6 IMPLEMENTATION PLANNING AND FINANCE STRATEGY

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CHAPTER-6: IMPLEMENTATION PLANNING AND FINANCE STRATEGY

This section provides strategies for implementation and financing in general terms. In consideration of these strategies, the public entities in the corridor will need to discuss any and all strategies and ideas and execute necessary memorandum documents to outline participation and responsibilities. Each project will need to be specifically crafted to meet the needs of city, investors' terms, and available funding sources, however, the rhythm of the process and ideas for potential funding sources are identified. There is also a comparison of two development strategies discussing individual development districts compared to a more regional approach requiring the establishment of a larger designated development area and a description of the comprehensive possibilities associated with this approach.

The document provides examples of statutory funding options for reference purposes only. It is made clear in the document that statutory funding tools change based on legislative interpretation and desire. As business opportunities are presented, various legislator (local, state, and federal) support is advised. As well, participation in facilitating new investment and engaging corporate representatives and East West Gateway Council of Governments will be important. This level of involvement is necessary to assure that investment is sustainable at a state and regional level, as opposed to local area orientation, and continuing the pattern of merely shifting stores from one city to another. Also, it is not unreasonable to consider the possibility of new legislation, crafted for a development district to specifically address the purpose and needs of an established, designated development area. This process requires a detailed implementation strategy and the support and participation of those legislators willing to pursue statutory modifications or new legislation.

Implementation Methodology

There are many ways to approach implementation, however, in order to be truly achievable; there are four criteria that must be met in order to make this an "action" plan rather than a "bookshelf" plan:

- Any implementation strategy must be market driven. That is to say, the infrastructure and overall strategy for development must be planned to attract investment by those companies and individuals in the private (or private/public) sector willing and able to finance revitalization
- Any implementation strategy must include public funding strategies that may include negotiations with state and federal resources to assure creative and effective overlay districts
- Private developer participation in the process does not occur until the city has prepared an implementation plan and a finance strategy
- The implementation strategy must be financially feasible

The Great Streets Initiative is unique in that it recognizes and acknowledges the relationship between public investment in infrastructure and economic development potential. In order to facilitate the redevelopment process generally, it is necessary to plan public facilities firstly for the following reasons:

- Design of infrastructure facilitates or detracts from economic development
- Determine the cost of public improvements that impact private development (it may be possible to leverage public improvements as part of the overall financing of a project)
- Assure municipalities that they are "at the table" during the redevelopment of private property and have a prominent role in attracting funding necessary to create a successful economic and social environment facilitated by:
  - The creation of policies and guidelines that assure quality and sustainability
  - Understanding the various statutory finance tools available to the city prior to any contact with future developers so that the interest and long term benefits of these tools are optimized by the public entities
  - Understanding the potential benefits to the community associated with future development and the ongoing role the community will play in the development process
  - Use of creative solutions to address conditions created by past development concepts such as optimizing land usage on gray sites (old retail locations); blending landscaping and other public amenities with water conservation and mitigation; and effectively planning redevelopment sites to qualify for existing financing options, both public and private, while addressing market driven requirements and parameters

In the case of the primary study area, there are distinct assets that can facilitate the revitalization of the area driven by existing conditions within the local market, including:

- Strong community interest and cooperation
- Well established institutions adding market base and financial investment to the area on an ongoing basis
- Immediate investment in infrastructure enhancements along Natural Bridge Road (the road diet, sidewalks, and bike trails)
- A concise, well defined commercial area with potential for increased density and land use optimization
- Several larger sites that may become available for redevelopment
- MetroLink access
- A link (Florissant Road, in need of enhancement) to I-70 allowing for the expansion of market access
- Possibility of existing UMSL shuttle service(s) expanding to the benefit of the entire redevelopment area
- City owned property adjacent to MetroLink available for immediate redevelopment

Approach to Revitalization

There are two approaches to the revitalization of the area:

- Scattered Site Development Strategy
- Comprehensive Development Strategy

Scattered Site Development Strategy

This development strategy is based on a "site by site" investment approach requiring a number of implementation plans and finance strategies pursuant to each site and its specific market driven possibilities. This is a traditional approach that suggests a protracted redevelopment strategy based on availability of funds for each site and investor interest in the marketplace.

This approach does not optimize existing infrastructure amenities for the entire market area and can limit opportunities for adjacent property. A wide market benefit, such as a shuttle/trolley system would be more difficult to implement using the scattered site approach. It will be more difficult to predict scattered site development schedules and the amount of investment planned on a parcel by parcel basis thereby influencing the perceived need for a local transit system such as the shuttle/trolley concept.

There are usually significant costs associated with development in older communities, such as possible site remediation, building demolition, land assembly, Property acquisition and rezoning.

