

A photograph of a person standing on a stone path next to a large tree with exposed roots over a stream. The scene is set in a lush, green forest. The tree's roots are thick and gnarled, extending over the water and onto the path. The person is wearing a dark jacket and blue jeans, standing on the stone path. The stream is shallow and flows over rocks. The background is filled with dense foliage and more trees.

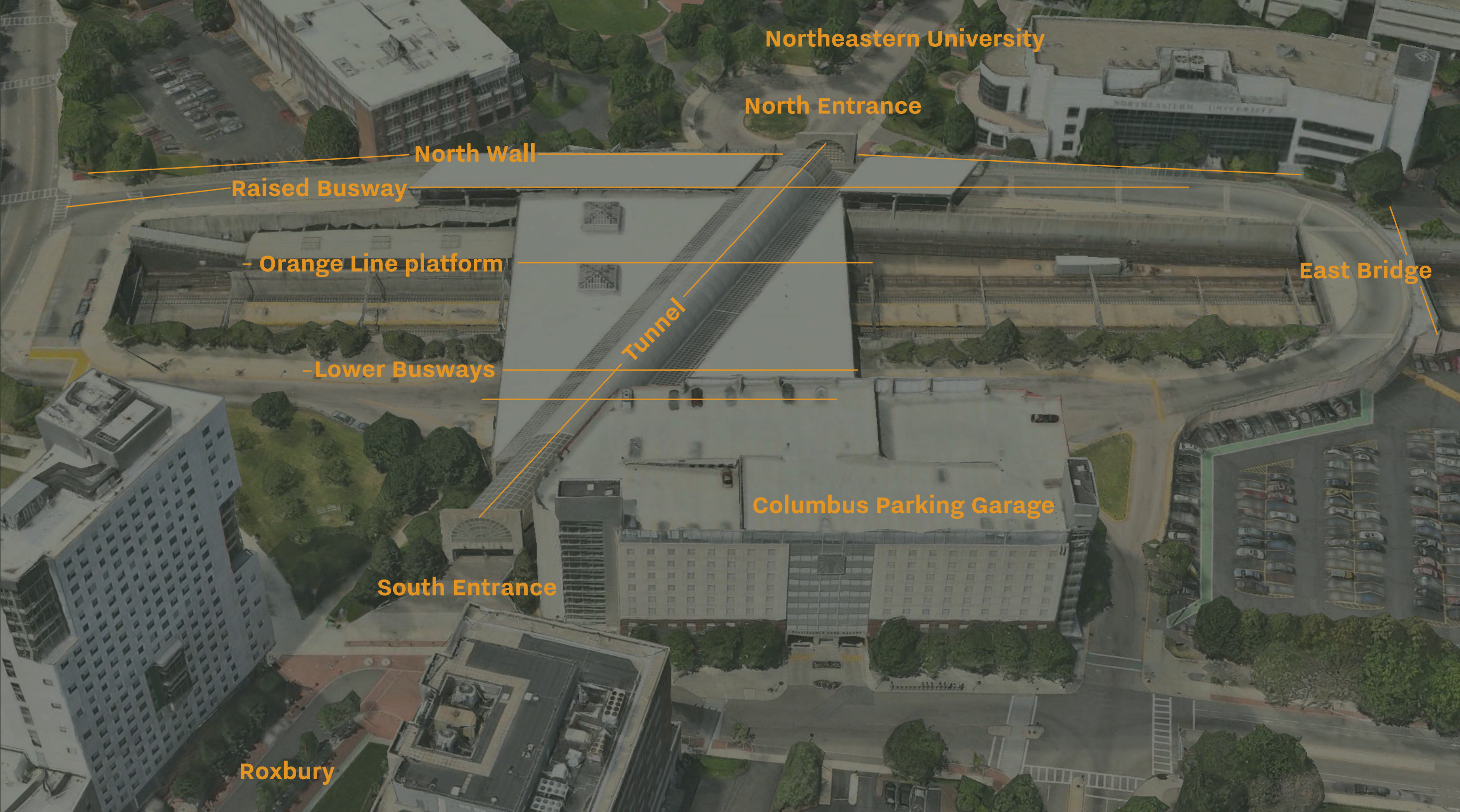
Meghalaya

For hundreds of years, the residents of Meghalaya, in Northeast India, have built bridges by tying together vines and trees into living root bridges. The idea of a living root bridge has been powerful in helping us re-conceptualize space.

