



Crossing

the tracks



The freight route that once fueled Cambridge's heavy industries is now an underused, unloved and almost uncrossable strip through the middle of Cambridgeport - a dividing line between MIT and the rest of the city. The proposed Urban Ring transit route around central Boston will bring major changes to this area but the form of these planned changes, currently undecided, will be under debate for quite some time. Accepting the unpredictability of long-term change and making relatively modest improvements now - to crossings, connections and the landscape of the tracks - could yield great benefits for Cantabrigians, students and residents alike.



A space and its crossings

The CSX rail line that once formed the edge of the River Charles now marks out a clear boundary between MIT and the Cambridgeport community. The open space between the tracks and the adjacent buildings is an extraordinary environment. With a powerful linear form and a prominent industrial aesthetic, this corridor holds the potential to become a unique and memorable space. Unfortunately, this space is currently unstructured and unappealing, filled with mud, potholes, and piles of debris. Apart from the occasional jogger or track maintenance vehicle, the space around the tracks is rarely used.



This map of Cambridgeport in 1865 shows the railway running along a raised embankment which forms the edge of the River Charles.

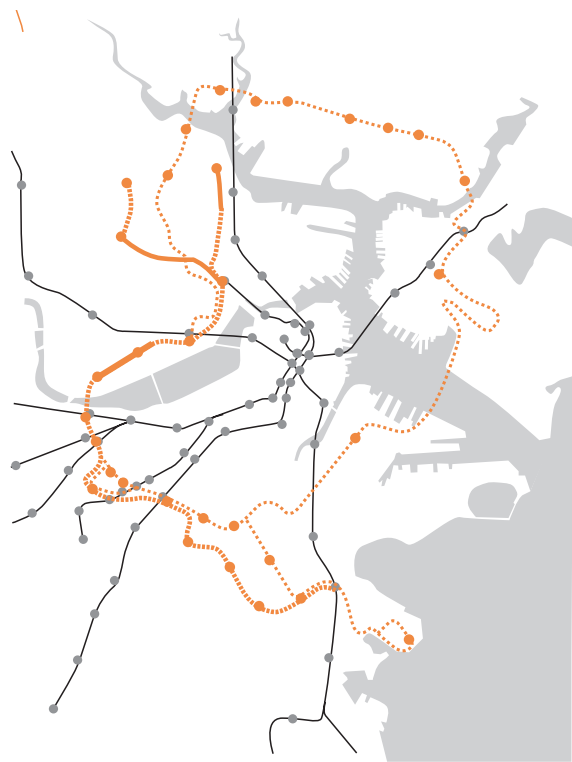
In addition to their current underutilization, the tracks and the space around them also functionally divide MIT from the surrounding neighborhood. There are only two publicly-accessible crossing points over the mile-and-a-half stretch of track that extends from Massachusetts Avenue to the Boston University Bridge. A third crossing point -- a bridge over the tracks, entered from the third floor of the MIT garage on Vassar Street -- is accessible only to members of MIT.

The first of the publicly-accessible crossing points is the sidewalk at the intersection between the tracks and Massachusetts Avenue. While this crossing is functional, the sidewalks around the tracks are broken down and poorly-defined. The second is a ten foot wide pedestrian crossing at Fort Washington Park. This crossing is functional and well-maintained but almost invisible -- poorly signposted, weakly connected to neighboring sidewalks and pedestrian paths, and very dark at night. While both of these crossings are well used, they are not sufficient to meet the needs of the surrounding residential community. Fence-jumping and illegal track-crossing is common in other places, particularly at a point just past the end of Pacific St.

Given the current crossing limitations and ambitions (on the part of both Cambridge and MIT) to strengthen connections between City and Institute, this section of the rail line could strongly benefit from additional structured crossing points.

History has demonstrated the community's willingness to climb fences and squeeze through gates to cross the tracks all along its length. Prudence and safety suggest that their needs could be met in better ways.

Issues to consider



This diagram illustrates in orange one of the Urban Ring alignments currently under consideration. Grey lines show the locations of MBTA subway lines.

