



**DRAFT**



# Cambridge Public Transportation Strategic Planning Update

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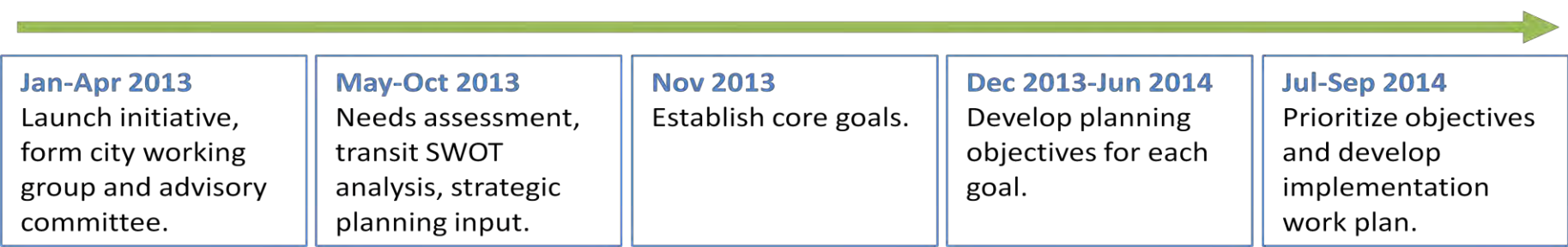
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## STRATEGIC PLANNING PROCESS TIMELINE



## INTRODUCTION

We are now at a crossroads and facing a future where inadequate resources are available for transportation. Though the Commonwealth is neither able to maintain our existing infrastructure nor provide additional transit capacity to meet goals for future economic growth, improved livability, and Greenhouse Gas Reduction.

Over 73% of the Massachusetts population lives within the MBTA service district, with over 1.3 million trips taken each day. Regional projections for mobility needs by the year 2035 indicate that there will be a 7% increase in demand for our roadways and a 30% increase in demand for transit service<sup>1</sup>— levels of demand that will require increased transit capacity in the future. Additional actions are needed to create a long-term sustainable transportation system. While it is difficult at this time to think about increasing the capacity of our system, it is critical that we continue forward with the planning process for changes which take years to bring to fruition.

## CAMBRIDGE CONTEXT

27% of those who live in or come to work in Cambridge rely on transit<sup>2</sup>. Many more use transit as a secondary means to get to work and use it regularly for non-commuting purposes.

The MBTA Red Line carries 250,000 riders per typical weekday. The continued increase in transit ridership is certainly desired, but it is putting increased strain on the existing system. Decades of chronic underfunding of the MBTA has impacted



ongoing maintenance necessary to keep our existing system working reliably and safely. All of the Red Line and Orange Line trains have exceeded their useful lifespan and are being cobbled together on a daily basis, sometimes unable to provide full capacity of cars available each morning for the peak hour commute. Delays are caused by vehicle breakdowns and failing track switching systems.

There are 33 bus routes that are in or pass through Cambridge carrying almost 100,000 riders per typical weekday. Of the 10 bus routes with highest ridership in the entire MBTA system, four of them are in Cambridge (#66, #1, #77, and #70). Four of the bus routes operating in Cambridge (#1, #47, #66, and #71) fail the MBTA's "vehicle load standard<sup>3</sup>," meaning there is excessive crowding during peak times.

While public focus is currently on funding our existing transit system, it is critical to recognize that the future of Cambridge relies on new and expanded transit options. Economic development in our region is being constrained by traffic congestion and inadequate transit access. The Green Line Extension project has been delayed, while \$2 billion in development investment is currently planned for Northpoint. Planning for the Urban Ring Phase 2 project is not proceeding, but it is critical to add transit capacity to serve the corridor between Sullivan, Lechmere, Kendall, and Longwood Medical Area.

