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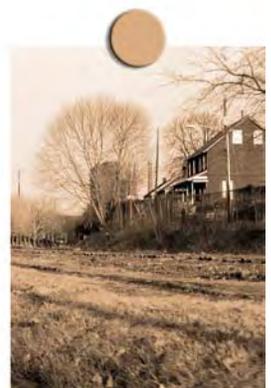
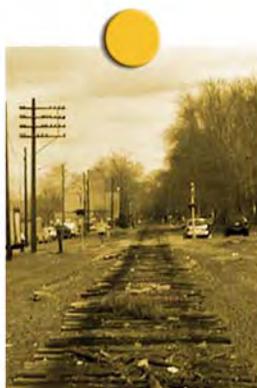
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### 3.0 Greenway Concepts & Preferred Alternative

The concepts for the Greenway that were expressed by the public and stakeholders include multiple elements of transportation, recreation, education, economic development, cultural preservation and community building.

Safety, sustainability, universal access, economy, and beauty were all considered foundation blocks for a successful Greenway.

The spectrum of participants in the public process included representatives from the education, social service, municipal service, private enterprise, cultural, and transportation sectors of the community along with local residents.

#### 3.1 Consensus Goals for the Greenway

What emerged from the process of public and committee meetings, key person interviews and agency meetings was a consensus on specific goals for the Southside Greenway. These goals include the following:

- Create a continuous trail.
- Make the corridor “green”.
- Design the “trail” to be physically accessible for multiple user types.
- Create new recreation opportunities.
- Integrate commercial development with the Greenway.
- Strengthen neighborhoods by linking the Greenway via local streets.
- Maintain the option within the R.O.W. for a future public transit alignment.
- Display the history and the future of Bethlehem in science, art and culture.
- Combine public parking with Greenway improvements where reasonable.
- Link the Greenway improvements to transportation projects where possible.



## 3.2 Concept Alternatives

To achieve these consensus goals, the consultant team applied various concepts to different locations along the project corridor to determine the optimum location(s) for specific improvements and features.

The following list of the project concepts that were studied is described below:

- Greenway / Trail Location
- Parking
- Recreation
- Linkages
- Transportation
- Economic Development
- Civic & Cultural Development

### 3.2.1 Greenway / Trail Location

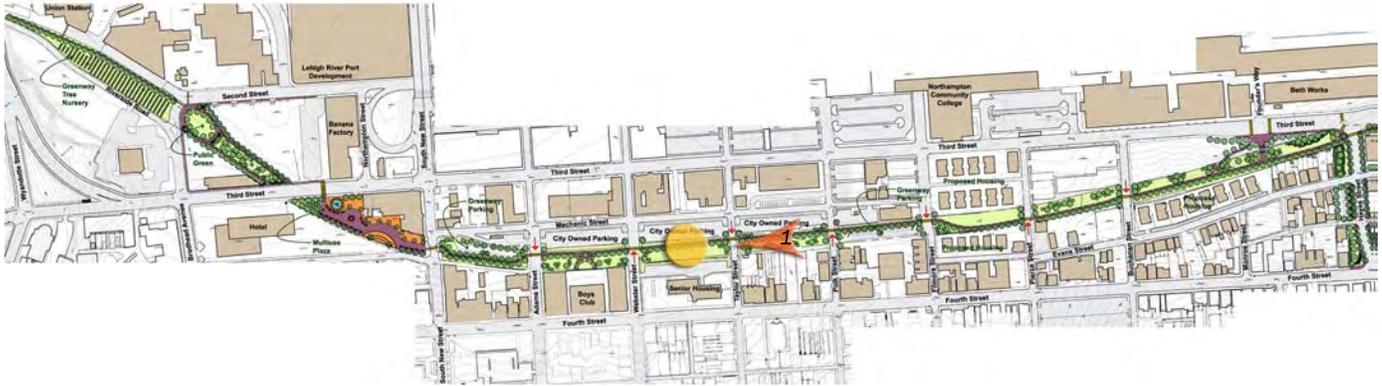
The location of the trail within the R.O.W. was studied in various alignments. Generally, the optimum trail location is aligned to one side or the other – as opposed to down the center of the R.O.W. The preferred trail location alternates sides along the length of the corridor to address the specific surrounding uses and features in each block. The “offset” alignment creates the largest possible open spaces on each block and maintains the greatest flexibility to accommodate other compatible uses within the corridor.