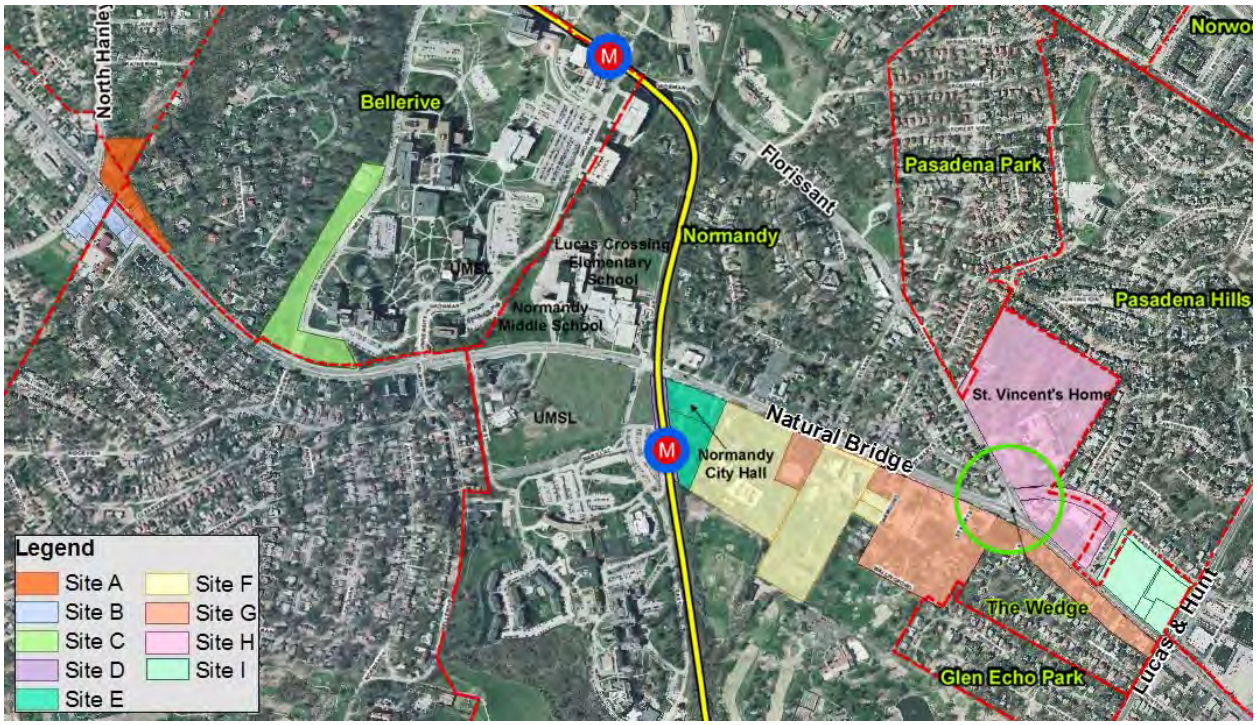
If the developer(s) agree to participate in the costs associated with offsite improvements, the design and construction of these improvements are pursuant to the private developer's financial capability and desire to enhance off site amenities. Negotiations associated with private developers paying for public improvements are usually complicated to negotiation due to the costs associated with agency design standards and costs associated with long term maintenance of the infrastructure once construction is complete.

An index of possible development sites include the following and are illustrated in Exhibit 6.1:

- SITE A: Natural Bridge and Hanley Roads Option – Northeast Quadrant*
- SITE B: Natural Bridge and Hanley Roads Option – Southeast Quadrant*
- SITE C: University of Missouri – North Campus Detention Area
- SITES D, and E: MetroLink and Normandy City Hall
- SITE F: Property Owned by the Archdiocese of St. Louis, etal
- SITE G: St. Louis County Library to Lucas Hunt Road, South Natural Bridge Road
- SITE H: St. Vincent's Germanic Home Association
- SITE I: Roland Avenue to Lucas Hunt Road

NOTE: * *These sites are not located within the primary study area but are recommended as significant sites impacting future land use consideration within the broader context of the Natural Bridge Road corridor.*

EXHIBIT 6.1: PRIMARY STUDY AREA POTENTIAL FUTURE DEVELOPMENT SITES



Source: St. Louis County GIS

Tax Incremental Financing (TIF) has become very popular over the years, providing developers with an opportunity to recapture part of their investment in property. There are redevelopment opportunities within the Natural Bridge Road corridor that can benefit from use of this particular statutory funding tool. Typically, TIF sites are established within the boundaries of the developer's property and do not include off site infrastructure enhancement unless specifically encouraged by the municipality. Sites that may qualify for TIF within the primary study area include:

- The commercial property along the south side of Natural Bridge Road between Lucas and Hunt Road and Oakmount Street. Market demand, costs associated with the assembly of property, and availability of financing will dictate the amount of parcels assembled by any developer. Therefore, it is possible that multiple developers will be involved in any revitalization efforts along this section of the corridor and the timing of the redevelopment efforts may vary depending upon the developer criteria.

- The commercial property along the north side of Natural Bridge Road between Lucas and Hunt Road and Florissant Road (bounded by Pasadena Boulevard on the north). Sites are created by the Roland Avenue alignment, which will remain in any redevelopment plan as an historic location within the market place. The two sites are candidates for TIF and may include demolition of existing structures and the development of new, mixed use investment. The redevelopment of these sites will require extensive utility work on site and minor modifications to Natural Bridge Road sidewalk realm. To achieve the envisioned pedestrian realm plus outdoor dining for instance, wider sidewalks, aesthetic sidewalk treatments, and landscaping may be included as modifications. In addition, the west side of Pasadena Boulevard (curb cuts) will likely need to be modified due to access and streetscape enhancements that may be required as a result of redevelopment at the time the development plans are approved.

- The Normandy City Hall site located east of the MetroLink station on the south side of Natural Bridge Road. This parcel site is a candidate for TIF designation due to the potential need for demolition and reconstruction on the site. Off site infrastructure development may include designing pedestrian connections between the new development and the MetroLink station; modifications to the existing tributary on the east side of the site; and, streetscape modifications at Natural Bridge Road.