Urban Ring

The Urban Ring, a proposed transit corridor, would encircle Boston and portions of its neighboring towns, linking together the radial subway and bus routes that make up the majority of Boston's current transit network. The Urban Ring would create direct links -- initially with cross-town buses, and eventually with light or heavy rail lines -- between homes and jobs in areas currently without service, giving riders direct access to communities around the perimeter of Boston.

- > Several possible alignments are under consideration. One of the preferred options is shown in the diagram at left.
- > In Cambridgeport, two different major alignments are currently under consideration, as indicated in the diagram below and to the left.
- > 6 different communities will be linked by the Urban Ring: Chelsea, Everett, Somerville, Cambridge, Brookline, and Boston.
- > If built as currently proposed, the Urban Ring will stretch for around 15 miles.
- > There will be 314,000 residents and over 360,000 jobs within 1 mile of the proposed Urban Ring alignment by the year 2025.
- > The proposed Urban Ring corridor crosses all 4 MBTA heavy rail lines, as well as over 50% of all MBTA bus routes.

In an environment of substantial budget deficits, unpaid Big Dig bills, and an uncertain outlook for federal funds, the Urban Ring will be at least a decade -- and likely longer -- in coming. Nonetheless, it holds the promise of eventually substantially impacting the CSX rail corridor, and any long-term development along the rail lines should take the Urban Ring plans into account.

Obstacles to track crossings

Concerns about safety and liability are the main reasons for the lack of crossings along this stretch of track. CSX -- the railroad company that operates the freight traffic along the line -- strongly opposes the creation of any additional at-grade crossings, as stated unequivocally on their website:

"The railroad, in its commitment to employee and public safety, is firmly opposed to the establishment of any grade crossing. Both federal and state government policies discourage the creation of new grade crossings. In seeking to carry out this policy, both the U.S. Department of Transportation and state agencies have adopted programs to eliminate grade crossings by constructing bridges or by diverting traffic to existing overhead, sub-grade or at-grade crossings. CSX fully supports these policies and programs. We strongly urge you to find an alternate means of access - examine the prospect of providing a bridge - instead of applying for a grade crossing."

- (<http://www.csx.com/index.cfm?fuseaction=propterserv.gradecrossing>). *Emphasis added.*

The establishment of an at-grade crossing at Fort Washington involved a lengthy struggle for the city council, and was permitted only along with a series of stringent safety measures. Trains are required to slow to a walking pace at Fort Washington, with a guard walking in front to ensure that the tracks are clear. At Massachusetts Avenue, trains stop completely, then are led across by a guard.

Grade-separated crossings represent a more politically feasible alternative that would still allow for passage across the tracks. Unfortunately, both bridges and tunnels are significantly more costly than at-grade crossings -- a level of expense that is difficult to justify at present, given that only three trains a day run along this stretch. Additionally, grade-separated crossings tend to be less convenient than at-grade crossings, and are accordingly utilized less often.

Elephants

In mid-October each year Cambridge welcomes *The Greatest Show on Earth*, as the Ringling Brothers and Barnum & Bailey Circus roll into town for their annual two-week visit. This visit has particular significance for the MIT-Cambridgeport stretch of the rail line, which becomes the temporary home of the circus trains during their stay. After the trains roll in, they disgorge half a dozen of the circus troupe's largest and most prominent members -- Asian elephants -- which then promenade down the tracks, across Massachusetts Ave., and proceed through East Cambridge to the Fleet Centre in Boston.

Track and Trail

In 1999 the City Manager of Cambridge appointed a Green Ribbon Open Space Committee to develop criteria for expanding and improving the city's open space system. One of the top priority recommendations is the creation of a multi-use pedestrian and bike path along portions of the CSX rail line -- a path that could link into a proposed regional trail extending into Boston and Somerville. Cambridge's planning department is currently conducting a study into the feasibility of various rail-trail alternatives. This study should be released in spring 2004.