Ruggles Station, along Boston’s Orange Line, sits between and divides Northeastern University and the Roxbury neighborhood of Boston. When the station was built, there were substantial concerns about crime in Roxbury, and perhaps as a result, Ruggles acts in some ways as a wall, separating the two areas, even as Northeastern has begun to build South, into Roxbury. On the flipside, it acts as a bridge, crossing over the Orange Line tracks.

We were faced with the brief of finding a way to make it a more habitable space.

“Ruggles is just like, somehow worse than other MBTA stations.”



Research

In researching the space, we found very few people had favorable impressions of Ruggles, even if none were able to elaborate exactly what seemed so bad about it—as one participant said, “Ruggles is just like, somehow worse than other MBTA stations.”

We quickly narrowed our research to the experience of walking through the space, rather than focusing on transportation, because it seemed to be where the most serious issues were. In the end, we synthesized three major complaints about the space.

Shown is the North side of the station. The doors opening to the left are the only entrance on this side of the station.

It gets in your way

People found that often, Ruggles was the quickest way from where they were on one side of the tracks to another, but it didn’t provide a particularly direct route. There were routes that seemed like they should be traversable, but that were blocked off. Further, they were frustrated by the bottleneck between the doors on the north side of the station, to the North side stairs, where traffic often piled up.

Walking through takes forever

Even though the station forms only a small part of a trip in the area, people described the experience of walking through it in colossal terms—some described it as ‘going on forever.’ Others emphasized the experience as being particularly boring.

“It feels gross”

Many people talked about the unpleasant physical and visual sensations of the station. In particular, we heard many complaints about wind, rain, cold, dirtiness, and darkness.

Framing the Space

To find an understanding of the failures of the space, we lean on John Dewey's theory of Experience, as elaborated in *Art as Experience*. Dewey provides a clear rationale for how people find Ruggles unsatisfying:

Because of continuous merging, there are no holes, mechanical junctions, and dead centers when we have *an* experience. There are pauses, places of rest, but they punctuate and define the quality of movement. They sum up what has been undergone and prevent its dissipation and idle evaporation. Continued acceleration is breathless and prevents parts from gaining distinction. In a work of art, different acts, episodes, occurrences melt and fuse into unity, and yet do not disappear and lose their own character as they do so—just as in a genial conversation there is a continuous interchange and blending, and yet each speaker not only retains his own character but manifests it more clearly than is his wont.

It's our belief that a major issue with Ruggles is the presence of what Dewey calls "holes, mechanical junctions, and dead centers." There are sharp cuts between the outside and inside of the space, marked by the doors—mechanical junctions, which render the inside of the space alien from the outside of it. Further, the main corridor of the space suffers from what Dewey calls a 'hole.' As Dewey continues:

Space is inane save as occupied with active volumes. Pauses are holes when they do not accentuate masses and define figures as individuals. Extension sprawls and finally benumbs if it does not interact with place so as to assume intelligible distribution.

There is both a 'pause' in the experience, which is to say a gap in the time of experiencing, and what he describes as inane spaces and benumbing extension; in short, the scale of the corridor, combined with the lack of sites of interest render it hostile to the inhabitant. That the station isn't connected to the environment surrounding it heightens the issue, by sharpening the contrast between the outside and inside of the station.

To put this critique in Deleuzian terms, the station is, as a space, overly striated along its edges, and overly smooth inside. Deluze, thankfully, provides a solution to this problem of form, in the notion of a rhizome. By recasting Ruggles from a linear space into one that can be approached from any angle, and which is networked, rather than having a centralized structure. This means, in pragmatic terms, the opening up of the space, both in terms of additional entrances and exits, but also in terms of the removal of the barriers that create sharp distinctions. Further, it means the creation of a greater continuity between the inside of the station and the outside of the station, to provide the gradual shifting that Dewey speaks of, while allowing each to retain their unique forms.