In summary, TIF is a typical development tool appropriate for the sites mentioned above along the Natural Bridge Road corridor. The use of TIF provides economic development benefits to the community through the investment of private financing to develop commercial and mixed use projects. The process of approving development plans also provides the municipality(ies) with the opportunity to examine potential offsite improvements that may add additional benefit to the community related to infrastructure enhancements and in some cases social improvements*. Advantages to the developer include the establishment of a statutory development tool on private property, typically within the legal boundaries of the developer(s) property.

Any off site infrastructure work must be negotiated with the developer at the time a development plan is submitted for approval. Otherwise, municipality must bear the expense of required improvements created by the development as mentioned above. Improvements such as roadway improvements necessary as a result of increased traffic generated by the new development; aesthetic upgrade, and additional parking would be examples of municipal improvements created by new development. Typically, the offsite improvements are adjacent to the subject TIF boundaries and do not extend great distances from the designated district boundaries. As mentioned above, revenues from the TIF may only be expended with the boundaries of the TIF and therefore any negotiated offsite improvements rely on private funds or in some cases public/private funds.

* Social infrastructure improvements have been negotiated from time to time and tend to be associated with larger projects. These improvements may include new or upgraded community center; development of parks; or funding for public improvements such as new play ground equipment.

Comprehensive Development Strategy

The comprehensive development strategy is based on a more complex planning and finance strategy that may encompass the entire primary study area providing investment and long term maintenance of the local market place. This is accomplished by establishment of a large . This approach, although more complex, may be ideal for this market area given the cooperation and collective interest shown to date by existing investors and market participants.

There are several compelling reasons to consider this option:

- Reinforces the amount of investment that exists in place within the corridor
- Compels multiple municipalities to work together toward the same goals within the structure of the designated development district
- Public infrastructure funding for a direct shuttle/trolley link between MetroLink and employers in economic areas
- Facilitates funding to improve key transportation routes to the Wedge area
- Allows oversight and input for development opportunities and investment strategies applicable not only to the study area but those potential development sites that surround the study area
- Allows the cohesive and cooperative communication between public and private participants having a vested interest in sustainable growth to plan for and to establish designated development area(s) to assure future investment and long term maintenance of market activities
- Provides a funding resource derived from creative and comprehensive management within the designated development area
- Provides stability and continuity to the designated area regardless of market and political changes that may occur around and within the investment area
- Provides for an orchestrated approach to development that takes into consideration land ownership; available funding; market driven development timing; and scheduled investment patterns consistent with the local market

By far the greatest and most admirable form of wisdom is that needed to plan and beautify cities and human communities.

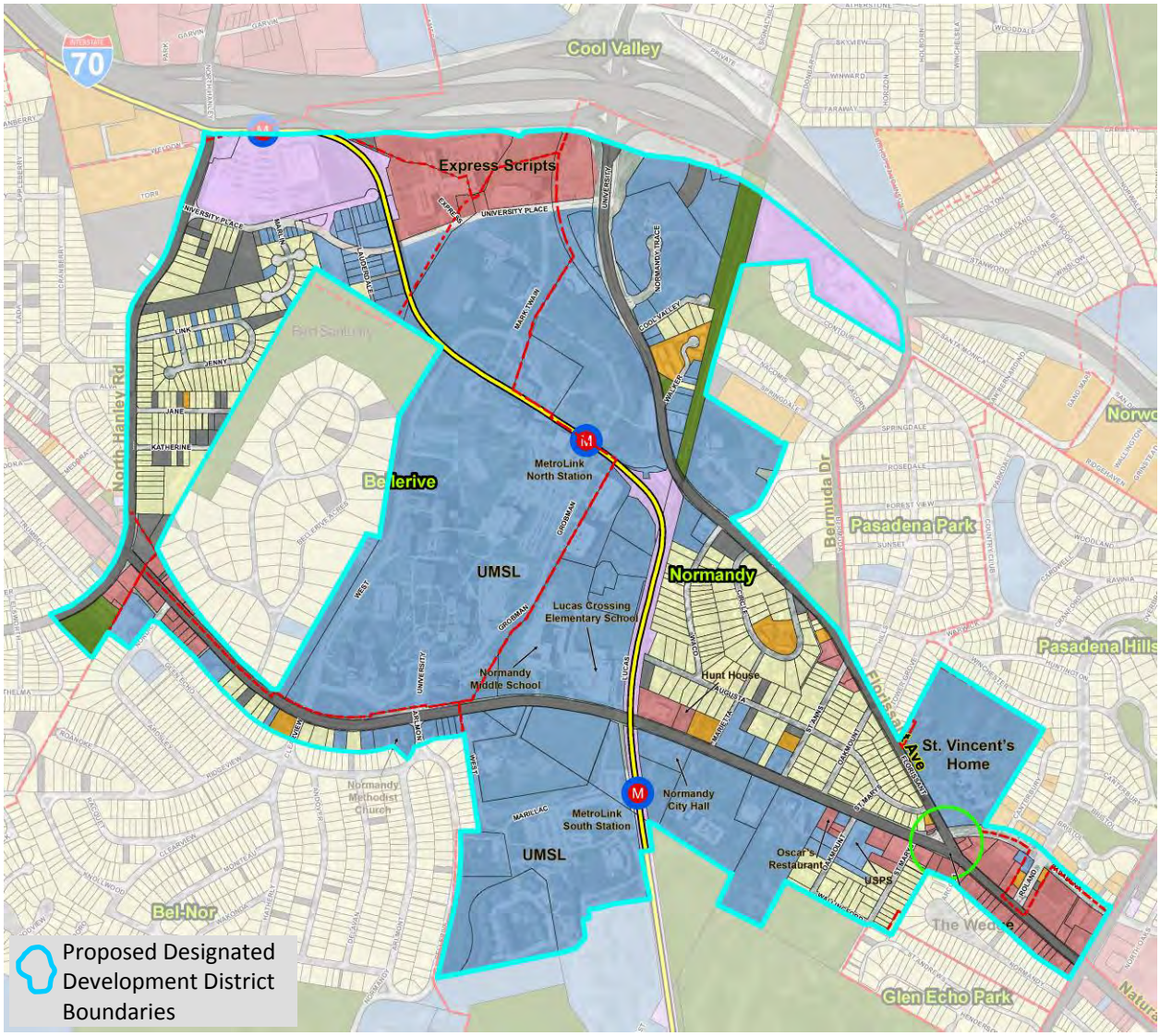
Socrates, *Greek philosopher (469-399 BC).*