If integrated well with the surrounding area, the Rail Trail has the potential to become **[expand]**

Overlap with street improvement projects

The track space crosses or touches three planned public space and infrastructure improvement efforts: the south Massachusetts Avenue project, the Cambridgeport Roadways project, and the Rail Trail project. This overlap has implications for any potential plans to improve the tracks or railroad right-of-way.

Freight

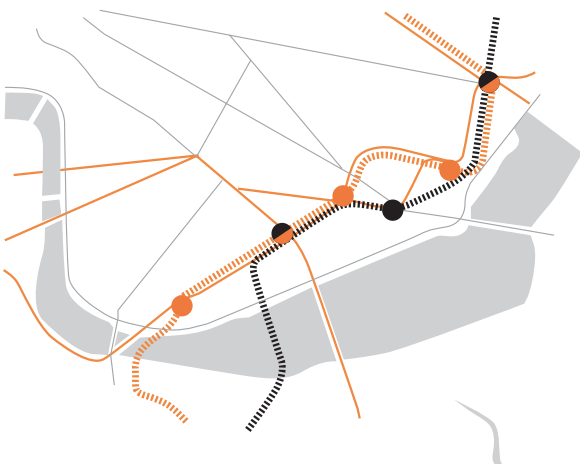
The Grand Junction Railroad in Cambridge -- now owned by CSX -- was one of the first north-south rail links in the Boston area, and is currently the only north-south railroad linking Boston's North Station and South Station. Although used only three times per day for freight transport and to move MBTA trains between stations, this stretch of track forms a key link in the Massachusetts freight rail network. The land under and around the tracks is owned by MIT, while the tracks are leased and maintained by CSX.

Wild space

The free-draining soil around the tracks supports a rich variety of plants. Each of the following common flowering plants can be found among the grass and scrub along the rail line:

<i>Hieracium pretense</i>	(King Devil)
<i>Cichorium intybus</i>	(Chicory)
<i>Erigon annus</i>	(Daisy Fleabane)
<i>Trifolium dubium</i>	(Hop Clover)
<i>Lepidium virginicum</i>	(Peppergrass)
<i>Plantago major</i>	(Common Plantain)
<i>Melilotus alba</i>	(White Sweet Clover)
<i>Chelidonium majus</i>	(Celandine)
<i>Medicago sativa</i>	(Alfalfa)
<i>Silene cucubalus</i>	(Bladder Campion)
<i>Capsella rubella</i>	(Shepherds Purse)
<i>Trifolium pretense</i>	(Red Clover)
<i>Vicia cracca</i>	(Cow Vetch)

This flowering scrub-land stretches from the river at Boston University Bridge right up to Somerville, in an almost uninterrupted strip. Wild spaces as continuous and varied as this are rare in Cambridge, where parks and tended lawns predominate. The strip is only there because it would be expensive to pave it over or continually cut it back, but that doesn't mean it is without value. It would be lovely to think that this wild space could remain and grow even after the



Alternative alignments for the Cambridgeport stretch of the Urban Ring: a principally overground light rail or guided bus route (shown in orange) which crosses the river using the existing rail bridge or a new tunnel in a similar location, or a solely underground light or heavy rail route (shown in black) which crosses the river in a tunnel between Harvard Bridge and Boston University bridge.



The annual elephant parade

Design proposals

> **Use the tracks to link space.** Instead of functioning simply as a linear route along the tracks -- as the current Rail Trail plan proposes -- the area should instead be designed as a connective piece, reaching out at key points to touch surrounding streets and routes. The space has vast potential to connect MIT and the rest of Cambridge, and to change the perception of their division. It is imperative that north/south links across the tracks be comprehensively considered as part of the Rail Trail project, designed with the same care, and constructed at the same time.