### 3.2.2 Parking

Parking will grow as a critical issue on the Southside as the Bethlehem renaissance expands. The Greenway area is considered by many to be part of the solution to parking problems in South Bethlehem. Parking issues were studied in several ways during the Greenway master planning.

**Surface Parking** – It was determined that on-street parking around the Greenway R.O.W. could be increased with specific improvements, such as unifying the one-way street system in South Bethlehem and using former traffic lanes for additional street parking. An estimated ninety (90) new on-street spaces could be created by changing three existing two-way streets to one-way streets. Streets proposed to change include: Webster to one-way north between 6th Street and Third Street; Fillmore Street to one-way south from Third Street to 5th street; and Buchanan Street to one-way

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south from Third Street to 5th Street. The new spaces would be created, metered, and maintained by the Parking Authority.

**Parking Authority Surface Lots** – During the course of the study, two city surface lots on Mechanic Street were leased to a new mixed use development on Third and Polk Streets. Such dedications add more cars but do not add new spaces in this central business area. Without using Greenway land, additional City surface parking lots on the Southside do not appear to be feasible.

**Surface Parking Within the Greenway R.O.W.** – There are blocks of the Greenway that offer the potential to create small public parking areas within the R.O.W. and still maintain a continuous “through” trail. This option was studied as a small-scale amenity for Greenway users to access the trail in intermediate locations, and not as a solution to the Southside parking issues. Any new public parking areas within the Greenway would be installed, operated and maintained by the Parking Authority. These parking areas would also serve as trailheads for the Greenway.



 Alternate location for structured parking and retail on Greenway between Webster and Taylor Streets.



**Structured Parking** – Structured parking was studied as a concept that could integrate the Greenway improvements with commercial redevelopment and public parking. Several Greenway locations were considered in the heart of the Southside central business district. The Mechanic Street section was considered for structured parking for several reasons. First, the City owns surface lots on several blocks of Mechanic Street adjacent to the Greenway. If these parcels were consolidated with the Greenway parcels in one of these blocks, a large new “block” would be created that could accommodate the Greenway and a new parking structure with ground floor commercial uses. The preferred configuration for this option provides additional on-street parking on the south side of Mechanic Street and a wide, urban Greenway promenade between Mechanic Street and the storefront commercial shops on the ground floor of a new multi-level parking structure. An alternative structured parking location is discussed in this section under “Transportation Center.”

### 3.2.3 Recreation

The Greenway R.O.W. is a transportation corridor that offers the unique opportunity to provide multiple recreation opportunities in the densely populated Southside.

**Public Green Space** – The preferred alternative for the Greenway is a trail alignment that follows the perimeters of the R.O.W. The open spaces that are created in the remainder of the R.O.W. will be at



1 Typical Greenway area in central section.



least forty (40) feet wide. Uses in these open areas will vary along the Greenway to provide the optimum improvements for neighborhoods abutting each block. Recreation desires that were identified during the project programming meetings include: tot lots, bocce, badminton, handball, basketball, frisbee. Most of these and other passive recreation opportunities can be physically accommodated into the Greenway R.O.W.

**Skate Park** – In-line skating can be accommodated by creating an adequately wide asphalt trail surface along the relatively level greenway corridor. A skate park that is a playground dedicated with apparatus for skaters, skateboarders, and bicyclists was recognized as a community need in South Bethlehem. The phenomenon has crept east from its west coast origins and communities across the country are creating these specialized playgrounds for their youth. Two locations along the Greenway corridor were identified as potential sites for this type of facility. On the eastern end, below the Fourth Street Bridge was considered an awkward, “remnant” industrial site that could become alive



1 Proposed Fourth Street Bridge skate park – Greenway trail on right.



with skating activities. The site is not directly adjacent to residences, but is within walking distance from the family neighborhoods, and is readily open to surveillance. The skate park can be fenced and closed from dusk until dawn – similar to many park enforcement policies. A lighted trail will continue past the skate park to serve a trail access point at Lynn Avenue Bridge. The large highway retaining walls of the Fourth Street Bridge offer a physical enclosure for the use, as well as a potential for displaying sanctioned youth art murals. The second potential site for a skate park is the present Third Street Ramp to the Hill-to-Hill Bridge. When the proposed Second Street Ramp is constructed, the existing Third Street Ramp will be obsolete. Rather than demolishing the ramp paving and infrastructure, adaptive reuse as a skate park is a viable option. Under I-95 in Philadelphia, and below highways in other cities, urban sites have been “recycled” in similar ways to create skate parks.

