

# UPTOWN NORMAL RAILROAD CROSSING ALTERNATIVES ANALYSIS



APRIL 2017

# 1. Introduction

This report summarizes the Alternatives Analysis (AA) evaluation process and provides a recommendation for the build alternative to be moved forward in the Normal Railroad Crossing Project. The project is located within the Town of Normal centered on the UPRR track near the Normal Multimodal Transportation Center (Uptown Station), where the town proposes to construct a railroad crossing that accommodates pedestrians, bicyclists, and Amtrak passengers. The crossing would connect the Uptown North development area and Uptown Station on the south side of the UPRR tracks to the Uptown South development area and second boarding platform on the north side of the railroad.

## 1.1. Project History

In 2011, the Union Pacific Railroad (UPRR) closed the at-grade trail crossing between Linden Street and Broadway Avenue used by passengers, pedestrians, and Constitution Trail users. In response, the Town re-routed the Constitution Trail to the at-grade crossing at Linden Street, which requires a 180 degree turn immediately adjacent to the Linden Street traffic lanes and results in approximately 1000 feet of adverse travel for trail users.

In 2012, the Town opened Uptown Station, a multimodal transportation center on the south side of the railroad tracks providing access to Amtrak, local and regional buses, and taxis. At the same time, the Chicago to St. Louis High Speed Rail (HSR) Program was underway. HSR Program requirements determined that stations in multi-track territory require platform access to all tracks. In order to convey passengers from south to north, an overhead pedestrian bridge was designed. This crossing was not designed to accommodate trail users as it was not suitable for bicycles and the primary users were intended to be Amtrak passengers.

In 2014, construction of the overpass was postponed by agreement between the UPRR, Illinois Department of Transportation (IDOT) and the Town of Normal for several reasons, including the negative aesthetic impact of the overpass on the Uptown Station and adjacent Gateway Plaza and the limited functionality for Amtrak passengers. Specifically, the overpass with its two elevators and one stair tower would not conveniently convey the up to 150 passengers needing to cross the tracks at one time nor would it accommodate trail users. The agreement allows the Town time to design, fund and construct an alternate crossing. Until a new crossing is constructed, Amtrak users will be directed to the at-grade pedestrian crossing at Broadway Avenue to cross the tracks.

In 2015, the Normal Town Council approved an update to their master plan for the redevelopment of the 8-acre area south of the tracks, including a new 70,000 square foot public library and up to 500,000 square feet of residential, retail, and office space. This master plan outlines a vision for pedestrian and bicycle connectivity in Uptown and states that a non-deterred, safe, functional and aesthetically compatible crossing is critical for the success of this redevelopment plan. Such a crossing will provide north-south connectivity for the patrons of the Uptown business district and will provide convenient access to public transportation. It will also create an environment conducive to the Transit-Oriented Development (TOD).

Most recently, the grade crossings at adjacent Linden Street and Broadway Avenue were re-built in 2016 with new safety features (fencing, gates and audio visual warnings) for use by pedestrians and bicyclists, who must stop and dismount before crossing. These safety enhancements do not eliminate the need to

add a new crossing between these cross streets since pedestrians may go around gates and hurry across the tracks before a train arrives causing an unsafe situation.

## 1.2. Problem Statement

The number of freight and passenger trains passing through Uptown Normal has increased dramatically in the past 5 years, and the number is anticipated to increase even more in the coming years. Mobility and safety for all transportation modes are impacted by increased rail activity and speeds. The average freight train takes 3.5 minutes to clear the at-grade crossings at Linden Street and Broadway Avenue.

The tracks are a perceived barrier through Uptown Normal. Both Amtrak passengers and the public will need to take non-direct routes that will require additional wayfinding signage and may cause confusion. This will be a particular problem for Amtrak passengers who have been dropped off on one side of the tracks only to find that the train will be stopping on the other track. Relocating up to 150 passengers from one side to the other via the 1,000-foot detour to Broadway Avenue or the formerly proposed overpass will be a major problem. Pedestrians may go around gates and hurry across the tracks before a train arrives creating safety concerns.

Additionally, pedestrian and bicycle traffic in and near Uptown Normal has increased significantly since the build-out of the Uptown Renewal Plan. Key developments include the Marriott Hotel and Conference Center, Hyatt Hotel, and a children's museum. The Uptown 2.0 Plan will draw markedly more visitors, particularly the library, which already sees more than 400,000 visitors per year. The Town anticipates a great number of these visitors will need to cross the tracks between areas of interest.