Given that it's the unnatural quality of the barriers in Ruggles that has caused many of our problems, it seems reasonable to consider natural solutions to the problem of continuity. For this, we look to Cronon's "The Trouble with Wilderness." Cronon proposes that the othering and fetishization of wilderness denies a reality of human intervention in supposedly 'wild' spaces, and of the presence of natural qualities in explicitly human spaces. This would seem to provide a framework with which we can consider how to create a more natural space within Ruggles. However, Cronon leaves us with what feels like a double bind:

Any way of looking at nature that encourages us to believe we are separate from nature-as wilderness tends to do-is likely to reinforce environmentally irresponsible behavior. On the other hand, I also think it no less crucial for us to recognize and honor nonhuman nature as a world we did not create, a world with its own independent, nonhuman reasons for being as it is. The autonomy of nonhuman nature seems to me an indispensable corrective to human arrogance.

This is to say—Cronon seems to propose that we admit that we manage nature, but also that we should not, or we should not manage it too much. We propose that it may be prudent to read this desire as one to avoid something like James C. Scott's Authoritarian High Modernism, exemplified in this context by the invention of "Scientific Forestry." It feels deeply unsatisfying, and perhaps dangerous, to treat Ruggles as a garden, with an ecology that can only reach towards or fail to meet the dream we set out ahead of time.

To resolve this issue, we turn to the Xenofeminist Manifesto, by Laboria Cuboniks.

To say that nothing is sacred, that nothing is transcendent or protected from the will to know, to tinker and to hack, is to say that nothing is supernatural. 'Nature'—understood here, as the unbounded arena of science—is all there is. And so, in tearing down melancholy and illusion; the unambitious and the non-scaleable; the libidinized puritanism of certain online cultures, and Nature as an un-remakeable given, we find that our normative anti-naturalism has pushed us towards an unflinching ontological naturalism. There is nothing, we claim, that cannot be studied scientifically and manipulated technologically.

...In affirming a future untethered to the repetition of the present, we militate for ampliative capacities, for spaces of freedom with a richer geometry than the aisle, the assembly line, and the feed. We need new affordances of perception and action unblinkered by naturalised identities. In the name of feminism, 'Nature' shall no longer be a refuge of injustice, or a basis for any political justification whatsoever!

If nature is unjust, change nature!

There is a frame in which we can see a structural, material injustice in that Ruggles, forgotten by planners, lacks a vibrant ecology, but more recent projects are able to provide their inhabitants with natural qualities which, studies have shown, have positive effects on health outcomes. This is a case which merits the creation of new forms of nature, more suited to the situations we face.

This vision is, therefore, the transformation of the station into a rhizome not just in the topological sense, but also in a constitutive sense.

The Scheme

We split our program for reshaping the station into four intertwined parts.

The Cuts

By building short bridges and removing fencing, we can massively increase the traversability of the site, cutting transit times and delinearizing the space.

The Slope

By building a hill towards the north side of the station, and removing the North Wall, we renegotiate the sensation of entering the site, and revitalize the surrounding area.

The New Forest

By creating the conditions for ivy and other plants to thrive in the station, we can integrate the site into the surrounding environment and insulate against environmental circumstances.

The Serendipity Machine

By hitting the plants on the site with controlled doses of ionizing radiation, we can help slowly mutate them into plants that are ideally suited to this and other sites.