When asked to rate the importance of each issue area on a scale of Very Important to Not At All Important, a majority (76 percent) of respondents rated Reinvestment in Older Communities as Very Important to the future of St. Louis County."

St. Louis County strategic plan Update 2008. Missouri

This strategy provides for funding and long term management of investments requiring board oversight composed of investment interest within its defined district boundaries. Exhibit 6.2 suggests proposed district boundaries that may be modified during the implementation of this strategy.

EXHIBIT 6.2: COMPREHENSIVE DEVELOPMENT STRATEGY MAP



Source: St. Louis County GIS

Those properties included within this comprehensive plan include residential, commercial and institutional land willing to participate in ongoing investment and enhancement of the market area. Additionally, infrastructure such as roads, sidewalks, and transportation stations and stop locations are included within the designated boundaries to assure that vital public links are maintained and remain an integral part of the overall value created for the area.

The comprehensive approach to redevelopment in the primary study area is reinforced by the integrity and historic involvement of the stakeholders. Within a comprehensive development district the stakeholders will have the ability to plan, finance, and maintain a strategy for phased redevelopment; upkeep and enhancement of infrastructure; strategic planning to forecast the needs of the district, and the development of creative programs and incentives that can set this area apart and serve as a model for the region.

Planning and implementation of this concept will require close communication among the participants and the final designated development area will need to be designed to include or exclude participants based on their commitment and interest in the revitalization of the community.

Until the lines are clearly established through this process, the Exhibit 6.2 is only an example of inclusion, not a final recommendation.

Financing a larger, more comprehensive district may be best served through implementing a State of Missouri statue known as the "Missouri Community Improvement District Act" (CID) or alternatively as a "Transportation Development District" (TDD)*. These statues will be described in greater detail in a later paragraph, however, as creative development tools they generally provide for property owners to designate specific boundaries and either establish a not-for-profit corporation or a political subdivision to facilitate planning and implementation.

A final benefit that may be considered, related to the creation of a comprehensive redevelopment area, is associated with job creation and the possibilities of employment associated with the long term care and maintenance of landscaped areas; shuttle equipment; street maintenance and upkeep; and promotional activities. A jobs program may be a good way to address student and local population employment needs. Possible implementation of a jobs program may include, but is not limited to:

- Establishment of a not-for-profit organization that identifies student and local talent and assigns jobs required such as landscaping or grounds maintenance
- Establishment of a for-profit organization that hires and assigns work under a master agreement for a specific period of time
- CID agreements with contractors hired to provide services includes language which requires that students and local talent be considered as employment candidates based on work scope and project needs

Note: This corridor has distinguished itself over time as a successful marketplace among competing local municipalities and through continued economic change. It is however, a complex marketplace made up of multiple municipalities; substantial institutional influence; and well organized neighborhood groups cooperatively working to keep the area safe and economically viable. In view of all these positive conditions, the commercial interest in the area has not grown and appears to be declining in some specific locations throughout the corridor. The complexity of the corridor and the changing economics generally, prompts the recommendation that a broadly encompassing designed redevelopment district be established that allows for planning, financing, and redevelopment applicable to the primary study area including infrastructure and transit options created to serve the entire marketplace. A planned redevelopment district will forge relationships between private and public investment with oversight of the common good of the district.

Finance Strategy for Comprehensive Development

Finance strategies typically are "designed" to fit the particular needs and opportunities of development investment opportunities. Therefore, it would be unrealistic to attempt to apply finance strategies to any of the opportunity development sites discussed here until master planning has begun and specific legal boundaries are agreed upon among the parties participating in redevelopment investment.

In order to facilitate statutory funding, an implementation plan and finance strategy must be carefully crafted that links economic development potential and physical land characteristics to specific funding resource appropriate for each site. A strategy includes approaching political advocates and stakeholder groups to negotiate the best funding opportunities available. It is imperative that the vision of the plan is communicated and that it demonstrates that the proposed projects are market driven and financially sound.