**Boys and Girls Club Playground** – The existing recreation yard in the rear of the Fourth Street Boys and Girls Club abuts directly to the Greenway R.O.W. between Webster and Adams Streets. The possibility exists to create a partnership that can expand that recreation use by sharing a portion of the Greenway open space. The preferred trail location on this block is on the north side of the R.O.W. to allow for this option.



### 3.2.4 Linkages

**Neighborhoods** – Existing neighborhoods will link to the Greenway via intersections with local streets. Properties that abut the Greenway will be free to access the public space directly, unless the City decides to invest in appropriate fencing to direct access to the Greenway from specific locations. Abutting owners can install fences along the greenway edge, including lockable gates to control access to private properties. Planting buffers in some locations may be negotiated during the design phase. The Greenway intersections with local streets will be designed for safety and uniformity with artistic and heritage features for individuality.

**Trails** – The 1  $\frac{3}{4}$  miles of Greenway through the Southside is a complete project of “independent utility.” Potential linkages exist that can expand the reach of the Greenway trail to points north, east, and west. Points south would need to be linked through the Lehigh University mountaintop campus.

The City’s Saucon Park is a destination to the east that may eventually be reached via extension of the Greenway trail through the area of the railroad yard, east of Lynn Ave Bridge. This linkage requires additional study for acquisition of additional R.O.W.

Sand Island and the Delaware & Lehigh Heritage Trail can be reached from the Greenway via pedestrian walkways on both the Fahy and Hill-to-Hill Bridges. Improvements to link these recreation facilities to the bridges requires an additional phase of study.

**Transit** – Linkages to existing LANTA transit routes are generally located one block to the north or south of the Greenway on Third and Fourth Streets. In several locations the existing bus routes intersect with the preferred trail alignment, including Third Street near the Banana Factory, William Street near Fourth Street, and at Lynn Avenue. The preferred alternative includes a new bus shelter at a proposed Greenway trailhead on William and Fourth Streets.

**BethWorks Now** – The BethWorks Now developer has plans for improvements to properties north and south of Third Street that will link directly to the Greenway trail. In addition, the developer will make improvements to local streets that will include sidewalk connections to the streets intersecting the Greenway.