## 1.3. Purpose and Need

To guide decision-making during the alternatives analysis and screening process and the project's federal National Environmental Policy Act (NEPA) process, the town of Normal has developed a statement of the project's purpose and need. The following purpose and need statement will be used for the Project:

*The Normal Railroad Crossing Project would provide grade-separated access between Uptown North and Uptown South, and would connect the Normal Multimodal Transportation Center (Uptown Station) on the south side of the Union Pacific Railroad to the boarding platform on the north side of the railroad. The station and adjacent areas currently lack a crossing that is grade separated for pedestrians, passengers, and trail users.*

*The purpose of the crossing is to accomplish the following objectives:*

- *Improve mobility through the Town of Normal for pedestrians and bicyclists, particularly between the Uptown North and Uptown South development areas*
- *Increase mobility for users of the Constitution Trail*
- *Improve safety for Amtrak passengers traveling between the train platforms and Normal's existing multimodal transportation center*

*The project is needed since pedestrian, cyclist and passenger mobility and safety are impacted by increased rail activity and speeds. The current pedestrian-rail crossing facility in the project area creates unsafe situations where users may hurry across the tracks before a train arrives.*

## 1.4. Project Goals

In addition to the Purpose and Need for the project, a set of project goals have been established to guide the selection of the best project alternative to move forward. The project goals are as follows:

### Improve Safety

- Provide a safe crossing undeterred by rail traffic

### Improve Access

- Minimize delay and adverse travel for pedestrians and cyclists
- Improve connectivity and priority for bikes and pedestrians in the Uptown Normal neighborhood and the Bloomington-Normal community
- Provide a direct link between developments on the south and north side of the tracks including the proposed Normal Public Library, Children's Museum and the Uptown Station/City Hall
- Provide convenient, safe and accessible passage for Amtrak passengers
- Maximize access to public transportation (TOD). The area is within ¼ mile of the community's major ground transportation hub (Transit, Passenger Rail, Taxis)
- Eliminate or minimize need for wayfinding by providing a facility that is convenient and intuitive to use.
- Promote transportation opportunities for disadvantaged groups.

### Support Economic Development

- Provide an iconic public facility that is functionally and aesthetically compatible with other developments in Uptown Normal
- Promote Economic Development on both sides of the tracks.
- Minimize need for on-going maintenance, staffing

## 1.5. Alternatives Analysis

An Alternatives Analysis (AA) is a process for the local evaluation of the benefits and impacts of alternatives designed to address the identified problems from the purpose and need statement and other locally-identified project goals (which were outlined in the preceding sections). An AA is ultimately used to identify the alternative or alternatives to be advanced for more focused study and development in a subsequent environmental document.

## 2. Definition of Conceptual Alternatives

A total of seven potential build alternatives have been developed to a conceptual level for the purposes of identifying the alternative(s) to be evaluated in the environmental document. As required under NEPA, the no-build alternative is also carried forward through screening. The list of build alternatives developed for this Project is shown below in *Table 1*. The alternatives have been grouped into four categories: at-grade crossing, passenger overpass, public overpass alternatives, and public underpass alternatives. Section 2.1 outlines the no-build alternative and Section 2.2 describes the build alternatives in greater detail.

Table 1. Build Alternatives for the Project

Alt.	Build Alternative
1	At-grade crossing
2	Enclosed Passenger Overpass
3a	Public Overpass with Bridge Addition
3b	Public Overpass with Overlook/Plaza
4a	Public Underpass
4b	Public Underpass with Enhanced Access
4c	Public Underpass with Park

### 2.1. No-Build Alternative

The no-build alternative assumes the project will not be built. Even when the no-build does not meet the purpose and need of the study, it is carried through to the environmental document and serves as a baseline for comparison with the build alternatives. Under the no-build, Amtrak passengers wishing to travel between the north and south platforms must travel approximately 1,000 feet via the Broadway Street grade crossing. The Constitution Trail currently loops from the Circle on the north/west side of the tracks, turns parallel to the railroad to Linden Street and then doubles back on the south/east side before resuming its route involving multiple ninety degree turns. Pedestrians and bicyclists wishing to cross the tracks between the south and north sides of the tracks in Uptown Normal use the Broadway Avenue or Linden Street grade crossings. Both grade crossings include pedestrian grade crossing treatments including four quadrant gates, audible warning bells, numerous signs and a second train warning system. The second train warning system notifies intending