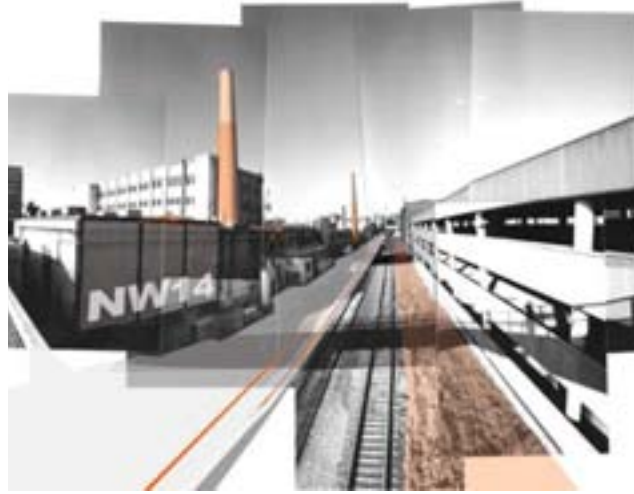
> **Don't wait for the Urban Ring.** It is not only possible but crucial for these changes to happen soon, before the Urban Ring is constructed. Improving connections and raising the profile of the place could encourage new development, raising consciousness of and support for the Urban Ring. This short term intervention that could have long term effects, shifting people's perception of the place and laying down new routes and connections that will remain even if the surfaces or surroundings change.

> **Address crossings and safety concerns.** The number of people currently prepared to squeeze through fences to cross the tracks unsafely demonstrates the high demand for an additional crossing point between Fort Washington and Mass. Ave. They also demonstrate the difficulty of preventing illegal track crossings. Providing a new crossing at Pacific Street -- while making it more difficult to cross elsewhere -- would improve safety, not reduce it.

> **Create change by steering existing projects.** The majority of the recommendations put forward here could be achieved by expanding, adjusting and linking together projects already in different stages of planning and implementation, such as the South Mass. Ave., Cambridgeport Roadways, and Rail Trail projects, or the storm drain improvement works.

> **Treat the tracks as the background for new development.** There is a danger that the significant amount of new development anticipated in areas around the tracks could further fragment the place and change its character dramatically. New linking spaces around the tracks could provide a coherent, stable armature for new development.

> **Recognize the value of what's there already.** The track space and the areas that surround it are extraordinary places, worthy of celebrating and exploiting to the full. Putting in place a process of change that seeks to enrich, reveal, and clarify the extraordinariness of the place would yield better results more economically than trying to sweep away what's there and replace it with something of a completely different character.



The track space



Fort Washington

> **Create a continuous hard surface** along the north side of the tracks to allow foot, cycle and service vehicle access. This should read as a completely continuous surface - from side to side and end to end - and be constructed to bear heavy loads, as it would be used by trucks servicing the CSX line and potentially for the construction of the Urban Ring.

> **Locate cycle tracks** level with the footway for visual simplicity and mark them with painted lines.

> **Use wide raised curbs** instead of bollards or walls to separate the hard surface from the rail tracks. Drop curbs to track level at crossing points.

> **Carefully design junctions** with buildings and other edges. Continue hard surfaces to the edges of buildings lining the track, creating crisp junctions.

> **Preserve the wild edge** along the south side of the tracks as a continuous strip from the river to Main Street, with no pedestrian or cycle access. Clear this strip of litter and cut it back from the track edge every few months, but otherwise leave it untended.

> **Mount lights to buildings** at regular intervals along the paved side of the tracks to reduce clutter. Install bright high-mast lighting at the Mass. Ave. and Fort Washington crossings, as well as at the proposed Pacific Street crossing.

> **Preserve long views** and direct afternoon light down the line of the tracks. Maintain clumps of mature trees at the river end, while avoiding new planting at Mass Ave. and colonisation of trees along the track edge.

The Urban Ring may preclude an at-grade crossing in this location. However, until then a series of modest changes could make the crossing safer, more accessible and more inviting to use.

> **Make the crossing more visible** by clearing bushes from between Fort Washington Park and the tracks and signing the crossing from surrounding streets.

> **Install new bright, high-mast lighting** directly above the crossing to allow the use of the crossing after dark and highlight its location from surrounding streets.

