emergency vehicle;
- New use of Metra Lines can potentially enhance vitality of suburban downtowns;
- Extensive reliance on existing radial system – principally Metra commuter rail lines can leverage existing investment in these facilities;
- Investment in existing Metra lines may also benefit traditional commute;
- Some elements can be phased-in or upgraded over time;
- Strong reliance on the existing system especially in Chicago may increase ridership on existing bus and rapid transit lines;
- Single, reversible HOV lane may help manage congestion in the I-290 corridor.

**Areas of Concern:**
- Cost and feasibility of proposed Metra line improvements are very uncertain – requires extensive further operational and physical analysis;
- Metra rail lines are not proximate to the Cook-DuPage Corridor’s six employment centers. Connecting lines of service and at least one transfer are required;
- UP-W and BNSF are owned and operated by private railroad companies who must approve expansion of service. Some portions of the Milwaukee District West Line are leased from CP Rail which may need to approve expansion of commuter service;
- Likely requires some service reduction and/or modification for Metra traditional commuters;
- May require additional track space/time in downtown terminals, especially Union Station for the MD-W and BNSF;
- Two proposed new stations on commuter rail lines may not meet Metra’s ¼ mile minimum station spacing standards;
- Lack of available parking at most Metra stations could limit access by intersuburban commuters;
- Proposed new service assumptions may conflict with facility and/or service plans that result from Metra’s on-going New Starts Alternatives Analysis for the UP-W Line Premium Service Upgrade;
- CTA Blue Line extension may warrant relocation of Forest Park rail yard to new terminal station near 1st Ave. at additional cost ($60 million, estimated);
- Bus rapid transit is a new untested form of transit for our region;
- Transit shoulder riding is an untested concept in our region;
- Pace may not have the full range of technical expertise required for BRT design, planning, traffic engineering, funding and operations;
- Practicality and feasibility of single lane reversible HOV on Eisenhower;
- HOV lanes have not been tested in our region;
- Requires coordination between IDOT, ISTHA, and Pace in design and operation;
- The I-290 HOV may require acquisition of right-of-way with potentially negative consequences for Oak Park;
- Potential of I-290 HOV lanes to impact historic landmarks in the I-290 Corridor, particularly in Oak Park and Chicago;
- Potential to impact wetlands and floodplains in the I-290/I-355 HOT/BRT corridor;
- Potential of commuter rail line upgrades to impact wetlands, floodplains, open space, parklands and national historic landmarks;
Current lack of funding.

**Potential Approaches to Address Concerns:**
- Line capacity analysis could be undertaken for the three Metra lines, in addition to operating and physical feasibility studies of proposed new services;
- Connector bus network could be used as primary means of access to and from Metra lines;
- Modify proposed north-south services to access existing Metra stations where spacing standards conflict, with potential decrease in efficiency of connecting service;
- Intersuburban commute service could be operated as a line within a line to reduce need for downtown terminal track space/time;
- BRT could be tested first in a demonstration corridor;
- Shared use lanes/shoulder riding could be tested first in a demonstration corridor;
- Additional expertise could be acquired or provided by a third party;
- Monitoring and enforcement programs could be implemented for HOVs;
- Intrusion on wetlands, floodplains, open space, parklands and national historic landmarks could potentially be avoided, minimized or mitigated;
- ROW acquisition along I-290 could be minimized, or mitigated.
Radial Reliant System Option 3: Findings

Radial Reliant Option 3 presents a minimal cost option. No major capital investments are proposed in this option; rather, operational improvements to the Milwaukee District West, Union Pacific West and Burlington Northern Santa-Fe commuter rail lines is the focus of Radial Reliant Option 3. No new equipment, crews or runs are suggested for the commuter rail lines. Rather, the focus of this option is on opportunities for adding stops and converting deadhead (empty train) runs to revenue (passenger) service within existing equipment cycles for intersuburban and reverse commuters without diminishing service to the core traditional commute market. Express bus service in the IL 355, IL 83 and I-390 corridors is also included to provide connectivity to the identified corridor employment centers. No major improvements for auto users are included in this option; however, auto users would continue to benefit from the strategic roadway investments and smart corridors that are assumed for all eleven option.