Given the current fiscal reality, MassDOT and municipalities must consider low-cost transit improvements that increase capacity in the short term. Extending existing bus routes, such as from Central Square to Kendall Square, can relieve congestion on the Red Line at relatively low cost. Prioritization of buses can be achieved by strategically adding queue-jump priority lanes, such as at the approaches to the Anderson Bridge. Providing "enhanced bus service" by strategically reallocating roadway space for buses, or implementing new Bus Rapid Transit lines on existing infrastructure, is a low-cost solution that will yield positive mode-shift results.

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<sup>1</sup> Boston MPO Long Range Transportation Plan, Appendix C, Table C-1.

<sup>2</sup> 2010 US Census.

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<sup>3</sup> "Vehicle load standard" is expressed as the ratio of passengers to available seats.

## THE TEAM

### CITY INTERDEPARTMENTAL TEAM

- Project manager: Jeff Rosenblum, Environmental & Transportation Planning
- Co-manager: Adam Shulman, Traffic, Parking & Transportation Department
- Sue Clippingier, Director, Traffic, Parking & Transportation Department
- Susanne Rasmussen, Director, Environmental & Transportation Planning
- Stephanie Groll, Parking & Transportation Demand Management Officer
- Bill Deignan, Environmental & Transportation Planning
- Jennifer Lawrence, Environmental & Transportation Planning
- Stuart Dash, Director, Community Planning Division
- Kathy Watkins, Department of Public Works
- Michael Muehe, Director, Commission for Persons with Disabilities
- Cleo Stoughton, Intern, Environmental & Transportation Planning

### CAMBRIDGE TRANSIT ADVISORY COMMITTEE

- John Attanucci, MIT, Transit Research Group
- Joseph Beggan, Harvard University
- Kelley Brown, MIT / Kendall Square Association
- Miriam Cooper, Cambridge Commission for Persons w/ Disabilities
- Brian Dacey, Cambridge Innovation Center
- John DiGiovanni, Harvard Square Business Association
- Jacqueline Douglas, LivableStreets Alliance
- Charles Fineman, Resident, East Cambridge
- Robert Fitzgerald, Resident, Mid-Cambridge
- Jim Gascoigne, Charles River TMA / Kendall Square Association
- Randa Ghattas, Resident, Area-4
- Eric Hoke, Resident, Neighborhood 9
- Jeffrey Lockwood, Novartis / Kendall Square Association
- Doug Manz, HYM Investment Group

- George Metzger, Central Square Business Association
- Susan Pacheco, Cambridge Council on Aging
- Katherine Rafferty, Mt. Auburn Hospital
- Simon Shapiro, Cambridge Local First
- Terrence Smith, Cambridge Chamber of Commerce
- Zachary Spitz, Cambridge Youth Involvement Subcommittee
- Rev. Leslie K. Sterling, St. Bartholomew's Episcopal Church
- Saul Tannenbaum, Resident, Cambridgeport
- Ritesh Warade, Resident, Cambridge Highlands
- Unfilled, Low-income Housing Representative

## DRAFT VISION STATEMENT

These should be inspiring words that clearly and concisely convey the direction of the transit program. Identify "winning idea", identify the key measures of success, choose the most important measures (and not too many of them), combine winning idea and success measures into a tangible and measurable goal, refine the words until a concise and precise statement of vision is reached, which expresses key ideas, measures and desired result. The vision statement is an important communication/PR tool regarding the initiative. As such, we will wait until the end of this process to finalize it. The draft version below was a result of the preliminary scoping work done by the committee and city staff.



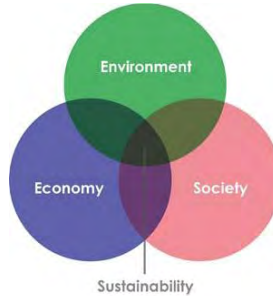
**“Cambridge will have a robust public transportation system that improves Cambridge’s social, economic, and environmental sustainability by providing mobility options for everyone who lives or works in the city while simultaneously reducing the number of single-occupancy vehicle trips.”**

## RATIONALE

Why is public transportation important to Cambridge? What overall city goals can be met by improving public transportation? What are future trends? Why should Cambridge engage in more robust transit planning?