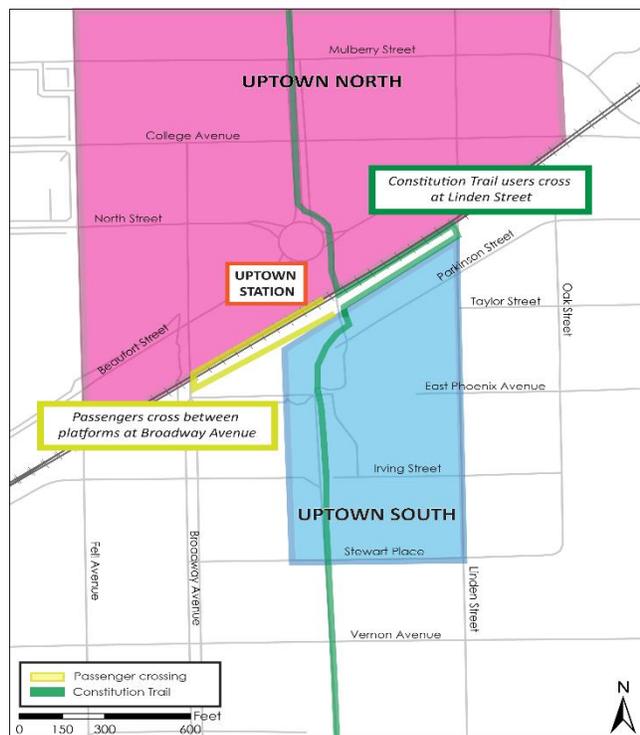


Figure 1 Current crossing locations in the Project vicinity

crossers that while the first train has passed, the gates are remaining down until a second train passes.

## 2.2. Build Alternatives

### Alternative #1: At-grade Crossing

The first alternative involves constructing an at-grade crossing at or near the location of the former trail crossing (See Figure 2). It would be located to provide a passenger pathway between waiting rooms and platforms on either side of the railroad tracks. This option restores the at-grade pedestrian crossing that was removed in 2011 by the UPRR. The crossing would include pedestrian grade crossing treatments including gates, audible warning bells, signs and a second train warning system. The second train warning system notifies intending crossers that while the first train has passed, the gates are remaining down until a second train passes.

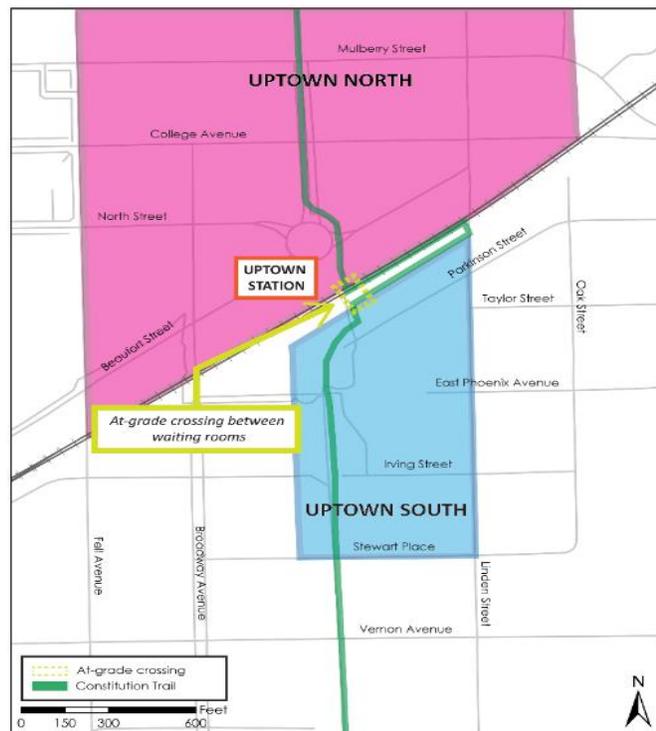


Figure 2 – Alternative 1 At-grade crossing alternative

### Alternative #2: Enclosed Passenger Overpass

Alternative #2 is an enclosed overpass structure exclusively for Amtrak passengers to connect the south and north platforms at Uptown Station (See Figure 3). This facility would only be open for use during station hours. Access is through Uptown Station and is not intended to provide connectivity for