Funding is predicated on such circumstances as the following:

- Size of development and land use(s) proposed
- Market demand and future potential
- Time line for development
- Developer capacity to finance
- The location and condition of offsite improvements
- Governmental constraints impacting development potential
- Underlying municipal codes and encumbrances
- Property constraints impacting development potential
- Availability of funding (primary and supplemental)
- Interest and participation by local banks
- Availability of applicable statutory funding devices
- Interest within political strata that stimulates advocacy in the project from local, state, and federal authorities

The following lists of state statutory funding programs are outlined to provide ideas for a creative financing approach for redevelopment and revitalization opportunities within the primary study area. Each of these funding tools requires the need for the establishment of designated development areas specifically described pursuant to survey. Additionally, these funding mechanisms require that all revenues resulting from the district be reinvested within the specific boundaries and are not appropriately used for any activity outside those boundaries.

Long term strategies associated with the establishment of a large, comprehensive development district will include incentives for the development of smaller projects within the boundaries of the larger district. Typically, tax incremental financing districts and other statutory development tools

may be overlain and may become part of the larger district. The important aspect of the comprehensive district is the ability of the stakeholders to control the quantity, quality, and phasing of the redevelopment to the common good of the larger district.

Examples of Statutory District Options

The strategy and timing associated with the implementation of statutory "development tools" are linked to an approved development plan and the investors ability to finance the proposed project(s). As mentioned above, in order to maximize available private and public funding resources, it is necessary to understand in detail those benefits the public will derive from any proposed development including infrastructure improvements; public amenities; and market enhancement.

The following examples provide an overview of designated development area options contained with the Missouri Revised Statutes that may assist in facilitating investment. As mentioned, these funding tools are examples only. There are other examples of funding resource that may be obvious as detailed development plans are submitted. These resources may be appropriate for the development of residential, student or elderly housing for instance. However, these funding resources will be specific to detailed plans and are not mentioned here due to the general nature of this document. At the time development plans are submitted and approved for development, the project characteristics will dictate appropriate use of statutory development tools if required and other available funding specific to each project.

Tax Incremental Financing (TIF)

Local Tax Increment Financing (Local TIF) permits the use of a portion of local property and sales taxes to assist funding the redevelopment of certain designated areas within the community. Areas eligible for Local TIF must contain property classified as a "Blighted", "Conservation" or an "Economic Development" area, or any combination thereof, as defined by Missouri Statutes.

Tax Increment Financing (TIF) has increasingly become the primary source of funding to overcome redevelopment costs. TIF projects use the increase in real estate taxes generated by project improvements along with half of the increase in sales and utility taxes to retire project debt. The percentage of overall St. Louis County sales tax revenue devoted to TIF payments has grown from 1.5 percent to 5.7 percent between 1999 and 2004.

TIF funds may be used to pay certain costs associated with a redevelopment project, including, but are not limited to:

- Professional services such as studies, surveys, plans, financial management, legal counsel
- Land acquisition and demolition of structures
- Rehabilitating, repairing existing buildings on site
- Building necessary new infrastructure in the project area such as streets, sewers, parking, and lighting
- Relocation of resident and business occupants located in the project area

The justifying premise for use of TIF is the assumption that property and local sales taxes will increase within the designated development area after redevelopment, and a portion of the increase of these taxes collected in the future (up to 23 years) may be allocated by the municipality in which the property is located to help pay for project costs, partially listed above.

The municipality in which the development occurs is required to establish a TIF Commission to include representatives of other local taxing authorities within the redevelopment area. Typically, the school district is included as part of the commission as an example of "other" taxing authorities.

The municipality is also responsible for the approval of ordinances that establish the Comprehensive Redevelopment Plan, and for approval of a specific TIF Redevelopment Project.

Responsibilities of the TIF Commission include:

- Working with the local government to create the Redevelopment Plan
- Setting TIF Redevelopment Project parameters
- Holding required public hearings
- Preparation of economic impact reports and revenue projections
- Preparation of blight studies and other documents to justify the need for TIF

Contact information:
Business and Community Services, 301 W. High Street, Rooms 720, 770 Jefferson City, MO 65102
Tel: 1-866-647-3633 Fax: 1-573-751-7384 Email: *missouridevelopment@ded.mo.gov*

Community Development Block Grant Program (CDBG)

CDBG is a pass through funding program from the U.S. Department of Housing and Urban Development (HUD). The maximum amount of funds available varies, pursuant to the type of projects being funded.

Fundamentally, CDBG grants are extended to communities (in this case within St. Louis County) to assist with costs associated with infrastructure. Projects that qualify as associated with improvements to local facilities; that address health and safety within the community and that develop a greater capacity for growth and economic development. Loans to private companies are also available for the creation of new jobs.

In summary, allowed uses include:

- Action Fund Loans – to private companies resulting in the creation of jobs
- Community Facilities Funding – for the development of public facilities designed to provide services to community from a central location such as senior centers; community centers; fire stations; and police stations
- Downtown Revitalization Funding – for the development of public infrastructure and improvements that significantly contribute to the revitalization and/or redevelopment of downtown areas
- Emergency Funding – for projects meeting an urgent threat to health and safety within the community
- Industrial Infrastructure Grants – for public infrastructure development that results in the creation of jobs by a private company benefiting from the infrastructure

- Interim Finance Loans – for short term loans to private companies resulting in the creation of jobs
- Speculative Industrial Building Loan – includes loans to nonprofit development organizations to develop a shell building for industrial purposes
- Water and Wastewater – funding for publicly owned water and wastewater improvements and new construction (a review committee must approve this request prior to final submittal)
- Public Need – funding for eligible activities not addressed within a specific CDBG category listed above (examples: bridges, streets, housing demolition, handicapped accessibility in public buildings; and other costs associated with economic development)

