

87th Street – Phase IV

Interstate 435 to Newton Avenue
6th District

Feasibility Report

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3-Trails
Community Improvement District
Sponsor

Presented to
CITY OF KANSAS CITY, MISSOURI

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All things are possible.

Overview

The 3-Trials Community Improvement District (“CID”) encompasses a 260-acre area within Kansas City that has suffered as residents and businesses migrated to newer, outlying suburbs. Turning the District into a thriving and beautiful residential, retail and business area is a dream that will require people with vision who can break away from practices of the last 50 years that result in sterile, ugly built environments. These practices evolved from laws and codes that require land uses to be separated by design, large parking lots to dominate properties, and site plans dedicated to the convenience of vehicles. Change is needed if different results are desired.

Many communities have faced similar challenges as malls and big box retailers abandon older buildings in favor of newer suburbs. Communities are left with vast, empty parking lots and vacant buildings that rapidly become blighted areas fostering a perception, real or valid, of crime. People are reluctant to live near these areas and new development is often difficult to attract.

This report suggests two basic steps toward a comprehensive approach to revitalize the area. The first step is to immediately secure funding and move toward constructing a new and beautiful 87th Street. The conceptual street design balances beauty with function, providing ample mobility for vehicles, people afoot, and bicyclists. Landscaping dominates the street, rather than asphalt and concrete. Traffic flows smoothly, but at speed that allow drivers an opportunity to notice the place they are in. Intersections are developed to ensure ease for those

crossing the street or entering the primary road from side streets.

This beautiful, functional street will serve as the centerpiece and front door for the 3-Trials District. A trail connection and improved sidewalks and crossings send a message that this is a place where people are welcomed and trails are abundant.

Case studies are provided to illustrate how other communities serve as models for this approach. Many have benefited from transforming an ordinary street into a great street that supports multiple aspects of community life.

Concurrently with the redesign of 87th Street, a District master plan should be developed. All interested parties should be involved beginning early in the process. Working together, a clearly articulated vision and supporting goals that enjoy community and City buy-in can be developed.

A collaborative approach will help ensure implementation of the master plan. Voluntary private investment often comes quickly when the street comes alive and optimism prevails. Property and business owners can contribute by upgrading their properties to create spaces that are more attractive. Cooperation among property owners can create sites that are linked to each other and offer a unique experience to patrons. Ideas will be abundant as people come together to return prosperity and quality of life to their community.

A more in-depth look at the background, constraints, and potential for 87th Street and the surrounding area is presented in the following pages.

Project Background

This report describes the feasibility of redesigning 87th Street, from Hillcrest Road west to Newton Avenue into a street that will attract private investment and restore a declining neighborhood. The study area is within the 3-Trials Community Improvement District. The conceptual street redesign was developed using information from field studies of the area, discussions with community leaders, and preliminary traffic data.

A primary purpose of 87th Street at one time was to provide access to a thriving commercial area. Destinations along the road, such as the Bannister Mall and Benjamin Plaza, have lost key stores in recent years as shoppers were lured to big box retailers and newer shopping developments. Efforts to attract new anchor stores have failed. Surrounding areas appear abandoned, with large, empty parking lots and closed business. Property values have plummeted, 39 percent in the past 2 years, decreasing taxable income for Kansas City, Hickman Mills School District, CID, and other government bodies.

A catalyst for revitalization is needed before further deterioration occurs. Continued devaluation of properties is a lose/lose situation for all parties. Other communities facing similar challenges have used strategies that can be applied in the CID. These strategies and their possible application in the vicinity of 87th Street are discussed in greater detail throughout this report.

The report begins by examining existing conditions and then explores potential approaches. This discussion is followed by a discussion of concepts to transform 87th Street into a beautiful, appealing, public

space that will spark redevelopment interest. Included are examples of places where similar strategies illustrate the validity of the concept. Calculations and drawings are at the end of the report.

Existing Conditions

87th Street between Hillcrest Road west and Newton Avenue is a five-lane road that lacks continuous sidewalks. It is typical of designs from yesteryear when roads were built as plain, simple, and cheaply as possible. These streets were designed for vehicles to travel at high speeds. Street trees were seen as a waste of money and a hazard to vehicles. Pedestrian amenities and landscaping were minimal or non-existent.