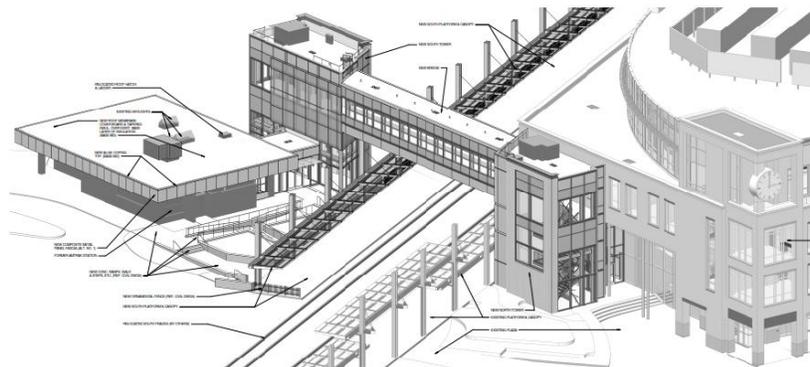


Figure 3 – Alternative 2 Enclosed Passenger Overpass (Ratio Architects)

pedestrians or bicyclists. The bridge is approximately 9.5 feet wide and requires ascending and descending two stories on either side to use the facility. Vertical access is accomplished via an approximately 4 foot wide staircase and two elevators on either side. This alternative was previously designed as part of the Illinois High Speed Rail Program, but was not constructed.

### Alternative #3: Public Overpass Alternatives

Two public overpass options were developed in the Normal Master Plan and these options have been added to the list of alternatives being screened in this document. These are described in more detail below.

#### Alternative #3a: Public Overpass with Bridge Addition

Alternative #3a is a wider enclosed bridge when compared to Alternative #2 and provides connectivity for pedestrians and bicyclists in addition to Amtrak passengers (See Figure 4). The structure is accessed through Uptown Station for passenger use as well as outside the station for public use. The bridge is wider than Alternative #2 to provide greater capacity. It requires ascending and descending two stories on either side to use the facility. Bicyclists must dismount to use the overpass or divert to an adjacent street at-grade crossing. Vertical access is accomplished via stairs and elevators on either side.



Figure 4 - Alternative 3a Public Overpass with Bridge Addition (Ratio Architects)

#### Alternative #3b: Public Overpass with Overlook/Plaza

Alternative #3b is a wide open-air bridge providing connectivity for pedestrians and bicyclists in addition to Amtrak passengers (See Figure 5). The structure is accessed outside Uptown Station. Passengers must exit Uptown Station to use the facility to travel between platforms. The bridge is wider than Alternative #2 providing greater capacity. It requires ascending and descending two stories on either side to use the facility. Bicyclists must dismount to use the overpass or divert to an adjacent street at-grade crossing. Vertical access is accomplished via monumental stairs or glass enclosed elevators on either side. The structure includes an overlook/plaza to look out over the street and train activity below.



Figure 5 - Alternative 3b Overpass options with an outlook or a plaza (Town of Normal Master Plan, 2016)

#### Alternative #4: Public Underpass Alternatives

Three variations of the underpass were developed to cover a range of underpass options that could be built for the project. These underpass options have been numbered 4a, 4b, and 4c and are described in more detail below.

##### Alternative #4a: Public Underpass

Alternative #4a is a public underpass which provides connectivity for pedestrians, bicyclists, and Amtrak passengers (See Figure 6). The structure is accessed outside Uptown Station and the tunnel is approximately 10-12 feet in width. It requires ascending and descending approximately 15 feet on either side to use the facility. Bicyclists must dismount to use the underpass or divert to an adjacent street at-grade crossing. Vertical access is accomplished via stairs or elevators on either side. This alternative includes a minimal amount of public open space amenities on either side of the underpass.



