
APPENDIX D Urban Ring

The Urban Ring is a proposed major new transit service that would run in a roughly circular corridor just outside of central Boston. The corridor passes through residential neighborhoods, employment centers and major educational and medical institutions in Boston, Brookline, Cambridge, Chelsea, Everett, Medford and Somerville.

The Urban Ring is designed to provide more direct trips around this “ring” and to improve connections between the corridor and the “spokes” of the MBTA’s existing rapid transit system. In this way, the Urban Ring is intended to improve transit travel times for trips to and from the corridor and to reduce crowding in the central subway system. The Urban Ring also offers opportunities for transit-oriented development and denser “smart growth” development around the many new and improved stations it would provide.

The proposed Urban Ring project provides connections in the Route 28 corridor. Depending upon the phase of the project and the alternative that is ultimately recommended, the Urban Ring may provide transit connections in the corridor connecting Chelsea, Everett, Wellington Station, Assembly Square, Sullivan Square, East Somerville, the new Lechmere station, and the Kendall Square/Massachusetts Institute of Technology (MIT) area in Cambridge.

D.1 PROJECT BACKGROUND AND APPROACH

The Urban Ring would be implemented in three phases:

- Phase 1 includes increased bus service in the Urban Ring corridor.
- Phase 2 would consist of bus rapid transit service in the corridor and improved connections to the existing MBTA radial transit system.
- Phase 3 would add rail rapid transit for a portion of the corridor.

The Commonwealth of Massachusetts Executive Office of Transportation and Public Works (EOT) is currently leading the planning and environmental review for Urban Ring Phase 2, the bus rapid transit phase. Bus rapid transit (BRT) is a transit mode that provides high-quality service using rubber tired vehicles, supplemented by an integrated system of special features to enable service that is like rapid transit. These features include routes with dedicated roadways or reserved lanes; large vehicles with low floors and low emissions; high-frequency service; attractive and substantial stations that are widely spaced to improve travel time; and advanced communications and traffic control systems. In the Boston area, the Silver Line is an example of a BRT system. The Urban Ring Phase 2 planning process is reviewing lessons learned from the Silver Line and other BRT systems throughout the world in order to develop the optimal design and operating plan.

The current stage of Urban Ring planning is the latest in a process that began about 10 years ago. The Urban Ring Major Investment Study (MIS) recommended the basic route for the Urban Ring, as well as a strategy for implementation in three phases. The Phase 2 Draft Environmental Impact Report (DEIR), completed in November 2004, developed a detailed recommendation for Phase 2. The current round of planning addresses comments and issues related to the DEIR recommendations. It will recommend an improved route and plan for Urban Ring Phase 2. It will be described in a report called a Revised Draft Environmental Impact Report /Environmental Impact Statement, or RDEIR/DEIS.

D.2 ALTERNATIVES ANALYSIS

Starting in fall 2006, the project team worked with the Citizens Advisory Committee (CAC), local city and town officials, neighborhood groups, and members of the public to identify more than 50 potential routing options, or variants, for the Urban Ring Phase 2 BRT system. These variants were screened relative to several important evaluation criteria: transportation and mobility; environmental benefits and impacts; land use and economic development; cost and cost-effectiveness; amount of dedicated right-of-way; and feasibility and implementation.

Based on this review, the project team worked with the CAC, members of the public, and other stakeholders to select the best variants to combine into four **build alternatives** (plus five additional sub-options), which represent different routes and approaches for providing Urban Ring BRT service through the corridor. The following is a brief summary of each alternative, as well as a description of the connections in the Route 28 corridor.

ALTERNATIVE 1 – This is an all-surface route. It was identified in the 2004 DEIR as the **Locally Preferred Alternative**. It has no tunnel segments and a relatively low percentage of routes with restricted access to improve BRT travel times (including special BRT-only roadways called “busways” and special BRT-only lanes on existing roads called “buslanes”). As a result, most of the Alternative 1 route travels on existing roads along with cars, trucks and other vehicles (known as “mixed traffic” operation). The capital cost for Alternative 1 is projected to be \$712 million (2007 dollars). In the northern segment that is relevant to the Route 28 study, Alternative 1 would provide connections through Chelsea principally in a dedicated busway adjacent to the commuter rail alignment, through Everett in mixed traffic on Everett Street, Second Street, and Route 16 to connect to the Orange Line and bus routes at Wellington Station. From there, it would travel in mixed traffic on Route 28 to Assembly Square, at which point two different routes would diverge: one route would connect with the Orange Line, a new commuter rail station, and bus routes at Sullivan Square, and continue in buslane/busway along the Rutherford Avenue corridor to New Lechmere; the other route would traverse East Somerville via Route 28 to Gilman Square, Union Square, and New Lechmere. At this point the routes would converge and travel to Kendall Square/MIT.

ALTERNATIVE 2 – This is also an all-surface route, with no tunnels and a higher percentage of busways and buslanes than Alternative 1. The capital cost for Alternative 2 is projected to be \$758–\$805 million (2007 dollars). In the northern segment that is relevant to the Route 28 study, Alternative 2 would connect through Chelsea and Everett in a dedicated busway adjacent to the

commuter rail alignment, then cross the Malden River on a new bridge to connect to the Orange Line and bus routes at Wellington Station. From there, it would travel on viaduct over the rail yards through Wellington Station to avoid traffic on Route 16 and at Wellington Circle. It would connect to Route 28, at which point two different routes would diverge: one route would continue along Route 28 in mixed traffic and then along Broadway in bus lanes to Sullivan Square; the other route would pass through Assembly Square in buslane to Sullivan Square. Both routes would connect with the Orange Line, a new commuter rail station, and bus routes at Sullivan Square, and continue in buslane/busway along the Rutherford Avenue corridor to New Lechmere and then travel to Kendall Square/MIT.