Land use on either side of 87th Street includes undeveloped land, strip commercial, and various types of residential developments. The street lies within the 3-Trials Community Improvement District, where many other streets are ugly. Streets in the District are wall-to-wall concrete or asphalt. Many connecting streets are rural roads with undefined, crumbling edges that lack basic pedestrian facilities and hard surface bus stops. Bus stops in the district do not serve their customers or businesses well. Bus stops are separated from stores by vast parking lots. Sidewalks are absent in many places.

Many buildings are old, unattractive, and shuttered. Expansive parking lots are empty and there are few people to be seen anywhere. The vast sea of empty parking lots are unattractive and do not engender a sense of security. Buildings are mainly nondescript boxes of no architectural value and are overdue for the 12-year replacement cycle encouraged by the

current U.S. tax laws. Roadsides would benefit from additional maintenance.

Few people live in the District. Few people shop in the CID. Bannister Mall was once a highly successful shopping area in the Kansas City generating the largest sales tax revenues in the area. So where did the people go? The answer is that they simply moved away to new subdivisions that surround the City. They left for “newer,” bigger and prettier areas, and the “new” shops. As people moved out, they left behind a gutted area. It is likely that those who stayed travel outward to shop in the newer, prettier suburbs. Property values have plummeted 39 percent in the past 2 years, decreasing taxable income for Kansas City, Hickman Mills School District, CID, and other government bodies. Owners bear the burden of a massive decrease in value, businesses have gone broke or moved away, and the few that remain have seen days that are more prosperous.

Overall, the area lacks basic pedestrian facilities, is unattractive, and is *a great place to escape from*.

The Future

Can the area be invigorated? Yes. It will take people coming together to create a shared vision that overcomes outdated, vehicle-dominated design. It will take people balancing the needs of people with the needs of automobiles. It will take people who understand how to develop a sustainable community with a sense of presence and place that meets most, if not all human needs; a place where mobility by all modes of transportation is available.

The CID must have enough residents to support local businesses. Businesses should be of sufficient quality and variety, even uniqueness, to attract people within and outside the District. In addition to the vision, there must be a commitment and an understanding that to be prosperous over the long term the area must attract and hold people.

Other cities that have faced similar massive reductions in the use and value of land have responded in various ways. Strategies they employed included:

- Improving infrastructure by rebuilding and beautifying streets.
- Adding pedestrian features.
- Providing on-street parking.
- Slowing traffic.
- Narrowing roads and/or removing vehicle lanes.
- Changing development codes to encourage mixed-use development.
- Requiring buildings to be closer to the edge of the street.
- Promoting the area as a destination.
- Managing the area as a whole entity.
- Creating a vision and sticking to it.

There are many success stories. Some of these are described beginning on page 15. Some of these communities report 100 percent occupancy of formerly vacant stores, increased turnover, increased property values, and increased local traffic. They also report substantial increases in the number of people and in the time spent in the area

Begin with 87th Street

A great street should be a most desirable place to be, to spend time, to live, to play, to work, at the same time that is markedly contributes to what a city should be. Great Streets, Allan Jacobs

The role of streets in our communities can be viewed from different perspectives. If a street is viewed only as a route for traffic traveling through to gain access to a different location, maximum vehicle speed and capacity are likely to guide the design. This perspective results in streets that look like 87th Street looks today. But many communities have learned that streets, the most plentiful public space in most cities, can become tremendous assets with benefits that go beyond just moving vehicles as quickly as possible. Their models suggest that public investment into 87th Street will attract private investment in the surrounding areas, restoring property values and stimulating a sustainable tax base. Features these communities used in their redesigns that should be in a redesign for 87th Street include:

- Add gateway entries: use roundabouts to slow traffic.
- Use designs that encourage walking and bicycling.
- Add landscaping.