The Cuts

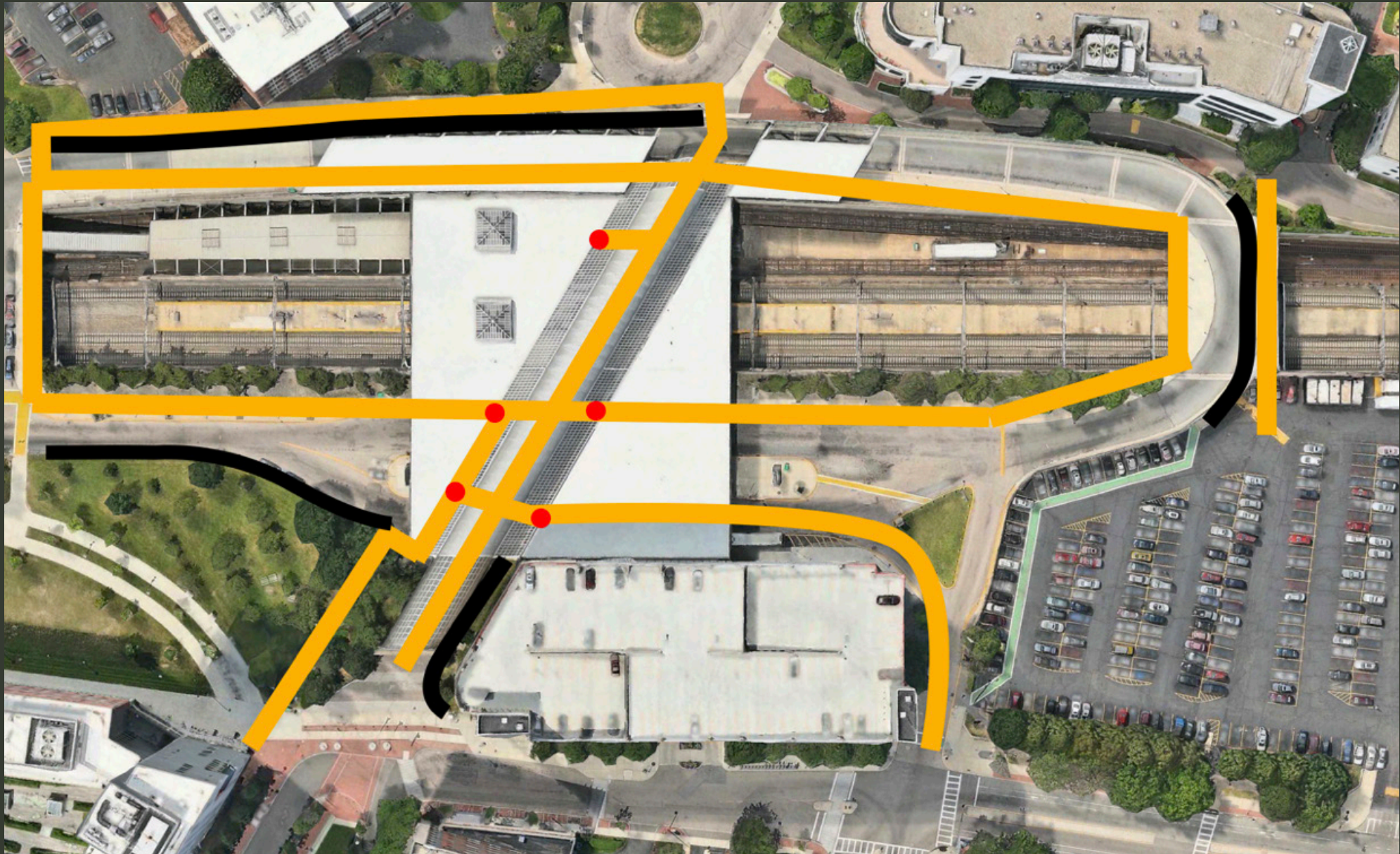
There are three spaces opened by the cuts—first, the east bridge is connected to the main tunnel area by removing a section of fence and building a bridge across the several foot gap.

Secondly, the fence on the southeast corner of the busway plaza will be removed, making the open area there more easily traversable.