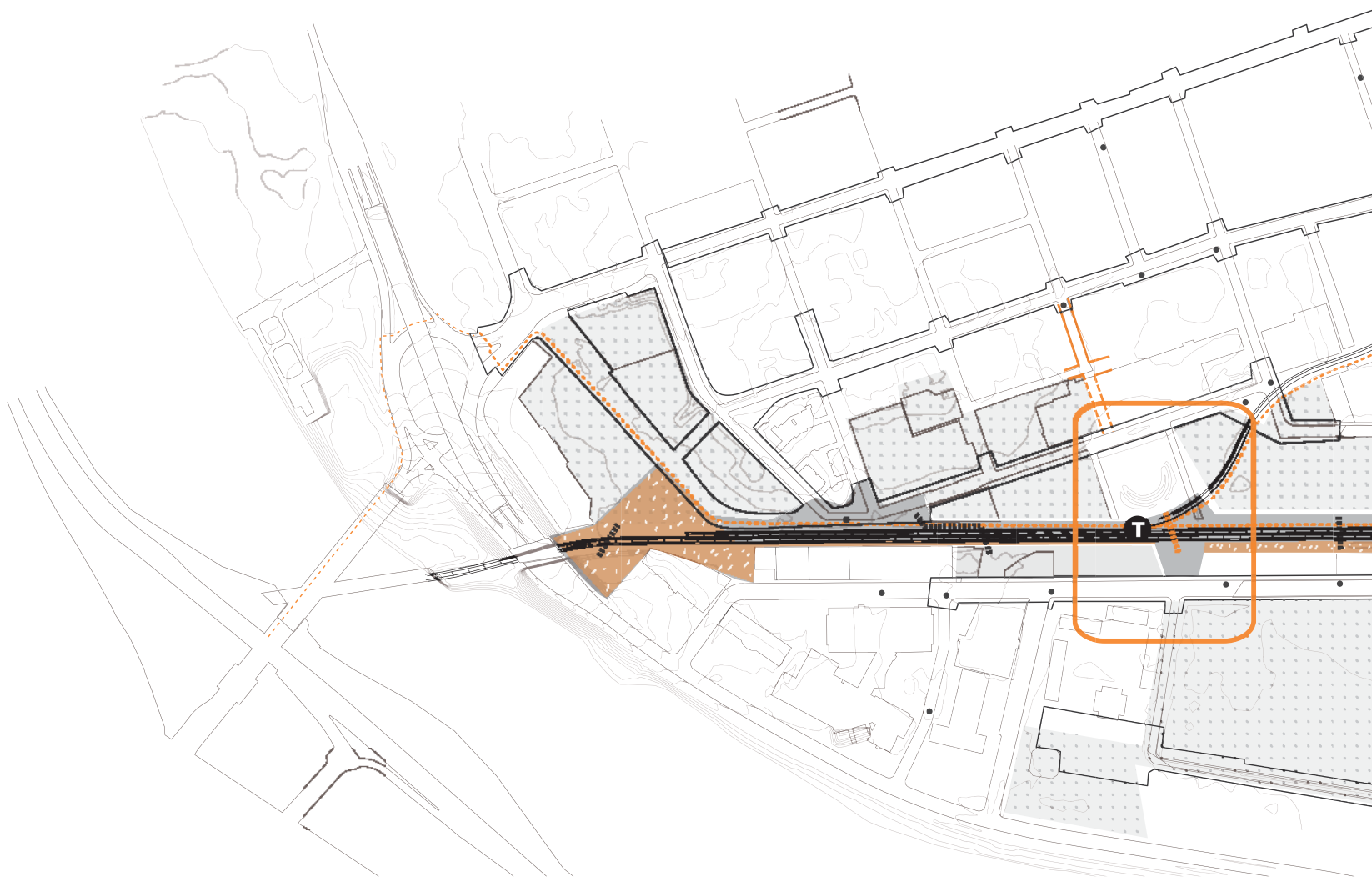
> **Widen and resurface** the crossing. Make the edges of the path, barrier, wild strip and track clear and distinct, rather than allowing each to bleed off into the others.