Develop a Master Plan

Securing funding and developing designs for 87th Street is a process that could last several years. One crucial element contributing to the success experienced in other communities is their multi-discipline approach guided by people of vision. A master plan for the District that succinctly defines a vision developed in collaboration with all interested and affected parties

should be developed concurrently as 87th Street is redesigned. Success in other places suggests that the master plan must change emphasis from a car-dominated experience to a people friendly and transit orientated experience. Goals should include:

- A very high proportion of residential units of variable sizes and prices.
- An extensive internal street network of narrow streets with slow-moving traffic and on-street parking.
- Development patterns that promote a mix of uses within the buildings and within the area. Buildings could include street level retail with parking garages over retail, and residential units on top. Commercial offices, institutional facilities, (educational, medical, arts, etc.) should be encouraged to function as anchors for the District; Compact development will help support viable transit and expand transportation choices for all.
- Outdoor facilities such as cafes, gathering places, parks, small pockets of restful areas.
- Space that attracts festivals, music, recitals and other events to draw people to the area on a regular basis.
- An ongoing plan for the District's public areas including infrastructure enhancements and maintenance.
- A CID administered program that oversees the maintenance, marketing, promotion, and tenant mix, attracting the correct tenants to support the area and other tenants.

- A highly visible police substation with police on bikes patrolling the area.
- Rebuilding the external road network so that they are safe, people and vehicle friendly, where vehicles travel at lower speeds, and most important, the streets are attractive.
- Improve traffic flow by replacing signalized intersections with roundabouts.
- Expand the transit service to encompass a wider area with proper shelters that truly serve the people by taking them to their destinations, the front doors. Mandate transit locations within 40 feet of the front door of buildings adjacent to the bus stops.

All things are possible with the right mix of people working together to promote and move the individual projects forward under a shared master plan vision. To develop the master plan, employ consultants who think out-of-the-box and can demonstrate they have expertise and practical experience in designing places that have attracted people and success. Develop a team that understands the concepts of how to redevelop blighted, first-tier subdivisions and greyfields and how to develop and implement a successful master plan. Most important, any plan that is developed must be implemented as a whole, with few subsequent adjustments. A people-friendly design relies on many little pieces fitting together to create the overall environment that will foster a greater sense of community and improve economic activity and quality of life.

The District master plan should be adopted by the City of Kansas City so that developers can plan and build with knowing the plan will be implemented as

adopted. Kansas City is a major player and can do much to influence the change by improving infrastructure, in particular upgrading 87th Street, and by ensuring that its development codes promote people-friendly design and development.

Upgrading 87th Street

Design Approach

The historic approach to designing roads uses past growth rates to predict future needs. An alternative approach is to design roads to support and encourage goals established by the community and to create a defined character, or sense of place. In this latter case, predicted traffic volumes are less important than the sense of place that the road creates and the road's impact on the economic viability of surrounding property.

Historic Approach

This typical approach is to count existing traffic, review traffic volumes over the past 10 years, determine the average growth rate per year for the past 10 years and project that past growth rate out for the next 20 years or so. The assumption here is that the growth that occurred in the past will continue unabated into the future.

This often results in large projected increases in traffic that require wider roads and even larger intersections. The downside of this approach is that after being "improved" roads initially provide a very good level-of-service with minimal congestion that attracts additional traffic seeking the fastest through-route to a destination. Oftentimes additional traffic increases to a level of congestion that causes the new and improved road to fail well before its design year. At first glance, this added traffic might seem like a business opportunity, but in fact high speed, through traffic is less likely to stop

at local businesses than slower moving, local traffic.

An interesting study done by the Ministry of Transportation in England several years ago, that found about 40 percent of the traffic that used “new or improved roads” was in fact *generated* by the “new or improved” road. All new road construction was stopped because it was causing the very problem the Ministry was trying to resolve.

Alternate Approach

An alternate method of designing roads is to determine the type of street needed to serve an area and encourage activity or development consistent with the community’s vision. A vital part of this consideration is the type of road network that is used to serve the adjacent development. If the adjacent road system consists of a few wide (fat) roads, intersections will have to be large, which discourages pedestrian movements and permits high vehicle speeds. If the adjacent road network is a grid network with many connections to the major road, no single intersection will have to carry large volumes of traffic. The intersections can be smaller, the road narrower and roundabouts can be used instead of signalized intersections.

A grid network combined with mixed-use buildings and a mix of land uses generates fewer vehicle trips, especially external vehicle trips, because residents shop, work and recreate within their development rather than go outside their area for their needs. Smaller internal and external roads become feasible.