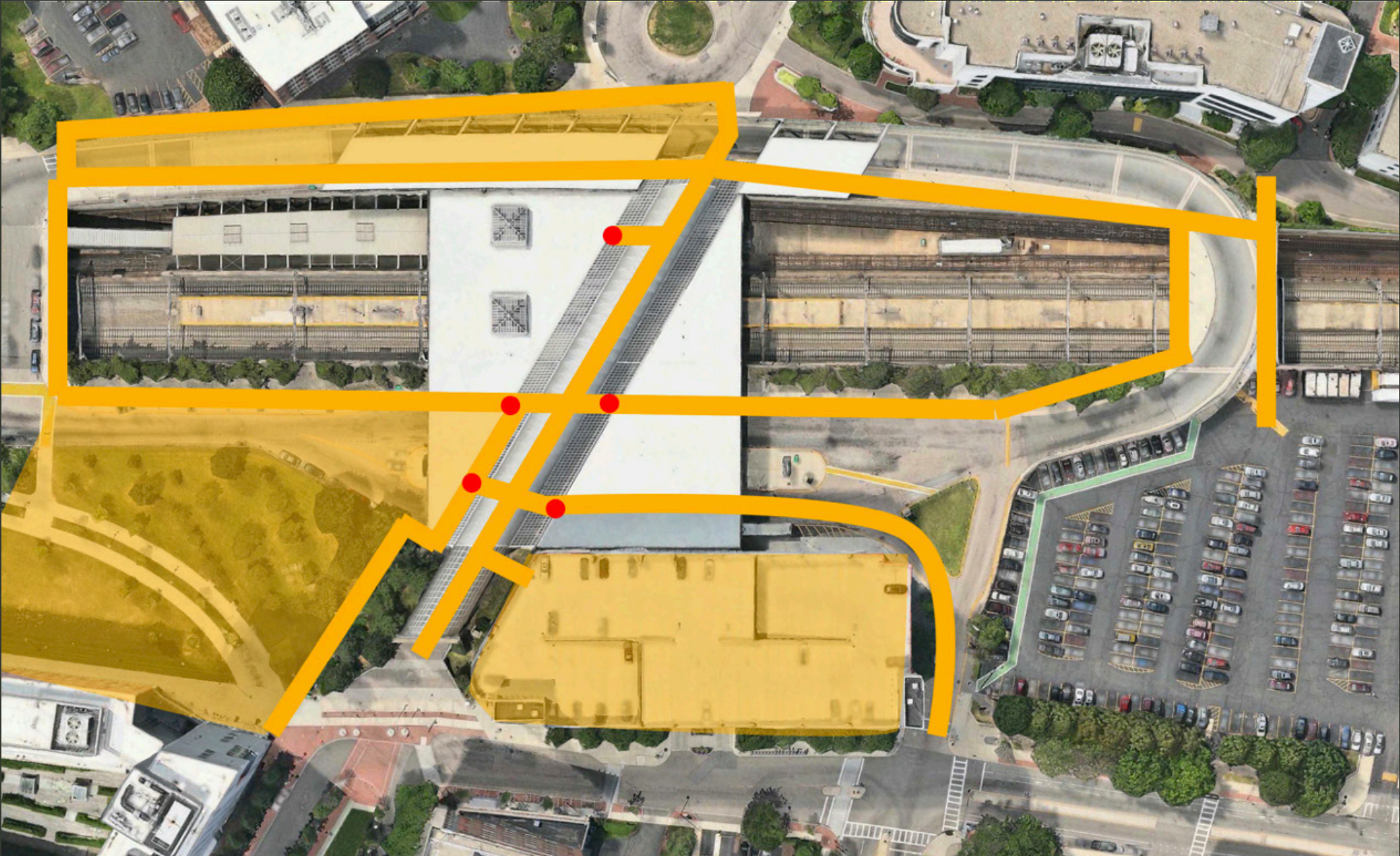
During our research phase, we spent substantial time tracing paths through the station. In one case, we observed park-and-ride behavior, where the Columbus parking garage was used in conjunction with the Longwood shuttle. In order to encourage this behavior, we place a bridge between the Ruggles tunnel and the parking garage.

A rendering of the bridge between the Ruggles tunnel and the Columbus parking garage

The current state of the station, with impassable barriers marked in black.



The future state of the station, after implementing the Cuts and the Slope



Currently, the North wall of the station forms the most significant barricade on the site. The wall offers only a single set of doors along a nearly quarter-mile long stretch of wall. Further, the wall is about 20 feet tall, producing an imposing impression, and cutting off all traversal through the area. As a result, the deadness of the station seems to seep out of it, poisoning the adjacent areas.