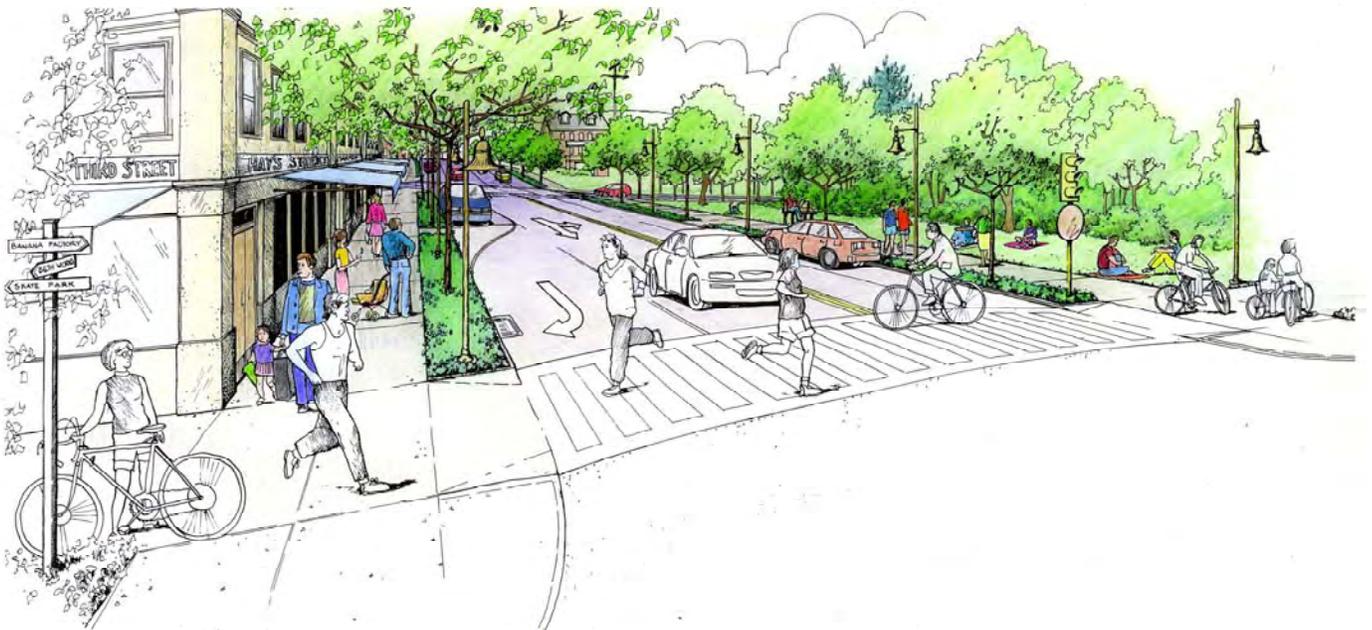


## 3.2.5 Transportation

Multiple concepts were studied that could link various Greenway elements to other transportation projects.

**Highways** – The Route 412 project is the largest PennDOT project in the Greenway area. At least three components of that project must address Greenway issues:

- Daly Avenue widening west of the Minsi Trail Bridge is an element of the Route 412 project that needs to be addressed. The preferred Greenway alternative allows the use of a portion of the Greenway R.O.W. for highway improvements from the Minsi Trail Bridge, west to Founder's Way.
- The Second Street Ramp is a context-sensitive design component of the Route 412 project that includes public facilities to access the existing pedestrian walkway on the bridge. The Greenway preferred alternative is for the new ramp alignment to run directly into Second Street at Brodhead Avenue.



 Proposed Hayes Gateway looking south. Greenway trail in foreground.



**Streets** – Local streets that intersect the Greenway alignment are the public access locations for trail users. These intersections need to be improved for safety and function, as well as civic amenities. The preferred alternative is to create an alternating one-way direction of vehicular traffic flow from block to block through the Southside. This system will be especially effective at the greenway intersections where the crosswalks are proposed to be designed as uniform curb “bump outs” to reduce the width of the roadway to one lane where the Trail crosses the streets. These bump outs will include safety features, signage, and amenities that help create a recognizable Greenway character throughout the Southside.

**Bridges** – Improvements to the Lynn Avenue Bridge and the ramp to the Hill-to-Hill Bridge are projects that can implement specific Greenway improvements, including: connecting sidewalks and trail linkages, constructing crosswalks, building related sections of the Greenway, and creating cooperative opportunities for beneficial land use decisions surrounding the Greenway.

**Transit** – The Greenway preferred alternative acknowledges the multi-modal opportunities at intersection locations between the Greenway and the LANTA service routes.

The long distance bus terminal that is currently located on Mechanic Street between New and Adams Streets will ultimately be relocated in the future as the central business district as Southside continues to grow.

Ultimately, the best location for a multi-modal transit center is adjacent to the major arteries in the Southside. The best arterial hub is located between the Hill-to-Hill and Fahy Bridges and between Second and Third Streets.

The existing terminal on Mechanic Street was best considered to remain as an interim use, while the preferred alternative site – a location west of the Banana Factory is negotiated for acquisition by the City and partners.

There are several reasons not to seek an alternative site in the interim (such as moving the site from the north side to the south side of the Greenway R.O.W.) First – the existing bus station / police substation is developed with utilities that would need to be moved and replaced with relocation of the trailers. Second, the roadway would need to be created to acceptable standards for buses in a location that was not preferred. The costs of these interim improvements were not considered prudent. Finally, an interim move of the bus station within the Greenway corridor does not improve the environmental issues (idling bus fumes, noise, visual obstacles, traffic conflicts) within the heart of the urban greenway area.

# Greenway Concepts & Preferred Alternatives



The recommended solution is to focus efforts on the area around the Second Street Ramp project with the intent of creating a multi-modal center that can consolidate transit, parking, streetscape, and commercial mixed uses with the greenway trail. PennDOT and LANTA, and the City Parking Authority can be powerful partners with the City in this development.