*Figure 6 - Alternative 4a Public Underpass with ADA access ramp*

##### Alternative #4b: Public Underpass with Enhanced Access

Alternative #4b is a wide public underpass that provides connectivity for pedestrians, bicyclists, and Amtrak passengers and enhanced access on the south side of tracks (See Figure 7). The structure is anticipated to be at least 20 feet wide and is accessed outside Uptown Station. It requires ascending and descending approximately 15 feet on either side to use the facility. Vertical access is accomplished via stairs and elevators or ramps on either side. Ramps will be added in lieu of, or in addition to, elevators



*Figure 7 - Alternative 4b Public Underpass with Enhanced Access (Ratio Architects)*

so long as American with Disabilities Act (ADA) compliant grades can be achieved. Bicyclists may need to dismount to use the underpass or divert to an adjacent street at-grade crossing if ramps cannot be accommodated.

#### Alternative #4c: Public Underpass with Neighboring Park

Alternative #4c is a wide public underpass that provides connectivity for pedestrians, bicyclists, and Amtrak passengers and includes a neighboring park (See Figure 8). The structure is at least 20 feet wide and is accessed outside Uptown Station. It requires ascending and descending approximately 15 feet on either side to use the facility. The north/west side includes a reconfigured Gateway Plaza while the south/east side includes public park space. Vertical access is accomplished via stairs and elevators or ramps on either side. Ramps will be added in lieu of, or in addition to, elevators so long as ADA compliant grades can be achieved. Bicyclists may need to dismount to use the underpass or divert to an adjacent street at-grade crossing if ramps cannot be accommodated.



Figure 8 - Alternative 4c Public Underpass with Neighboring Park (Ratio Architects)

### 3. Evaluation of Conceptual Alternatives

#### 3.1. Fatal Flaw Analysis

The alternatives were first evaluated to see if there were any fatal flaws that would prevent them from being constructed. The alternative consisting of adding an at-grade crossing directly adjacent to the Uptown Station is inconsistent with the host and operating railroads’ requirements. Neither UPRR nor Amtrak guidelines allow for new at-grade crossings at station facilities. Further, an at-grade crossing is in direct conflict with requirements of the Construction Agreement between IDOT and UPRR for the High-Speed Rail Program as well as the 2016 Memorandum of Understanding (MOU) between Normal, IDOT and UPRR.

*“No pedestrian at-grade crossings are permitted [at station platforms]” – BNSF-UP Passenger Platform Guideline, Common Standard, April, 2012*

*“The station site and relationship to its context is interdependent with the station relationship to the tracks. [...] The side configuration is the most common type, and consists of [...] two platforms connected by a bridge or tunnel. Grade level crossings are present at existing stations, but will not be permitted at new stations for safety reasons”. – Amtrak Station Guidelines May, 2013*

*“Whereas the Construction Agreement obligates IDOT to construct, or cause to be constructed, the following station elements at the Normal Station: south platform (the ‘South Platform’), the north platform (‘the North Platform’) and a grade-separated [...] passenger walkway from the North Platform to the South Platform [...]” – MOU between IDOT, UPRR and Normal, December, 2016*

Given the current agreements in place and UPRR and Amtrak requirements, Alternative #1, the at-grade crossing, was determined to be fatally flawed and will not be carried forward for further analysis and consideration.

#### 3.2. Evaluation Methodology

A total of 18 screening criteria were identified based on the project’s goals and objectives outlined in Section 1.4. The screening criteria are outlined below in *Table 2* along with the rating scale used for scoring each alternative. A full description of each criterion and how each alternative scored can be found in Section 3.3.

Table 2. Screening Criteria used in Alternatives Analysis

	Screening Criteria	Scale
1	Enhances safety for all	Very Good
2	Adverse travel for pedestrians	Good
3	Adverse travel for bicyclists	Fair
4	Adverse travel for passengers	Poor
5	Connectivity/mobility for pedestrians	Very Poor
6	Connectivity/mobility for bicyclists	
7	Connectivity/mobility for passengers	

8	Public transportation access
9	Wayfinding requirements
10	Promotes transportation opportunities for all
11	Promotes economic development
12	Environmental concerns
13	Aesthetic compatibility
14	Consistent with Master Plan
15	Operational impacts during construction
16	Potential permanent right-of-way impacts
17	Construction cost
18	Operation & maintenance costs

### 3.3. Evaluation Results

The alternatives, including the no-build alternative, were screened against the 18 screening criteria and the results are shown in the Table 3. Below is a full description of how the scoring was decided upon for each alternative. The text that follows goes into greater detail on the scoring for each criteria.