This approach also has other advantages. Compact development is cheaper to service and maintain. Mixed-use developments are more fulfilling for residents and command higher prices.

Dense areas are more supportive of retailers within the zone more than isolated boxes surrounded by huge parking lots. Mixed-use developments provide people with more opportunities to socialize, leading to improved quality of life.

A downside of these types of mixed-use developments is that they are not suitable for everyone. People who prefer to be alone, separated from their fellow man will continue to seek out suburbia or even semi-rural retreats. However, around this country people are paying premium prices for high-rise developments in well-designed, mixed-use developments.

Design Constraints

87th Street is limited to four lanes because of the high cost of replacing the railroad and freeway bridges and limitations at other intersections along 87th Street to the east. This limits the number of vehicles that can travel on the road without congesting traffic. Two-lane roundabouts help overcome these constraints because the capacity of the road is increased without adding lanes. Typically, two lane roundabouts have capacities ranging from 3,500 to 4,000 vehicles per hour. If at a future date congestion arises at any of the roundabouts, the congestion can often be alleviated by the addition of a right turn lane or two.

Roundabouts

Replacing signalized intersections with roundabouts is recommended for many reasons. The most important reasons are:

1. **Safety** – Crash rates and injury severity are reduced at intersections where signals are replaced by roundabouts.¹ A study done by the

¹ Roundabouts: An Information Guide, US Department of Transportation, Federal Highway Administration, FHWA-RD-00-067

Insurance Institute for Highway Safety showed a 90 percent reduction in fatal and incapacitating injuries and a 76 percent reduction in injury crashes when compared to the same intersections with stop or signal control.

2. Delay - Typically, delay at roundabouts is less than half the delay at signals. Often drivers only have to slow down without stopping.
3. Capacity - The capacity of roundabouts is typically 30 percent higher than signals without the need for extra left or right turn lanes.
4. Cost - Roundabouts cost almost nothing to maintain when compared to signals. Kansas City signals are estimated to cost \$5,000 per year per intersection to maintain.
5. Right-of-way - Roundabouts may require extra right-of-way at intersections, but less right-of-way and lanes are needed between intersections.
6. Landscaping - Only intersections controlled by roundabouts can be landscaped to create attractive and unique gateways to an area. For example, steel silhouette 3-Trials sculptures similar to those being installed by MODOT in the I-435 corridor between 87th Street and Bannister Road could be placed within roundabouts, further enhancing the CID's 3-Trials marketing theme within the District.
7. People friendly - Because roundabouts slow all vehicles they are easier for all drivers to navigate and to cross.

Traffic Analyses

Traffic counts for the intersections of 87th Street at Hillcrest Road west (2001), Fremont Avenue/Hillcrest Road East (2003), and Blue Ridge Boulevard (2001) were provided by Kansas City, Missouri

Public Works Department. No intersection counts were available for I-435 ramps. These traffic counts were used to determine traffic flow along 87th Street, which varied from 340 to approximately 1,400 vehicles per hour. That flow equals 170 to 700 vehicles per hour per lane, which are relatively low numbers. Analyses of several intersections follow.

1. Hillcrest Road West. This intersection could operate satisfactorily as a single lane roundabout because of the low volume of traffic entering and leaving this road.
2. I-435 Interchange. No traffic counts were available for the two intersections. Traffic volumes were estimated based on the distribution of east and west bound traffic at both Hillcrest Road West and Fremont Avenue/Hillcrest Road. Eastbound traffic volumes entering the two roundabouts at the I-435 interchange could be estimated. Based on this estimate, these two roundabouts have entering volumes that are less than, or close to, the capacity of single lane roundabouts.
3. Fremont Avenue/Hillcrest Road East. The peak hour traffic volume for this intersection is just over the capacity of a single lane roundabout. A roundabout with two lanes along 87th Street and single lanes into and out of, Fremont Avenue, with a single lane into and out of Hillcrest Road is proposed. A right-turn only lane was added to the south leg of the intersection to assist right turn traffic coming out of Hillcrest Road from the south.
4. Newton Avenue. A single lane roundabout is adequate for the intersection.