The preferred alternative suggests that the existing long distance bus station can be ultimately relocated to a site near Brodhead Avenue between Second and Third Streets, a move that could improve the multi-modal connection with the LANTA service on Third Street.

A rapid transit shuttle or dedicated bus route that operates partially or entirely within the Greenway R.O.W. has been suggested by several stakeholders. Such a system requires a separate study and is being contemplated by City of Bethlehem partners. The idea is to study physical alignments, mode options, potential partners, and operational feasibility in South Bethlehem. The idea to link a system



1 North / south typical street crossing of Greenway.



like this to the Park and Ride facility at Routes 412 and I-78 offers a potential to create peak demand services that can help provide options for reducing the number of vehicles entering the Southside from the south. Lehigh University already operates a shuttle system on and off campus. Northampton County Community College is seeking transit alternatives to provide student parking on or near campus. BethWorks Now is considering its own internal shuttle system. LANTA is seeking increased ridership. The Lehigh Valley Economic Development Corporation is seeking a unified solution to these issues that can improve the conditions in Bethlehem's "Keystone Innovation Zone" (KIZ), in which the Greenway resides.

The Greenway preferred alternative offers the real option to allow a transit fixed-guideway system to run uninterrupted by local road crossings between the Lynn Avenue Bridge and the intersection at Third and Daly Avenue. With roadway improvements, this uninterrupted distance could be extended to Hayes Street before a grade crossing is required. West of Hayes Street a grade crossing at every block would be required. From there, rubber wheeled transit service could possibly turn north into BethWorks Now at Founder's Way and run along the Second Street corridor. Clearly there is enough potential and partner interest to warrant a separate study for such a system.

**Transportation Center** – The opportunity exists to create a public-private partnership that can study and develop a multi-modal, multi-use "transportation center" to consolidate several important transportation functions into one facility. The Greenway preferred alternative suggests the site along Brodhead Avenue, between Second and Third Streets, for a transportation center for several reasons. The location is strategic for use as a parking structure that could be accessed by a new ramp from the Hill-to-Hill Bridge. This location would allow workers, residents, and visitors entering the Southside, from points north, to enter quickly into a parking facility from either bridge. From that point, people could access the Southside streetscape or Greenway trail or LANTA Service at Third Street. This facility offers the potential for a permanent station for long distance bus service with quick access to both bridges. This development will require a negotiation between the City, private owner, and PennDOT. The ground floor of this transportation center is envisioned as commercial uses to foster a mix of uses in this section of the Southside.



### 3.2.6 Economic Development

**BethWorks Now** – Some residential components of the BethWorks Now development complex are proceeding ahead of the proposed casino and hotel, that depend upon issuance of a state gaming license. The full BethWorks Now development will include high-end mixed uses including commercial, residential and entertainment. The build-out vision for BethWorks Now relies on the Southside Greenway project to provide green space relief and alternatives to the intensive urban environment planned for that property on the north side of Third Street.



1 View on Second Street looking west - future transportation center on left and proposed Second Street Ramp to Hill to Hill Bridge in background.



**Lehigh Riverport** – This mixed-use development is a public-private partnership that includes public parking along with residential, commercial and service uses. The project increases the density of residents and visitors in this small area bounded by the Lehigh River, Fahy Bridge and Second Street. It will help provide new customers to the local Southside businesses and also increase demand for the quality of life amenities that the Greenway promises.

**Small Businesses Entrepreneurs** – The existing business owners on the Southside look to the development of the Greenway to help attract people to the area on a regular basis, and to support new enterprises by creating an atmosphere where small proprietorships can thrive as an alternative to the large, “chain” corporations that will be offered at BethWorks Now. The Greenway can create a common link between these two business sectors that will allow people to move freely between the two commercial environments. The Greenway also offers the option of creating a street vendors market that can develop and grow as an attractive, colorful and profitable part of the Southside economy. The block between Third and New Streets is viewed as the genesis area for this development.