Table 3 - Screening Evaluation Results for Alternatives

Screening Criteria	No-Build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Enhances safety for all	Poor	Poor	Good	Good	Good	Very Good	Very Good
Adverse travel for pedestrians	Poor	Poor	Good	Good	Very Good	Very Good	Very Good
Adverse travel for bicyclists	Poor	Poor	Fair	Fair	Very Good	Very Good	Very Good
Adverse travel for passengers	Very Poor	Very Good	Good	Good	Very Good	Very Good	Very Good
Connectivity/mobility for pedestrians	Poor	Poor	Good	Good	Good	Very Good	Very Good
Connectivity/mobility for bicyclists	Poor	Poor	Poor	Poor	Fair	Good	Very Good
Connectivity/mobility for passengers	Very Poor	Fair	Fair	Fair	Good	Very Good	Very Good
Public transportation access	Fair	Very Good	Good	Good	Good	Good	Good
Wayfinding requirements	Poor	Fair	Good	Good	Good	Very Good	Very Good
Promotes transportation opportunities for all	Poor	Fair	Good	Good	Good	Very Good	Very Good
Promotes economic development	Very Poor	Poor	Poor	Good	Fair	Good	Very Good
Environmental concerns	Very Good	Good	Good	Good	Fair	Fair	Fair
Aesthetic compatibility	Fair	Very Poor	Very Poor	Poor	Fair	Good	Very Good
Consistent with Master Plan	Very Poor	Very Poor	Fair	Good	Fair	Very Good	Very Good
Operational impacts during construction	Very Good	Good	Fair	Poor	Poor	Poor	Poor
Potential permanent right-of-way impacts	Very Good	Fair	Fair	Fair	Fair	Fair	Fair
Construction cost	\$	\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$\$	\$\$\$\$
Operation & maintenance costs	\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
<b>OVERALL RATING</b>	Poor/Fair	Poor/Fair	Fair	Fair/Good	Fair/Good	Good	Good

## Enhances Safety for All

At-grade crossings in areas with multiple tracks can present additional dangers since pedestrians and bicyclists may assume that a warning has been deployed for a train that is currently stopped on one of the tracks when in reality, a second train is also coming on another track. This can cause pedestrians to cross in unsafe conditions and potentially be harmed by a train or other vehicle. For this reason, the no-build alternative was given a score of “poor”.

Overpasses and underpasses have both advantages and disadvantages when it comes to safety. Both improve safety over an at-grade crossing since there is no opportunity for pedestrians to be directly in the path of a train. However, studies have shown that even with identical travel times to an at-grade crossing, not all users will use the underpass or overpass because of the perceived inconvenience of changing grade.<sup>1</sup> Approximately 95 percent of pedestrians will use an underpass and 70 percent will use an overpass, which means that some users are still using the less safe at-grade crossing. In addition, people often perceive security problems for an underpass, particularly at night, since they are enclosed spaces.

Since Alternative #2 is not designed for bicyclists or other users of the Constitution Trail (who are still diverted to an at-grade crossing) and many more non-passengers cross the railroad tracks, this Alternative was given a “poor” scoring. The remaining overpasses were scored “good”. The first underpass option was rated “good” as people are more likely to use it, but it may be perceived as less safe due to the narrower width. The remaining underpasses were scored a “very good” since people are more likely to use them, which keeps users separated from the tracks.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Enhances safety for all	Poor	Poor	Good	Good	Good	Very Good	Very Good

## Adverse Travel

Adverse travel is defined as the additional distance traveled to cross the tracks, when compared to crossing the tracks directly. Adverse travel was split into three separate screening criterion, adverse travel for pedestrians, adverse travel for bicyclists, and adverse travel for train passengers. Each of the users has distinct needs, so each was evaluated separately.

The no-build alternative requires users to travel to the existing at-grade crossings on either side of the station, which adds quite a bit of distance particularly for train passengers. As such, a score of “poor” was assigned to the criterion of adverse travel for pedestrians and adverse travel for bicyclists and a score of “very poor” was given to the adverse travel for passengers since the passengers travel an additional 1,000 feet to cross the tracks to get to the platform on the other side of the tracks.

<sup>1</sup> AASHTO, 2004, Guide for the Planning, Design, and Operation of Pedestrian Facilities.

The remaining alternatives were given scores based on how easily the user could cross to the other side of the tracks as summarized in the table below. Alternative #2 scored the highest for adverse travel to passengers since the connection to the train waiting areas is the closest, however it scored poorly when related to other pedestrian users or bicyclists. The underpass options had the lowest amount of adverse travel for pedestrians and bicyclists, and they perform well for passengers as well..