By building a hill towards the north side of the station, and removing the glass wall, we can remove as much as two minutes of walking time, and, at peak times, about another minute's worth of dealing with congestion, one of the most stressful parts of the trip through Ruggles.

It also produces the continuous sensation of entering the station that we've been searching for—free of gaps, holes, and mechanical junctions.

Finally, with the addition of some furniture, it transforms the space to the North of the station from a dead space into a space for congregating in warm weather.



The Slope



Ruggles occupies a liminal status between inside and outside. Currently, it looks like a dingy indoor space, and the process of entering and exiting it also feels like that of an indoor space, but besides deflecting the rain and snow, there's very little in environmental terms that doesn't feel outdoors.

By integrating plant life, we can take advantage of that it is, in fact, an outdoor space, and smooth it towards the environment surrounding it. Ruggles is constructed largely out of exposed beams and metal grates. This makes it ideal for growing ivy. By adding it, we can provide a visual quality throughout the space that would decrease the banality of the tunnel.

Further, ivy along the sides of the tunnel would shield the space from the elements. In the wind, it might even provide the appearance that the space is breathing.

It's important, however, to avoid the role of gardener. Rather, we want to provide the initial conditions that allow for the growth of plants, and then allow them to take the space over to some degree. The only concrete change we suggest to the space is the removal of the glass panes in the windows that run parallel to the tunnel, which provide a trellis with ample sunlight from which plants can successfully grow.

The New Forest

There is some question as to the plants that will grow successfully in the space. An obvious choice is the local ivy that grows along the train tracks to the North of the station. However, this ivy requires soil, and will only grow about 20 feet away from the ground; not sufficient for covering the entire tunnel without the installation of substantial banks of soil.

Instead, I propose two plants that are not native to Boston—kudzu, and a variety of tillandsia. These each have attractive qualities—kudzu is hardy, grows to enormous heights, and is able to fix nitrogen-poor soil, making it suitable for other plants. Many tillandsia varieties are able to grow without soil, instead drawing minerals from the air.

An observant reader might note that kudzu is, in the state of Massachusetts, an illegal invasive species. I believe that the negative qualities of kudzu have been overestimated. Its ability to grow in liminal spaces where other plants couldn't often produces the impression of displacing native plants even when unjustified.