Contact Information:
Missouri Department of Economic Development, www.MissouriDevelopment.org
Missouri Development Finance Board, www.mdfb.org

Missouri Downtown Economic Stimulus Act (MODESA)

This legislative development tool is a relatively new form of tax incremental financing. MODESA combines the use of local property tax increment and economic activity taxes with a portion of the State of Missouri sales tax and income tax withholding to assist with development projects. Parameters for funding include:

- Funds must be used to offset public infrastructure
- A Central Business District is created that is either blighted or a conservation area
- 50% of the buildings must be 35 years old or older
- The municipality must have an annual median household income of $62,000 or less
- Funds must only be used for major investments defined as projects that facilitate:
  - Tourism
  - Cultural activities
  - Arts
  - Entertainment
  - Education
  - Research
  - Multipurpose facilities
  - Libraries
  - Ports
  - Mass Transit
  - Museums
  - Conventions

The estimated costs must equal or exceed the amounts shown in exhibit 6.3 or business locations or expansions must create new jobs as follows:

EXHIBIT 6.3: PROJECT COST VS NEW JOBS CREATED

• Population	• Project Cost	• New Jobs Created
300,000 or more	• $10,000,000	• at least 100
100,000 to 299,999	• $ 5,000,000	• at least 50
50,001 to 99,999	• $ 1,000,000	• at least 10
50,000 or less	• $ 500,000	• at least 5

MODESA authorizes municipalities to provide long term financing for development projects in designated development areas through the issuance of bonds or other obligations. These bonds or obligations may be payable from the increment increase in real estate taxes and 50% of the increase of tax revenues generated by economic activities within the development area (including most sales tax and earning tax revenues). Basically, a portion of new state and local taxes created by a project can be diverted to fund eligible public infrastructure and related costs for a period of up to 25 years. The local match must be, at a minimum, 50% of the amount of the new local sales tax for those projects in St. Louis County and 100% of the amount of the new real property tax created by the project each year; or a comparable amount of local funds from the county or a non-profit organization. This contribution from local taxes results in redirected funds to offset a portion of the costs of development projects.

Finally, the following funding limits are applicable to this funding source:

- The project will not receive funds until it generates increment
- The project cannot receive more than half of the increased amount of state sales tax and/or income tax it generates
- The program is limited in any year to the amount of funds appropriated by the State of Missouri General Assembly and the law does not allow an annual appropriation to exceed $108,000,000.
- In the event appropriations from the funds are not adequate to cover approved disbursements, projects will receive a pro-rata share of increment

Missouri Community Improvement District Act (CID)

CID legislation is an invaluable tool for implementation of well planned redevelopment areas and generally provides for property owners (and business owners) within a designated development area to form either a not-for-profit corporation or a political subdivision to manage activities within its boundaries. Once formed, the CID entity possess certain powers that enable them to carry out fiscal initiatives; raise funds through special assessments, and levy taxes for the development and maintenance of infrastructure.

The formation of such an improvement district must include approval of property owners owning more than 50% of the assessed value of the property within the district boundaries and 50% per capita of all owners within the district must sign a petition that is provided to the hosting

municipality for approval at the time the district is proposed to be established. Any petition provided to the city must contain the following information:

- Proposed Name of the CID
- Boundaries (designated development area)
- A 5 year capital and service plan
- Defined purpose of the CID
- A cost estimate of the improvements to be provided
- A determination that the CID will be either a not-for-profit corporation or a political subdivision
- The assess value of all property within the CID
- Whether a declaration of blight will be sought
- Proposed duration of the CID

The municipality has forty five days after receipt of the petition to organize a public hearing; prepare an ordinance; approve the petition and subsequently set up the district. A written report must be sent to the Missouri Department of Economic Development as the final step in the formation of the CID.

Upon being established, a board of directors is elected or appointed to govern the district. If the board is appointed, the municipality has the authority to select the board. The general administrative process associated with CID districts includes the following procedures:

- The addition or removal of real property within the boundaries
- Expansion of the boundaries
- Removal of property within the boundaries
- Hold annual meetings
- Prepare an annual budget
- Prepare and forward a fiscal year report to the municipality and the Missouri Department of Economic Development

Pursuant to the creation of the CID, certain power is granted to the district generally described as follows:

- To sue or be sued
- Enter into contracts
- Acquire and dispose of property

- Borrow and loan money
- Levy and collect special assessments and taxes
- Collect fees and rent
- Raise and expend funds to promote business activities
- Promote and recruit new development and businesses
- Promote special events
- Assist with the construction, reconstruction, installation, repair and maintenance of public improvements
- Within blighted areas: demolish and remove, renovate, reconstruct or rehabilitate any building or structure
- Expend or loan revenues for the removal of blight

CID districts may levy property taxes or business license taxes for land or businesses located within the district subject to the approval of a majority of votes cast by qualified voters. Qualified voters are registered voters who reside within the district, or are qualified voters and the owners of the property who will be subject to a tax 30 days prior to the election, in the event that no registered voters live within the district.

Finally, the host community may set up a fund in its budget (or treasury in the case of the state) to pay the costs associated with: planning or administering the CID; making an improvement; preparation of preliminary plans, studies and engineering reports; or paying initial costs of improvements until the CID is able to issue and sell its obligations.