## TRIPLE BOTTOM LINE SUSTAINABILITY

Sustainability is an often mentioned goal, yet its interpretation varies. Triple Bottom Line is a framework for encouraging local government responsibility for sustainability by equally balancing economic, environmental and livability assessment criteria. The following presents the rationale for transit in Cambridge in these three categories.



## ECONOMIC VITALITY WITH TRANSIT

- High-quality transit provides significant economic value to the City. Cambridge is a successful and vibrant city because of its abundant transit service. Any reduction in this service threatens the City's economic competitiveness, both as a residential and commercial attractor.
- The approximately 8 million square feet of additional development potential in Kendall/Central is expected to generate about 30,000 additional transit trips, with about 4,000 during peak travel times.
- \$100 million invested in public transit creates and supports roughly 4,000 jobs. Businesses often realize a gain in sales three times the public sector investment in transit capital.
- Transit can provide cost effective transportation that is affordable to both residents and employees.
- Supports transit oriented development in densely populated places by reducing traffic impacts.

- Boston's urban core is accelerating in attractiveness for living and working. As jobs and people move here, transit will be critical to allow for growth without increased traffic and serve the mobility needs of the increased number of people choosing to live and work in urban areas. As a group, young people are driving less.

## LIVABLE COMMUNITIES WITH TRANSIT

- Transit better connects people to family, jobs, school, shopping, health care, cultural and recreation activities.
- Transit is critical for persons with disabilities and mobility limitations, as well as the youth, elderly, and low-income all of whom we want to keep in Cambridge.
- Transit allows for an urban environment that is people-oriented if less space is used for automobiles.
- Transit facilitates better design of places for people, including active ground floors, bustling sidewalk activity, and site plans that emphasize useable space rather than on- and off-street parking for automobiles.
- A decrease in car trips means that roadway right-of-way is available for other things (e.g., sidewalk space, bikes, play streets, parks.)
- There is a synergy with walking, bicycling, and place-making as transit supports these things (e.g., every world class biking city is a world class transit city) and this translates to healthier lifestyles.

## NATURAL ENVIRONMENT WITH TRANSIT

- Less impervious surface is needed when more people are on transit instead of a car (e.g., fewer car lanes and parking spaces).
- Reduces overall green house gas emissions and fuel consumption (but noise and air pollution also needs to be addressed).
- Transit supports density, which is a necessary part of conserving natural and farm land outside the city, as well as open spaces within the city.
- Has a role in climate change preparedness planning.

## POLICY LINKAGES

### CITY OF CAMBRIDGE POLICIES

**Vehicle Trip Reduction Ordinance (VTRO), 1992.** “New measures must be implemented by the City and the Commonwealth involving the participation of all sectors of the community on a local and regional bases to make more efficient use of mass transit, bicycling, walking, and other alternatives to trips by single-occupancy vehicles.”

**Vehicle Trip Reduction Ordinance (VTRO), 1992.** “Increasing the use of commuting alternatives and reducing the number of trips by single-occupancy vehicles is beneficial for the City and the Commonwealth in reducing vehicle miles travelled, traffic and associated air pollution, fuel use, noise, and congestion.”

**Vehicle Trip Reduction Ordinance (VTRO), 1992.** “Measures to discourage, and provide alternatives to, vehicle trips and trips by single-occupancy vehicles made by residents of and visitors to Cambridge are also necessary to further the goals of the Clean Air Act.”

**Growth Policy Document, 1997 & 2003.** Policy #22: “Undertake reasonable measures to improve the functioning of the city’s street network, without increasing through capacity, to reduce congestion and noise and facilitate bus and other non-automobile circulation.”

**Parking and Transportation Demand Management (PTDM), 1998.** (a) “reduce vehicle trips and traffic congestion within the City, thereby promoting public health, safety, and welfare and protecting the environment.”