**Weldship** – In a very large sense the parcel that is currently used for tank storage holds the key to the continued renaissance of the western end of Bethlehem’s Southside. Although most industrial operations that once operated in the center of the Southside have already moved, the gas tank restoration facility near Brodhead and Second has remained viable and is still an important corporate citizen in Bethlehem. The tank storage lot adjacent to the Greenway R.O.W. is the parcel at issue. If an alternative storage site could be negotiated that served the needs of the company and the City, this parcel (in combination with the Greenway parcel) offers the opportunity to reshape the land uses and build the commercial economy at this end of town.

### 3.2.7 Civic / Cultural

**Colleges** – Lehigh University and the proposed Northampton County Community College campus are both located within a block of the Greenway alignment. At the most basic level these institutions see the Greenway as an amenity that students can use for transportation and recreation. On a regional level, the Greenway represents a critical piece of civic infrastructure and “quality of life” investment that will help attract graduates and business enterprises to settle and invest in Bethlehem. As a transportation corridor, the Greenway should be studied further for its transit potential to deliver a mix of students and residents throughout the Southside.

**Art / Music / Public Events** – The Greenway offers the potential to provide new cultural venues and to tie venues together in a way that invites exploration and movement through the Southside. Small private and public music venues, art exhibitions and craft shows are possible along the Greenway corridor. The Greenway also offers opportunities to create moderately-sized civic spaces that do not currently exist on the Southside.



## 3.3 Greenway Trail: Physical Development Guidelines & Treatments

**Demolition / Salvage** – The City should attempt to negotiate with Norfolk Southern (NS) to remove all railroad ties, but leave all ballast in place. As part of the acquisition agreement NS should also remove existing rails and ties at grade crossings of local streets. The removal should include reasonable street repairs/restoration at crossing locations to ensure motor vehicle and pedestrian safety, as well as public interest issues to accommodate storm water and prevent erosion. The City should negotiate to retain in-place the existing RR “crossing” signs and gates. All other fixtures including electrical boxes should be removed by NS, with environmental clearance that the site is free from PCB or other toxic contaminants from the previous railroad use.



1 Greenway trail and the proposed Third Street plaza.



**Greenway Landscape** – The Greenway corridor is generally sixty (60) feet wide through most of the project area. In the first phase of development, this R.O.W. should be cleared, graded, and seeded to establish a mowed grass swath. Topsoil and soil amendments will need to be added to create a stable base to grow and maintain grass in a public space.

**Trail Surface** – The Greenway trail can be developed as soon as the R.O.W has been cleared and graded. The trail should be asphalt surface for most of the alignment to serve the greatest number of user types, as well as for longevity and maintenance. The trail construction is essentially a “road” sloping or crowned at a maximum 2% cross slope and designed to meet AASHTO standards. The width should be a minimum ten(10), preferably twelve (12) feet wide with structural “shoulders” of compacted modified gravel or stabilized grass strips. A clear distance of at least five (5) feet should be maintained at maximum 2% side slope on both sides of the asphalt surface to any property line, tree, light fixture or other amenity.

**Drainage** – Drainage on either side of the paved trail will need to be included into the final trail design in terms of alignment location, grade elevation, and connections to the City storm sewer system. Culverts under the trail may be required periodically to accommodate storm water in the Greenway.

**Plant Material** – Trees can be planted initially or in phases depending upon funding availability and the other issues associated with each block.

**Road Crossings** – Roadway paving at the grade crossings should be repaired / restored by NS after removal of the rails and ties to ensure safe access by motor vehicles and pedestrians and to provide adequate and positive drainage conditions. Sidewalks on either side of the crossing should be restored to temporary, safe service conditions by NS. The City will restore the crossings for permanent greenway use.



## 3.4 Greenway: Preferred Alternative

The next step in the master plan process is to fashion a Greenway plan that integrates these concepts into the actual physical conditions within and around the Greenway R.O.W.

Several alternative proposals of the Greenway plan evolved over the study process. The synthesis of these concepts and alternatives becomes the “preferred alternative.”

The Master Plan represents the “preferred alternative” for the Greenway as it is developed to this point. Public input on the draft plan was solicited at the 5th and 6th public meetings and during a thirty-day public comment period to provide a final opportunity for interested parties to add information or ask questions about the draft plan before the final Master Plan and the preferred alternative was prepared.

Refer to the graphic plans (Figures 3.1 – 3.8) of the Greenway alignment in this section for specific locations and references to preferred alternative improvements. Detailed cost estimates are also included in the appendix, divided by block and by intersection.

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