The planning and implementation of a CID is complex and requires careful consideration of the pros and cons associated with district parameters. A CID district is however ideal for larger redevelopment areas and mixed economic development opportunities.

Transportation Development District (TDD)

A transportation development district is a separate political subdivision that may be created to fund, promote, plan, design, construct, improve, maintain and operate one or more transportation related projects or to assist in such activities.

A TDD may finance any transportation related improvement, including bridges, streets, roads, highways, access roads, interchanges, intersections, signage, signalization, parking lots, bus stops, stations, garages, terminals, hangers, shelters, rest areas, docks, wharfs, land and river ports, airports, railroads, light rail, or other mass transit and any similar or related improvement or infrastructure. Before construction or funding of any project, a TDD is required to submit the proposed project, together with the proposed plans and specifications to the MoDOT and EWGCOG for their approval.

A TDD is created by petition of (1) at least fifty registered voters* within the proposed district, (2) if there are no registered voters within the district, the owners of all the real property located within

the proposed district, (3) the governing body of any local transportation authority in which a proposed project is located.

A TDD can only finance transportation related improvements, while a CID can finance a wide array of public improvements and services. A TDD can finance improvements that benefit the property within its boundaries**; a CID generally cannot spend money on projects outside its boundaries. TDD bonds can have a 40 year maturity while CID bonds are generally limited to 20 years. A TDD property tax cannot exceed $0.10; there is no limit on the CID property tax.

*A "qualified voter" means, (1) any registered voter residing within the proposed district, or (2) if no persons eligible to be registered voters reside within the proposed district, the owners of real property located within the proposed district."
** Sales taxes, special assessments or real property taxes imposed are used to fund the projects designed and approved by the TDD

Of the 139 TDDs established as of December 31, 2007, 96% were initiated by a petition filed by the property owners. In a survey of those TDDs, officials or representatives of the districts reported total estimated transportation projects costs of over $1.26 billion. In addition, those TDDs reported total estimated revenues of over $1.54 billion would be collected over the lives of the respective TDDs.

Also, 42% of the TDDs established as of December 31, 2007 were located either completely or partially in a Tax Increment Financing (TIF) redevelopment area. State laws provide that 50% of the additional tax revenues generated in such areas are to be used for the purposes of that TIF area, however, in some instances, the applicable city has allowed the TDD to apply most, if not all, of its sale tax revenue to it own transportation

Source: St. Louis County GIS, State of Missouri: Report NO. 2010-22/February 2010

Brownfield Redevelopment Program

The total statewide costs of any project must be less than the projected state economic impact of the project as determined by the Missouri Department of Economic Development (DED) and the amount of remediation and demolition tax credits must be the least amount necessary to cause the project to occur. The benefit of this particular statutory funding tool is tax credit based including:

***Remediation Tax Credits*:** DED may issue tax credits for up to 100% of the cost of remediation and will issue 75% of the credits upon adequate proof of payment of the costs associated with the project with the remaining 25% issued upon receipt of a "clean letter" issued by the Missouri Department of Natural Resources (DNR). Remediation Tax Credits carry forward 20 years and are sellable and transferable.

***Demolition Tax Credits*:** DED may issue tax credits for up to 100% of the cost of non-remediation demolition costs. Any demolition must be part of a city or county and state approved redevelopment plan. Demolition Tax Credits carry forward for 20 years.

Jobs and Investment Tax Benefits: Businesses locating at the project site that create new jobs to the state may receive (for up to 10 years) tax credits in the amount of $500 to $1,300 per year for each new job created; 2% of new capital investment per year; and a 50% income exemption. To be eligible, the city or county must provide at least 50% real property tax abatement for 10 to 25 years. Job and Investment Tax Credits have no special attributes and must be applied to tax liability for the year earned.

Special Conditions: The following special conditions apply:

- Applicants cannot be a party who intentionally or negligently caused release or potential release of hazardous substances

- If the property is not owned by a public entity, the city or county must endorse any project proposed for the site
- The project must be accepted in the "Voluntary Cleanup Program" by DNR
- The project must be projected by DED to result in the creation of at least 10 new jobs or the retention of 25 jobs by a private commercial entity

Special Requirements:

- Credits are subject to 2.5% issuance fee and the "Tax Credit Accountability Act" reporting form must be submitted to DED by June 30 each year for 3 years following the year of the first issuance of tax credits

Other Resources

Examples of other funding sources that may be applicable include:

- Business Facility Tax Credit Program – to provide tax incentives to facilitate the expansion of new and existing businesses that were established prior to 1/1/2005
- Chapter 353 Tax Abatement – available to for-profit urban redevelopment corporations organized pursuant to the Urban Redevelopment Corporation Law pertinent to blighted areas by the municipality
- Enterprise Zone Tax Benefit Program – providing tax incentives to facilitate the expansion of new or existing businesses in the state that were established prior to 1/1/2005
- Small Business Incubator Tax Credit Program – to issue a 50% state tax credit to a taxpayer who makes a contribution to an approved incubator sponsor
- Local and national banks willing the participate in community development projects that provide façade and property upgrade projects as well as community based redeveloped efforts that may include secondary funding and leveraged assets