**Cambridge Climate Protection Action Committee, Draft Roadmap, 2013.** Includes the goal, “Reduce vehicle miles traveled by vehicles registered in Cambridge 5 percent below 2010 levels by 2020.”

**Department of Public Works 5-Year Plan.** “Reconstruct streets and sidewalks with an emphasis on a Complete Streets approach: designing street for all users.”

### COMMONWEALTH OF MASSACHUSETTS POLICIES

**Massachusetts GreenDOT Policy Initiative.** GreenDOT is MassDOT’s comprehensive environmental responsibility and sustainability initiative. GreenDOT calls for MassDOT to incorporate sustainability into all of its activities, from strategic planning to project design and construction to system operation, in order to promote sustainable economic development, protect the natural environment, and enhance the quality of life for all of the Commonwealth’s residents and visitors. GreenDOT’s three primary goals are to 1) Reduce greenhouse gas (GHG) emissions; 2) Promote the healthy transportation options of walking, bicycling, and public transit; and, 3) Support smart growth development.

**Mode Shift Initiative.** MassDOT’s has established a statewide mode shift goal of tripling the share of travel in Massachusetts by bicycling, transit and walking. The initiative seeks to reduce the number of cars on the road and advance the Commonwealth’s greenhouse gas (GHG) emission reduction target of 25 percent by 2020.

**Boston MPO’s Long-range Transportation Plan,** “Paths to a Sustainable Region,” 2011. Goal of “increasing transit and other ‘healthy transportation’ mode shares.”

**MAPC’s MetroFuture, 2008.** Two goals related to transit: #44 “an expanded transit system will provide better service to both urban and suburban areas, linking more homes and jobs;” and #45 “more people will use transit for work and personal services.”

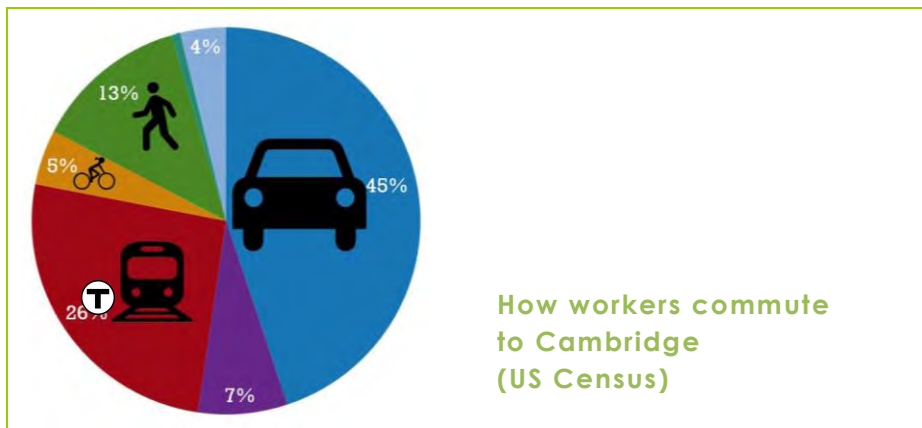
**Healthy Transportation Compact.** The Compact is an inter-agency initiative designed to facilitate transportation decisions that balance the needs of all transportation users, enhance transportation choice and mobility in all modes,

improve public health, support a cleaner environment, and create stronger communities. MassDOT views the Healthy Transportation Compact as an exciting opportunity to strengthen the commitment to public health and improve access for pedestrians, bicyclists, and public transit riders.

**Healthy Transportation Policy Directive.** This policy directive builds upon MassDOT’s Complete Streets guidelines, GreenDOT Policy, and Healthy Transportation Compact by requiring that all MassDOT projects not only accommodate, but actively promote healthy transportation modes.

**Global Warming Solutions Act (GWSA).** As required by the GWSA, the Executive Office of Energy and Environmental Affairs (EOEEA) developed the Clean Energy and Climate Plan for 2020. The Plan set the statewide greenhouse gas (GHG) emissions limit for 2020 at 25 percent below 1990 levels, the maximum authorized by the GWSA. The Plan also describes a targeted portfolio of existing and proposed state policies that will enable Massachusetts to reach the GHG reduction target.