Based on the limited data provided, the existing traffic volumes are lower than the capacity of single lane roundabouts at some locations in some peak periods and just over at some locations at other peak periods. Successful redevelopment of the CID will attract more local traffic and therefore road capacity in excess of existing volumes is needed. For this reason, two lane roundabouts have been proposed at Fremont Avenue/Hillcrest Road East and Newton Avenue with two lanes along 87th Street, and single lanes across 87th Street. This proposal matches the number of lanes at the roundabouts to the number of lanes along 87th Street so drivers will not have to merge from two lanes to one lane.

Specific Design Elements

Detailed explanations of each element of the proposed road design follow. The typical design vehicle for the roundabouts was a WB-50 truck, such as a furniture van. At the I-435 interchange, roundabouts the design vehicle was increased to the extended semi trailer often called the WB-62 truck. Another design challenge was to provide for special large vehicles to pass through the roundabout to service the new development on 87th Street opposite Hillcrest Road west and west of the I-435 southbound on-ramp.

Mr. Pursell, owner of the proposed development on the southwest corner, provided information regarding the size and travel needs of vehicles that will need access to this property. During discussions, he agreed that two lane roundabouts should be able to accommodate his double trailers comfortably.

Design Concept

The proposed design concept is a four lane divided road with 11-foot wide lanes, a

landscaped median, and roundabouts at the four major intersections. Median openings are provided between I-435 and Fremont Avenue/Hillcrest Road east and the Railroad Bridge and Newton Avenue. A continuous sidewalk is provided along the north side with a 10-foot wide Metro Green Trail Corridor along the south side of 87th Street. A row of trees in the median and in each of the planter strips is recommended. Additional trees may also be feasible between the sidewalk and trail and the right-of-way line.

Cross Section

Raised Median: It is essential to include a landscaped median in any redesign of a road for the following reasons:

- A row of trees can be included to beautify the street.
- A median acts as a refuge for pedestrians crossing the road. Raised medians are associated with a significant reduction in pedestrian crashes on multilane roads.² A median creates two separate crossings, allowing pedestrians to concentrate on traffic moving in one direction at each crossing.
- A median limits access to adjacent properties, reduces significantly mid-block crashes, and improves traffic flow. Roundabouts at major intersections easily compensate for any loss of access by providing the opportunity to make quick and convenient U-turns that are safer than left turns into and out of driveways.
- Medians narrow the perceived and physical widths of roads, encouraging slower speeds.

² Alternative Treatments for At-Grade Pedestrian Crossings, Institute of Transportation Engineers, 2001. Page 7.

Travel Lanes: Two travel lanes 11 feet wide are adequate to serve large trucks but not wide enough to encourage high speeds. Ten-foot lanes are also feasible in this area because truck volumes are relatively low.

Planter Strips: Space between the curb and the sidewalk or trail that:

- Provides space for a row of trees.
- Separates pedestrians from vehicles so they avoid being buffered or splashed by vehicles and create a psychological “safe zone.”
- Provides space for signs and street furniture so pedestrians, especially people with disabilities, have a clear walking space with access to street furniture.
- Enables provision of pedestrian ramps that are required by the Americans with Disability Act (ADA) requirements, but which do not intrude into the sidewalks.
- Eliminates sloping driveways in sidewalks.
- Creates a defined zone for transit stops with shelters, benches, bike racks, an other amenities.

Sidewalks and Trails: A continuous sidewalk is proposed on the north side. Sidewalks are essential and provide mobility for people who do not drive. Well-designed sidewalks enable people to exercise, access properties, browse shop windows, or rest. Sidewalks are safer and more comfortable for pedestrians when located as far as possible from the road. A 10-foot wide multi-use trail is proposed on the south side to provide the numerous benefits of trails and to connect to the other planned trails in the 7 County Metro Green Trails system.

Landscaping: The proposed layout places sidewalks and trails 6-feet from the curb and gutter, which allows ample space for landscaping. In some areas, an additional row of trees can be provided on the outside of the sidewalk and trail to further enhance the street. Landscaping beautifies the street and can be used to develop a unique theme or sense of place on 87th Street. It slows drivers, reduces water run off, reduces noise, improves the environment for birds and some animals, and makes driving, walking, and bicycling a greater pleasure.

Access Management

The control of vehicle access along a road to smooth traffic, reduce conflicts and crashes, and provide fewer conflicts for pedestrians is gaining wide acceptance across the country. Center turn lanes are being replaced by raised medians because they reduce both pedestrian and vehicle crashes.