> **Make a clearer path to Vassar Street** from the crossing through the MIT parking lot, and install a new pedestrian crossing directly in line with the track crossing.

Strategic approach

Rail track strip

Fort Washington crossing





Pacific Street crossing



Massachusetts Avenue crossing



There is a strong case to be made for a new track crossing at the end of Pacific Street. This point is halfway between the two existing crossings, and is where most illegal and unsafe crossing now occur. This is also the most direct route from the MIT graduate dormitory at the corner of Sidney and Pacific to the MIT campus, and is right next to a series of significant sites for new development. In addition, a crossing here would provide a direct link between the MIT playing fields and the the proposed community soccer pitch on Pacific Street, facilitating shared use by the community of the MIT fields. Our proposals for reorganizing the fields, outlined later, would make a new path from this crossing point to the river, which could become an important and well-used connection for the MIT and Cambridgeport communities.

> **Extend the track-side surface** to form a single contiguous surface extending from Pacific Street to Vassar Street.

> **Drop the raised track-side curb** smoothly at the crossing point.

> **Hug the Heinz building.** Make the new path from the tracks to Vassar Street come directly up against the Heinz building.

> **Build new development,** such as the block of student housing suggested in the picture above, tightly up against the crossing route. This housing will help define the crossing.

> **Install new bright high-mast lighting** of the same type used at the two other crossings. Locate this lighting directly next to the crossing.

> **Develop a design for the community soccer field** and its link to the MIT playing fields in conjunction with the design of this crossing, to ensure consistency. One option for the design of the field is shown below. The field could be used in the future for small 5-a-side soccer games while retaining the low building within the field area as a small community room, used for changing and refreshments during soccer games. The small allotment patch to the north of this building could also be retained.

New crossing at Pacific Street

Improving the quality and consistency of sidewalks, achieving spatial clarity at a difficult junction with multiple crossings, and creating strong visual connection along the tracks are top priorities for the redesign of the Massachusetts Avenue track crossing space. The following recommendations could be rolled in with the planned South Mass. Ave. street and sidewalk redevelopment project, planned to start on site next year, and the longer-term Rail Trail project.

> Improve the pedestrian and cycle crossings.

Continue the track-side hard surface and cycle route directly across both the sidewalk and roadway at Mass. Ave. Explore the possibility of adding another crossing directly in line with the rail trail by shifting the Albany Street crossing south. This crossing point will be critical for connections to the future Urban Ring station.

> **Extend the curb lines** at pedestrian crossings to increase visibility, safety and ease of movement. Exploit the rare opportunity offered by the South Mass. Ave. project to adjust curb lines and make generous, connective pavement spaces at the junction between trail and roadway.

> **Construct durable sidewalks.** Improve drainage and raise sidewalk levels adjacent to the rail line to prevent extensive puddling in wet weather. Construct sidewalks at this junction to bear heavy loads and prevent deterioration due to truck traffic.

> **Install bright high-mast lighting** from Albany to Vassar (with simple, highway standard design) to help draw together the space at night and improve safety.

> **Amend planting plans** to prevent tree planting between Albany and Vassar streets, preserving special long views and direct afternoon light down the tracks.

Massachusetts Avenue crossing

The point where the track space opens up at Mass. Ave. could be a place to delight in the extraordinariness of the track space and make visible the unusual happenings that occur on the tracks -- the annual elephant parade, the daily slow lumbering of the CSX train, the line of tall brick chimneys, the billowing clouds of steam at night, and the vastness of the Metropolitan Warehouse.

> **A permanent 'elephants crossing' highway sign.**

> **A clock** marked with the time of the three freight trains across Mass Ave each day, attached to crossing sign and warning lights.

> **Special lighting for the Metropolitan Storage Warehouse.** Strong, even light washing across the warehouse, or even occasional use as a giant projection screen

> **More big signs with clear, bold lettering** on adjacent buildings. For example, big numbering of MIT departments ('NW14', 'NW52').

Ideas for playful interventions