**Design Guide standards on Complete Streets.** Complete Streets is the comprehensive multi-modal philosophy in MassDOT’s Project Development and Design Guide that requires safe and appropriate accommodation for all roadway users. The document offers guiding principles that include the need “to ensure that the safety and mobility of all users of the transportation system (pedestrians, bicyclists, motorists, and transit users) are considered equally through all phases of a project so that even the most vulnerable (e.g., children and the elderly) can feel and be safe within the public right of way.”



## DRAFT TRANSIT GOALS FOR CAMBRIDGE

Goals: What general actions and intentions do we want to take? General- not intended to be measured. What specific outcomes do we want to see as a result of our efforts?

**Goal 1: Mobility.** Ensure that the transit system provides for the mobility needs of those who live, work, and play in Cambridge, including origin/destination work trips, school trips, all other trip purposes, and the future regional growth vision and development potential.

**Goal 2: Funding.** Ensure that state and regional planning ensures that our transit system is adequately funded, is affordable, and has the regional common good at its core.

**Goal 3: Efficiency.** Improve efficiency of transit trips, with travel times being equal to or less than driving.

**Goal 4: Expansion.** Expand the capacity of transit, including more frequency on existing routes as well as the addition of capacity through new or expanded routes.

**Goal 5: Accessibility.** Improve access, including interconnectivity between transit and other modes (e.g., walking and biking), accessibility for persons with disabilities or mobility impairments, safety, convenience, human-centered designed, wayfinding, and real-time service information.

**Goal 6: Marketing for Mode Shift.** Use marketing with a focus on “social marketing,” such as CitySmart, to achieve mode shift in many demographics across Cambridge.

**Goal 7: Resiliency.** Ensure the transit system is resilient to the effects of climate change. Transit also plays a role in reducing transportation’s contributions to climate change.

## CURRENT ACTIVITIES AND PLANNED OBJECTIVES FOR EACH GOAL

<b>Goal</b> What general actions and intentions do we want to take? These should be relatively general and are outcomes we want to see as a result of our efforts.	<b>Current Activities</b> These are activities the city is currently engaged in or previously engaged in that further each of the goals.	<b>Planned Objectives</b> Specific actions that support attainment of the associated goal. Should be tangible, measurable, and shorter-term.
<b>Goal 1: Mobility.</b> Ensure that the transit system provides for the mobility needs of those who live, work, and play in Cambridge, including origin/destination work trips, school trips, all other trip purposes, and the future regional growth vision and development potential.	<ol style="list-style-type: none"> <li>1. Origin/destination patterns to Cambridge and to Kendall.</li> <li>2. Demographics analysis.</li> <li>3. Current Red Line data analysis, including boardings and capacity.</li> <li>4. Bus data analysis including boarding/alighting.</li> <li>5. Kendall Square/Central Square planning process included transit analysis/implications.</li> <li>6. Parking and Transportation Demand Management program has a strong transit component.</li> <li>7. Mixed use zoning.</li> <li>8. Review and influence Traffic Impact Studies conducted by large development projects.</li> <li>9. Participates in MBTA's bi-annual service planning process to push for service improvements.</li> </ol>	<p><i>February 5, 2014 Advisory Committee meeting.</i></p> <p><i>Objectives will be developed over the next seven months in collaboration with the Advisory Committee. The dates below indicate tentative dates the Advisory Committee will focus on developing objectives for each goal.</i></p>
<b>Goal 2: Funding.</b> Ensure that state and regional planning ensures that our transit system is adequately funded, is affordable, and has the regional common good at its core.	<ol style="list-style-type: none"> <li>1. Participated in 2012 transit funding crisis conversation to avert service cuts, included engagement of City Council.</li> <li>2. Initiative to better engage MassDOT in collaborative regional transit planning.</li> <li>3. City provides financial support for EZ Ride shuttle.</li> </ol>	<p><i>April 2, 2014 Advisory Committee meeting.</i></p>