The transit investments in Radial Reliant Option 3 offers a commuter rail-express bus network for reverse commute and intersuburban travel. Specific elements of Radial Reliant Option 3 are detailed below.

Radial Reliant Option 3

<table>
<thead>
<tr>
<th>Proposed Capital Investments</th>
<th>Mode</th>
<th>Miles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukee District West Line</td>
<td>Commuter Rail</td>
<td>32.9</td>
<td>22</td>
</tr>
<tr>
<td>Union Pacific West Line</td>
<td>Commuter Rail</td>
<td>30.3</td>
<td>17</td>
</tr>
<tr>
<td>Burlington Northern Santa Fe</td>
<td>Commuter Rail</td>
<td>31.7</td>
<td>28</td>
</tr>
<tr>
<td>I-290+ Extension shoulder riding</td>
<td>Bus</td>
<td>14.2</td>
<td>2</td>
</tr>
<tr>
<td>Express Bus</td>
<td>Bus</td>
<td>16.9</td>
<td>6</td>
</tr>
<tr>
<td>IL 83 shoulder riding Express Bus</td>
<td>Bus</td>
<td>25.9</td>
<td>3</td>
</tr>
<tr>
<td>I-355/I-290 shoulder riding Express Bus</td>
<td>Bus</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>151.9</strong></td>
<td><strong>78</strong></td>
<td></td>
</tr>
</tbody>
</table>

Goals and Objectives Assessment

Radial Reliant Option 3 ranks tenth among the eleven options examined in the Goal and Objectives analysis. Radial Reliant Option 3 has the lowest estimated construction cost and annual operating cost of all the options considered; therefore, what Radial Reliant Option 3 achieves towards the goals and objectives, it does so very cost effectively. It is important to keep in mind, however, that this option is not as effective as any of the other options examined in achieving the goals and objectives.

Radial Reliant Option 1, 2 and 3 are strong performers in their potential to serve non-work related trips. These options are also among the strongest at connecting people with potentially suitable job opportunities; however, the lack of proximity of the rail lines to the six major employment centers is a significant shortcoming in addressing the goals and objectives.

Overall Strengths of Option:
- Can be put in place quickly;
- Low capital and operating costs;
- Requires little or no tradeoff between existing traditional commute users and new reverse/intersuburban users of Metra lines;
- Express bus currently operated in region;
• Little or no increase in ground use for transportation; potential environmental impacts are minimized or eliminated;
• New use of Metra Lines can potentially enhance suburban downtowns;
• Extensive reliance on existing radial system – principally Metra commuter rail lines can leverage existing investment in these facilities;
• Strong reliance on the existing system especially in Chicago may increase ridership on existing bus and rapid transit lines.

**Areas of Concern:**

• Limited mobility benefits;
• Will not be able to achieve high frequency of service on Metra lines;
• UP-W and BNSF are owned and operated by private railroad companies who must approve changes in service;
• Some portions of the Milwaukee District West line are leased from CP Rail which may need to approve expansion of commuter service;
• Existing commuter parking at most Metra lines is already fully used by traditional commuters, and could limit access by reverse and intersuburban commuters;
• Relies on extensive network of connector services and smart corridors for access to Metra lines;
• Limited opportunity for interoperability/one seat ride because of two modes.
• Components do not have independent utility.

**Potential Approaches to Address Concerns:**

• Connector bus network may be used as primary means of access to Metra lines;
• Station cars or innovative car sharing and bike sharing programs could be implemented for additional market capture;
• At least one bicycle path to employment center area and overnight storage facilities from nearest Metra stations could be provided;
• Parking demand reduction strategies could be aggressively explored and implemented;
• Employment center Circulation/distribution service areas could include nearest Metra stations;
• Shared use lanes/shoulder riding could be tested first in a demonstration corridor.