ALTERNATIVE 3 – This route combines busways, buslanes, and mixed-traffic with some tunnel sections and underground stations in the most congested portions of the corridor. The capital cost for Alternative 3 is projected to be \$2.1–\$4.3 billion (2007 dollars), depending on the length of tunnel. In the northern segment that is relevant to the Route 28 study, Alternative 3 would connect through Chelsea and Everett in a dedicated busway adjacent to the commuter rail alignment, then travel in busway north along the Saugus branch rail corridor to connect to the proposed Telecom Boulevard. It would cross the Malden River on a widened Telecom Boulevard bridge to connect to the Orange Line and bus routes at Wellington Station. From there, it would travel on viaduct over the rail yards through Wellington Station to avoid traffic on Route 16 and at Wellington Circle. It would connect to Route 28 and then pass through Assembly Square in buslane to connect with the Orange Line, a new commuter rail station, and bus routes at Sullivan Square. At Sullivan Square, two routes would diverge: one would travel in buslane and mixed traffic to Union Square and then in mixed traffic along Route 28 to New Lechmere; the other route would continue in bus lane/busway along the Rutherford Avenue corridor to New Lechmere. At New Lechmere, the routes would converge and travel to Kendall Square/MIT.

ALTERNATIVE 4 – This route includes busways, buslanes, mixed-traffic operation, and longer tunnel segments with more underground stations. The capital cost for Alternative 4 is projected to be \$7.2–\$8.1 billion (2007 dollars), depending on the length of tunnel. In the northern segment that is relevant to the Route 28 study, Alternative 4 would connect through Chelsea and Everett in a dedicated busway adjacent to the commuter rail alignment. One route would travel in busway north along the Saugus branch rail corridor to connect to the proposed Telecom Boulevard and then cross the Malden River on a widened Telecom Boulevard bridge to connect to the Orange Line and bus routes at Wellington Station. The other route would continue in busway along the commuter rail alignment, then connect to Route 99 to cross the Mystic River and connect with the Orange Line, a new commuter rail station, and bus routes at Sullivan Square. Alternative 4 would then continue in bus lane/busway along the Rutherford Avenue corridor to New Lechmere and then travel to Kendall Square/MIT.

In addition to these four main alternatives, the project team is also analyzing several additional sub-options that test small refinements to these proposals. These sub-options include several additional concepts for making the important connection between Sullivan Square Station and East Cambridge.

The project team is currently completing a detailed analysis of each Build Alternative to determine the anticipated ridership and travel time benefits; neighborhood and environmental impacts; and

the costs and cost-effectiveness for each segments of every alternative. The project team has worked with the CAC, cities and towns, neighborhood groups, members of the general public, and other stakeholders to review these benefits, impacts and costs.

The alternatives analysis has demonstrating the following key findings:

- Fast, frequent service dramatically increases ridership.
- Dedicated right-of-way (busways, bus lanes, tunnels) improve travel time and reliability, especially in congested areas.
- Tunnels improve ridership, but greatly increase costs.
- Connections to the existing rapid transit, commuter rail, and bus system are essential to building ridership and serving transit needs.

The following are some of the key findings about demand and ridership patterns in the Route 28 corridor.

- Ridership is strong between the Orange Line (at Wellington Station) and the Blue Line (in East Boston) because the Urban Ring Phase 2 offers Chelsea and Everett residents fast, frequent connections to rapid transit service to downtown Boston.
- Ridership is strong between Sullivan Square and East Cambridge (New Lechmere, Kendall Square/MIT) due to the strong attraction between north side transit services (Orange Line, commuter rail, buses) and the jobs in East Cambridge. This transit connection is not currently well served, and the Urban Ring Phase 2 offers the opportunity to provide significant improvements, especially if this connection is fast and frequent.

D.3 NEXT STEPS

The project team is now working with the various stakeholders to identify the most beneficial alternatives and segments. The most advantageous segments will be combined into two principal “hybrid” alternatives, which will then be analyzed to determine the best possible plan for implementing the Urban Ring Phase 2, a recommendation that will be known as the **Locally Preferred Alternative, or LPA**. The LPA is expected to be a combination of the most productive and cost-effective segments, drawn from different Build Alternatives. The LPA will also include possible phases or minimum operating segment options. These segments of the LPA could be built in phases or operate independently. The project team will summarize the LPA and all of the findings from the study in a final report that is expected to be complete in spring 2008.

D.4 PUBLIC OUTREACH

In order to engage all the stakeholders effectively, EOT and the project team are implementing a comprehensive public involvement plan, including:

- Regular meetings of the Citizens Advisory Committee (CAC), subcommittees and working groups.

- Major public meetings, to be held in different areas, at key study milestones. A total of six public meetings have been held to date: three were held in December 2006, and three more were held in April 2007. A final round of three meetings will be held in September 2007.
- Frequent public briefings for neighborhood councils and other groups throughout the corridor. The project team has provided over thirty briefings for neighborhood and advocacy groups. Any group within the corridor is encouraged to host a briefing – please see the contact information below.
- A Public Hearing on the final Locally Preferred Alternative.
- The project website, which includes project information, updates on meetings and events, and opportunities to ask questions and post comments.
- E-mail notification of meetings and publication of new documents. If you would like to receive notification, please sign up at www.theurbanring.com.