Roundabouts are a tremendous asset in access management because they permit drivers to pass a business on the opposite side of the median, make a U-turn, and reach the business via a right turn. This is a safer maneuver than making left turns. The reverse occurs when drivers wish to exit a business via a right turn. They simply turn right and circle the roundabout to make a U-turn. Studies done across the county and especially the Departments of Transportation in Florida and Georgia have shown significant improvements in vehicle flow and crash reductions with access management. Road capacity is also improved because of smoother flow and fewer conflicts.

In this case, interim median openings have been provided as shown on the proposed layout. As drivers become more familiar with driving roundabouts, the option exists

to close the median openings and plant additional trees.

Hillcrest Road West/ Southbound I-435 Off and On-ramps

A two-lane roundabout is proposed. In the conceptual layout, Hillcrest Road is curved slightly to the east to reduce the overall length of the roundabout. The roundabout is slightly off-center to minimize impact on the gas station to the north, resulting in a slightly higher design speed westbound than eastbound.

The 87th Street roundabout could provide a driveway to the gas station. It may be feasible to realign the south on-ramp to provide a driveway to the development on the southwest corner of this roundabout.

A photograph of a roundabout similar to this one in size and shape is provided on page 17, although the conceptual roundabout is slightly longer than the Clearwater Beach roundabout. The Clearwater Beach roundabout carries up to 58,000 vehicles per day, with up to 6,000 pedestrians crossing entry and exit points each day. It has three major road entrances/exits, one minor street connection, a major connection to a major parking lot and another connection to a very small parking lot of only 4 cars and a dumpster. The current crash rate is reported to be approximately two crashes or less per year.

Benjamin Plaza Court/ Northbound I-435 On and Off-ramps

An elliptical roundabout is proposed. Benjamin Plaza Court has been curved to the west to enter the roundabout. This roundabout is slightly smaller than the roundabout on the westside of I-435.

Fremont Avenue/Hillcrest Road East

Existing traffic volumes slightly exceeded the capacity of a single lane roundabout. For this reason, a two lane/one lane roundabout is proposed with a right turn only lane on the south leg. The right turn only lane was added to assist traffic exiting Hillcrest Road from the south onto 87th Street eastbound. This will accommodate expected increases in traffic volume as the District develops. On the northwest corner the existing embankment must be cut back and some right-of-way acquired to provide for the roundabout and a sidewalk around the roundabout. The sidewalk on the north side will need to be on the existing bank and taper down to the road. Retaining walls on the northwest corner may be required: one at the roundabout level, with a second retaining wall at the next level next to the sidewalk around the edge of the parking lot.

Newton Avenue

A single lane roundabout is adequate to service existing and some additional traffic. However, a two-lane roundabout is proposed to avoid the need for drivers to merge and to provide a consistent cross section with a balanced design along the street. This provides capacity to accommodate future residential development to the north behind the health club facility. This roundabout favorably affects the residential area to the south, which is offset by an attractive entrance, lower vehicle speeds, and a safer intersection.

Costs

A preliminary cost estimate for 87th Street - Phase IV is provided on page 14. The estimate is based on conceptual layouts developed by Michael Wallwork, P.E., of

Alternate Street Design. The estimate was prepared with the understanding that utility alterations will be minimal, the road under the I-435 Bridge can be lowered without affecting on the bridge structure and the sidewalk and trail construction below the railroad bridge does not affect its structural integrity. Significant landscaping will be implemented.

The following assumptions were made:

- Roundabouts will replace the signals at both ramp terminals, Fremont, and Newton.
- 87th Street will be reconstructed through the interchange at I-435 in order to lower the profile and improve the vertical clearance.
- The reconstructed pavement beneath the I-435 Bridge will fit beneath the existing bridge columns and will not require abutment retaining walls beneath the end spans.
- A sidewalk will be added along the north side of 87th Street.
- A 10' bike/hike trail will be added on the south side of 87th Street.
- A retaining wall may be required between the north edge of pavement and the Denny's parking lot to accommodate the sidewalk on the north side. Another wall will be required along the hotel

frontage at the NW corner of Fremont and 87th Street. Stone form liners will be used to enhance the retaining wall aesthetics.