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Adverse travel for pedestrians	Poor	Poor	Good	Good	Very Good	Very Good	Very Good
Adverse travel for bicyclists	Poor	Poor	Fair	Fair	Very Good	Very Good	Very Good
Adverse travel for passengers	Very Poor	Very Good	Good	Good	Very Good	Very Good	Very good

### Connectivity and Mobility

Connectivity refers to density of connections in a path and the directness of links while mobility refers to the movement of people and goods. In general, pedestrians and bicyclists will hold overpasses and underpasses to a higher standard when other at-grade crossing opportunities exist. When users choose whether to cross at-grade or use an overpass or underpass, the structure’s location relative to their desired travel routes, the distance and travel time required to access the structure, and the perceived risk of crossing at-grade all inform the decision-making process. The vertical difference between an overcrossing and the natural ground line often influences the degree of real or perceived out-of-direction travel. The vertical elevation gain and ADA grade requirements strongly influence access ramp lengths.

Scores were assigned for strength of connectivity/mobility for pedestrians, bicyclists, and train passengers separately. The underpass options with enhanced access and park scored “very good” since they are designed to invite users to connect to the other side of the tracks and users to not have to climb over the elevated tracks to cross.

Screening Criteria <sup>456</sup>	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Connectivity/mobility for pedestrians	Poor	Poor	Good	Good	Good	Very Good	Very Good
Connectivity/mobility for bicyclists	Poor	Poor	Poor	Poor	Fair	Good	Very Good
Connectivity/mobility for passengers	Very Poor	Fair	Fair	Fair	Good	Very Good	Very Good

### Public Transportation Access

Public transportation in the area centers on Uptown Station. The no-build alternative does not provide good access to public transportation since pedestrians, bicyclists, and Amtrak passengers need to walk to the adjacent road crossings, and was therefore scored as “fair”. The enclosed passenger overpass (Alt #2) provides the best access since it connects users directly to the inside of the station, so it was scored as “very good”. All of the other alternatives were scored a “good” rating, since they provide access to public transportation but not as easily as Alt #2.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Public transportation Access	Fair	Very Good	Good	Good	Good	Good	Good

### Wayfinding Tools Needed

Wayfinding tools represent one of the most cost-effective, visible, and critical elements of a non-motorized system. Wayfinding tools supplement traditional infrastructure by orienting users to and along pedestrian/bicycle routes and important destinations. These tools are especially important in areas where bicyclists and pedestrians must negotiate circuitous transportation networks to reach desired destinations.

Since the no-build alternative requires users to go to the adjacent crossings and a lot of wayfinding is needed, it scored a “poor” rating. The underpass options with enhanced access and park scored the highest since the area near the underpass would be designed to invite users to visually see the crossing underneath the tracks.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Wayfinding requirements	Poor	Fair	Good	Good	Good	Very Good	Very Good

### Promotes Transportation Opportunities for All

A goal of the project is to allow for all transportation users to be able to access and use the crossing, particularly non-motorized users and users with disabilities. All crossings will be designed to meet ADA regulations. Some of the alternatives are designed with elevators to meet those criteria, while most have been designed with ramps to accommodate ADA requirements. The ADA ramp criteria require a

maximum slope of 8.33 percent, level landings for every 30-inch rise in elevation, and handrails on both sides. Alternative designs that provide for and encourage walking and bicycling will score higher than designs that make it difficult to either walk or bike through the area.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Promotes transportation opportunities for all	Poor	Fair	Good	Good	Good	Very Good	Very Good

### Promotes Economic Development

Since a goal of the crossing is to promote economic development, the alternatives were screened to see how well they would help the town meet that goal. Any crossing that invites and encourages people to come to the area and cross the tracks will help economic development on both sides of the tracks. The scores assigned below reflect how well the design of the alternative invites users to come to the area and move between both sides of the tracks.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Promotes economic development	Very Poor	Poor	Poor	Good	Fair	Good	Very Good