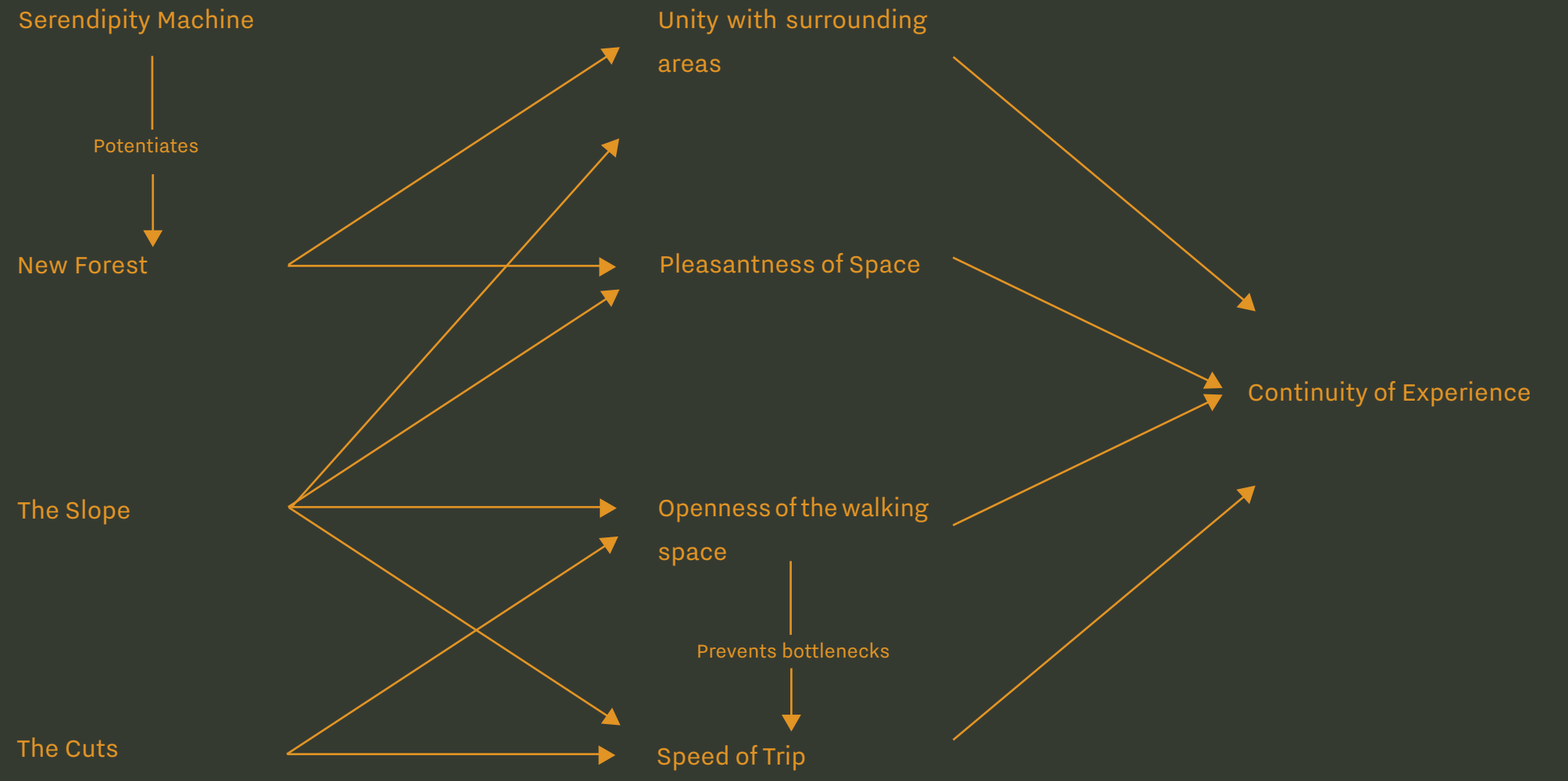
Dark green spaces have soil from which plants could grow; light green spaces are ones they could grow onto.

The Serendipity Machine

Several small devices will be mounted on the top of the station, to periodically shoot beams of ionizing radiation upwards towards the plants above them. Due to the directionality of the beams, there is no substantial risk to the occupants of the station. Ionizing radiation will accelerate the rate at which the plants mutate, and over the course of just a few cycles of growth, we'll plants will start being more suited to the climate, the specific grates that Ruggles presents, and the amount of sunlight that can be expected inside the tunnel.

The key appeal of this approach is that it relies not on a conscious engineering of a situation amenable to the plants we want, but a device that catalyzes the natural ability of the plants to adapt themselves to the environment we can provide them. Though the initial investment is likely higher, once we have a set of plants well suited to the tunnel, they can be easily transplanted to similar locations.





Creating Continuity



Arrive at the slope

A calm ascent to the station

People sitting in chairs read nearby

Admire light through the trees

Cross the street and enter the station

No doors means that there's nothing to push out of the way to enter

Crosswalk and high visibility prevent bus traffic from being a hazard

Walk through the body of the station

Vines block much of the wind, and cause the feeling of moving through space

Rippling of foliage in the wind creates the feeling that the space is breathing

Increased openness means that traffic flows cause less conflict

Take the second escalator down on the right

Hanging foliage eases the transition back out of the station

Ability to take another route shortens the walk

Despite presence of the escalator, the feeling is not of being in an industrial system

Walk across the lawn

The station and the forest fade away as distance from the site increases

100 Years Later

Right now, it may seem excessive to genetically engineer new plants to address the experience of walking across a bridge. However, we think it represents a novel philosophical approach. Far in the future, this bridge will fall down and need to be replaced. We hope that instead of building a new one, advances in genetic engineering will let us grow it instead, like the people of Meghalaya.