- 87th Street west of the interchange at I-435 will be milled and asphalt overlaid. Existing curb will be utilized where possible. New curb will be added in areas where turn lanes are removed.
- Abutment retaining walls will be required under the railroad bridge to accommodate the sidewalk and hike and bike trail.
- Landscaping will be provided at each of the four roundabout intersections and throughout the corridor.
- Lighting will be provided throughout the corridor.
- A raised, grassed median will be added throughout the project.
- The gas regulator may need to be relocated in the NW corner of Hillcrest and 87th Street.

Conceptual Cost Estimate

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Contractor Construction Staking	Lump Sum	1	\$50,000	\$50,000
Clearing and Grubbing	Lump Sum	1	\$75,000	\$75,000
Removal of Existing Structures	Lump Sum	1	\$75,000	\$75,000
Mobilization	Lump Sum	1	\$250,000	\$250,000
Earthwork	Lump Sum	1	\$410,000	\$410,000
Asphaltic Concrete Bituminous Base Course (10")	Sq. Yd.	16000	\$30	\$480,000
Asphaltic Concrete Surface Course (2")	Sq. Yd.	31000	\$8	\$248,000
4" Aggregate Base Course	Sq. Yd.	16000	\$6	\$96,000
Curb and Gutter, Combined	Lin. Ft.	15000	\$13	\$195,000
Concrete Sidewalk Construction	Sq. Ft.	30000	\$5	\$150,000
Asphalt Hike/Bike Trail	Sq. Yd.	7000	\$18	\$126,000
Retaining Walls	Lump Sum	1	\$175,000	\$175,000
Decorative Retaining Wall Form Liner	Lump Sum	1	\$43,000	\$43,000
Abutment Retaining Walls	Lump Sum	1	\$200,000	\$200,000
Drainage	Lump Sum	1	\$400,000	\$400,000
Landscaping	Lump Sum	1	\$160,000	\$160,000
Sodding	Sq. Yd.	10000	\$5	\$50,000
Seeding	Ac.	6	\$2,000	\$12,000
Irrigation System	Lump Sum	1	\$25,000	\$25,000
Erosion Control	Lump Sum	1	\$50,000	\$50,000
Pavement Marking	Lump Sum	1	\$35,000	\$35,000
Permanent Signing	Lump Sum	1	\$35,000	\$35,000
Electric Lighting System	Lump Sum	1	\$160,000	\$160,000
Traffic Control	Lump Sum	1	\$80,000	\$80,000

Sub-Total	\$3,580,000
20% Contingency	\$720,000
Estimated Construction Cost	\$4,300,000

Utility Relocation	\$200,000
Right-of Way and Easement Acquisition	\$700,000
Engineering and Administration	\$600,000

TOTAL \$5,800,000

Note: This cost estimate was prepared by HNTB, Inc. All Unit Prices based on 2003 values. The costs shown on this estimate represent an estimate of probable costs prepared in good faith and with reasonable care. HNTB has no control over the costs of construction labor, materials, or equipment, nor over competitive bidding or negotiating methods and does not make any commitment or assume any duty to assure that bids or negotiated prices will not vary from this estimate.

Summary

Reconstruction of 87th Street with a median, sidewalks, trail, between three and five rows of trees with roundabouts and 3-Trials steel sculptures at the major intersections as shown in the attached drawings is the initial phase of a complete reconstruction of the CID as a thriving and sustainable retail, residential and business area. It will also position the CID to play a vital role intersection he development and economic revitalization of approximately 1,300 acres adjoining the CID. It can happen, as shown in some of the examples that follow.

Success Stories

Many cities have put in place a range of improvements that have made marked changes. Details of those I am familiar with begin on page 16. Others include:

- Rebuilding of streets in downtown Washington. D.C.
- Cambridge, MA
- Rebuilding of Main Street, Encinitas, CA.
- Broadway, Vancouver, BC.
- A project similar to the CID is the complete rebuild of an old mall in Boca Raton, Florida, called Mizner Park. This rebuild of an old mall has been an outstanding success. This redevelopment created a new street with a very good mixed-use development that has revitalized an old mall and increased land values and tax revenues.