### Environmental Concerns

A full environmental review will be completed for the alternative(s) moving forward. However, a preliminary look for environmental concerns was conducted for the alternatives identified in this AA. The no-build alternative will not have environmental concerns since nothing would be built. The alternatives are relatively neutral for the traditional environmental measures of air quality, noise, and natural resources. However, the underpass options ultimately scored the lowest since extensive digging will be needed to complete the construction, which may uncover and expose hazardous materials or archeological resources that would need to be mitigated.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Environmental concerns	Very Good	Good	Good	Good	Fair	Fair	Fair

### Aesthetic Compatibility

Through the use of various architectural elements, crossings can be designed to serve as visual icons and community gathering places. Designs with aesthetically-pleasing elements not only have the potential to attract people traveling between adjacent areas, but could also attract residents and visitors using the crossing as a destination in and of itself. The scores assigned below reflect how well each alternative's design will fit within the current aesthetic makeup of the area. Since overpasses are more visually obtrusive, they were given lower scores.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Aesthetic compatibility	Fair	Very Poor	Very Poor	Poor	Fair	Good	Very Good

### Consistent with Master Plan

The master plan for the Town of Normal evaluated multiple options for crossing the tracks near Uptown Station. The plan concluded that Alternative #2 was not designed to attract and convey general users and Amtrak passengers across the track and as a result limits the development potential for Uptown South. For this reason it was given a "very poor" score. The master plan outlines the following attributes related to investing in new rail crossings:

- A signature public space south/east of the tracks that would complement the Circle and serve as a valuable anchor for new development while drawing pedestrians and bicyclists across the tracks
- Additional investment in an iconic crossing, increasing real estate values on surrounding parcels
- Strengthening the bike and pedestrian culture can help position the Town as a place with a high quality of life

Given the ideas stated above, the following scores were assigned to each alternative. Alternatives that incorporated a public gathering element scored higher than strictly utilitarian options and the underpass options scored the highest since they strengthen the connection between the two sides of the tracks the most.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Consistent with Master Plan	Very Poor	Very Poor	Fair	Good	Fair	Very Good	Very Good

### Operation Impacts During Construction

The no-build alternative will have no operational impacts during construction since nothing would be built, so it scored the highest on these criteria. A lower score was given to alternatives that required more construction disruptions to either train travel or nearby vehicle travel. The designs with the smallest construction footprint will have fewer disruptions and the scores shown below reflect that.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Operational impacts during construction	Very Good	Good	Fair	Poor	Poor	Poor	Poor

### Potential Right-of-Way Impacts

The no-build alternative will have no Right-of-Way (ROW) impacts during construction since nothing would be built. All the build alternatives are expected to require the same amount of right-of-way to design and construct so they were all given the same rating of "fair".

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Potential permanent right-of-way impacts	Very Good	Fair	Fair	Fair	Fair	Fair	Fair

### Construction Costs

The no-build alternative has no associated cost, so it was given the highest rating.

Detailed cost estimates were not completed for the screening process, but a qualitative assessment of cost was used for this screening criteria. In general, underpasses will be more expensive than

overpasses, and smaller structures will be less expensive than larger structures. The scores assigned to each alternative below reflect the fact that an underpass with a large park will be more expensive than an overpass with a smaller footprint.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Construction cost	\$	\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$\$	\$\$\$\$

### Operation and Maintenance Costs

All crossings will require on-going maintenance. Agencies should perform routine bridge or tunnel inspection and maintenance to address surface conditions (e.g. pavement cracking), remove obstructions (e.g., glass and debris), replace lighting, and address any other relevant issues as needed. Underpasses can pose marginally higher maintenance cost since they need periodic monitoring for graffiti and debris removal and they are more susceptible to water infiltration. These costs can be partially mitigated by designing the underpass so that police can see all the way through them from the street without leaving their vehicles and including waterproofing membranes around the structure.

The scores assigned below reflect how well the design of the alternative address general operation and maintenance cost. Since the costs would be similar for all alternatives, they were all given the same rating.

Screening Criteria	No-build	Enclosed Passenger Overpass Alt #2	Public Overpass with Bridge Alt #3a	Public Overpass with Overlook/Plaza Alt #3b	Public underpass Alt #4a	Public underpass with enhanced access Alt #4b	Public underpass with park Alt #4c
Operation & maintenance costs	\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$

## 4. Recommended Alternative

Based on the results of the screening analysis process, *Alternative 4c – Public underpass with park* is recommended to move forward. Since all federal environmental documents require analysis of the no-build alternative, this alternative along with the no-build alternative are recommended to be evaluated in the environmental document.