<p><b>Goal 3: Efficiency.</b> Improve efficiency of transit trips, with travel times being equal to or less than driving.</p>	<ol style="list-style-type: none"> <li>1. Engaged in “key bus routes” program, resulting in bus stop consolidation, relocation.</li> <li>2. Exploring conceptual designs for specific bus priority pilots: <ol style="list-style-type: none"> <li>a. Alewife bus priority lanes</li> <li>b. JFK Street queue jump initiative</li> </ol> </li> <li>3. Commitment to conduct a bus circulation study of Central Square with recommendations as a result.</li> <li>4. Development of bus stop curb extension designs best practice.</li> <li>5. General signal progression for major roadways helps transit (and cars as well).</li> </ol>	<p><i>December 4, 2013 Advisory Committee meeting.</i></p>
<p><b>Goal 4: Expansion.</b> Expand the capacity of transit, including more capacity and frequency on existing routes as well as the addition of new routes.</p>	<ol style="list-style-type: none"> <li>1. Advocate for Urban Ring circumferential transit project.</li> <li>2. Advocate for Green Line Extension and associated interim off set measures.</li> <li>3. Conceptual design for expanded bus service from Sullivan Sq. to Kendall Sq.</li> <li>4. Participates in MBTA’s long range planning process to push for projects.</li> <li>5. Collaborative planning with EZ-ride on route expansion.</li> </ol>	<p><i>March 5, 2014 Advisory Committee meeting.</i></p>
<p><b>Goal 5: Accessibility.</b> Improve access, including interconnectivity between transit and other modes (e.g., walking and biking), accessibility for persons with disabilities or mobility impairments, safety, convenience, human-centered designed, wayfinding, and real-time service information.</p>	<ol style="list-style-type: none"> <li>1. Developing and implementing best practices for bus stop design.</li> <li>2. Increase bike parking at rapid transit locations, including secure bike parking and wayfinding at Alewife Station.</li> <li>3. Hubway bike share stations installed at most transit stations.</li> <li>4. Ensure bus stops and transit stations are cleared of snow in winter following a storm.</li> <li>5. Improve amenities at bus stops, through “Key Bus Routes” program and city program.</li> <li>6. Bus shelter program with CEMUSA.</li> <li>7. Monitor “blocked stop” reports from MBTA and target enforcement.</li> <li>8. Collaborate with the MBTA on elevator projects in Harvard,</li> </ol>	<p><i>January 8, 2014 Advisory Committee meeting.</i></p>



	<p>Porter, and Central.</p> <p>9. Cambridge/Belmont/Somerville path improvements project is complete, enhancing access to Alewife Station.</p> <p>10. Work with MBTA on Lechmere Station design.</p>	
<p><b>Goal 6: Marketing for Mode Shift.</b> Use marketing with a focus on “social marketing,” such as CitySmart, to achieve mode shift in many demographics across Cambridge.</p>	<ol style="list-style-type: none"> <li>1. CitySmart packets include CitySmart transit guide and map, EZRide shuttle brochure, and other transit schedules.</li> <li>2. Community outreach at major property management transportation fairs tends to focus on transit.</li> <li>3. Encourage development projects to include innovative transportation demand management plans.</li> </ol>	<p><i>May 7, 2014 Advisory Committee Meeting.</i></p>
<p><b>Goal 7: Resiliency.</b> Ensure the transit system is resilient to the effects of climate change. Transit also plays a role in reducing transportation’s contributions to climate change.</p>	<ol style="list-style-type: none"> <li>1. Participating in Cambridge Vulnerability Assessment to determine extent of vulnerability of our transit system.</li> <li>2. Participating in state preparedness planning efforts.</li> </ol>	<p><i>June 4, 2014 Advisory Committee Meeting.</i></p>