Establishing Designated Development Areas

General Outline

It is recommended here that cities within the primary study area, wishing to advance investment, prepare a strategic approach plan for redevelopment of specific areas within their communities before any contact is made with the development and investment community. This approach allows the city to:

Action Item	Implementer
1. Clearly and definitely understand available statutory funding tools	City, City Attorney, Consultant
2. Establish a task force capable of planning and implementation activities in support of market driven development parameters	City, City Attorney, Stakeholders, Consultant
3. Determine the level of participation needed from the city to comply with funding requirements such as local match stipulations	City, Consultant
4. Clearly define City expectations associated with return on investment to the municipality	City, City Attorney, Consultant
5. Document and prioritize areas for redevelopment based on market conditions and availability of land	City, Stakeholders, Consultant
6. Determine underlying municipal codes and their impact on future development potential and financing, if any	City, Consultant
7. Identify physical collateral the City will provide to the redevelopment process such as enhanced infrastructure, comprehensive planning, transit availability, available land, and other public investment that inure to the overall character and market appeal of the community	City, Public Agencies, Consultant
8. Identify and cultivate political connections that support and sponsor redevelopment efforts including politicians, agencies, and private banking investment options	City, City Attorney, Consultant

The following time line is general in nature and will need to be modified for the cities' benefit as developers approach with their demands related to investment within the communities. Of importance to the city are the predetermined strategy discussed above and the understanding of the potential the city can offer. To follow is a general list of activities needed to facilitate developer negotiations:

- Assemble stakeholder participation and cooperation in defining revitalization areas – seek their input about needs; expectations; expansion; and other activities that will be incorporated in future planning

- Establish a committee that will select consultants to assist with strategy and preparation of appropriate materials; give support and backing to the city; generate interest in the market area through their associations and contacts; identify appropriate investors; provide community support for all activities associated with the revitalization process

- Preparation of an "implementation plan and finance strategy" associated for each specific redevelopment area prior to developer contact – this plan to include definition of infrastructure benefits

- Outline a promotional plan for the entire community that can be expanded to include existing and emerging market benefits – this plan needs to identify the uniqueness of the marketplace and provide techniques that draw customers into the marketplace such as articles of success; coupons; and public interest information such as the historic contribution of institutions in the area

- Identify and seek participation from all private and public property owners to validate cooperation and assure the future discussions regarding redevelopment are not disrupted by those not wishing to participate in revitalization – a summary of all property available for redevelopment impact needs to be prepared and agreed to by all land owners

- Enter into discussions with local banks, outlining approach and expectations to determine their level of interest in participating in the revitalization process and to what extent they may wish to participate – this may include such programs as "façade improvement grants"; participation in loans with developers; home improvement grants; and other community investment projects such as paid advertising within publications

- Assemble political support – present implementation plan and finance strategy; define for politicians exactly what will be needed from them in order to assure revitalization – these meetings will include details related to designated development districts as defined in the implementation plan

- Use implementation plan to market specific sites for redevelopment within the developer community – marketing may extend beyond the St. Louis regional and should include a broad exposure tactic

- Armed with the details of financing options derived from the strategic planning work suggested above, work with developers to create investment options that create value and benefit to both the community and the investor(s)

Summary

To effectively solicit statutory funding for projects, a designated development area needs to be clearly defined and supported by a master plan, implementation plan and finance strategy to attract political support and to assure success. It is in the preparation of these documents the specific characteristics of the defined area becomes clear, as well as the opportunities within the district that may qualify for funding not applicable to the entire area. The creation of the master plan allows for creative application of planning, infrastructure, and funding functions to be blended into a strategy for implementation and redevelopment.

Note: Success in the use of statutory funding resources is predicated upon a well defined implementation plan and finance strategy that is market driven and defines the full extent to which the city is prepared to participate. All implementation planning needs to occur prior to contact with private developers to assure that the stakeholders and political contacts needed to coordinate project(s) are in place and are participating in the process and that the best interest of the cities are represented.

This chapter has outlined various statutory funding resources that may be appropriate as the community prepares its own strategic approach to revitalization. A few of these tools are mutually exclusive while others may be combined with alternative public and private resources to create defined development areas that serve the community and the investor(s) well.

7 PERFORMANCE MEASURES AND EVALUATION OF ALTERNATIVES

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CHAPTER-7 PERFORMANCE MEASURES AND EVALUATION OF ALTERNATIVES

Performance Measures

One key element of the Great Streets Initiative planning process is to establish the quantitative as well as qualitative performance measures that will assess overall street design and its impact on adjacent land-uses. The aim of these performance measures is threefold:

- Evaluate alternatives in planning and design of the travel way with respect to land use
- Assess the performance of the land use with respect to economic development and environmental sustainability of the corridor
- Provide measures for performance of the overall plan following redevelopment and infrastructure improvements

The stakeholder vision statement for the Natural Bridge Great Street corridor is as follows:

Natural Bridge Road is transformed into a *vibrant destination* that provides an inviting location for pedestrians, bicyclists and motorists alike. The new facility will *enhance existing* and *promote new* commercial, residential and entertainment uses and create an improved tax base. The corridor has a distinct look and feel that is consistent with the rich history of the communities that surround it.

In order to achieve this vision, the following goals for the corridor are:

1. **Support economic development opportunities and provide a vibrant destination.**
2. **Support all modes of travel.**
3. **Be sensitive to the environment and provide a visually appealing corridor.**

The vision and goals were developed in facilitated meetings with the Natural Bridge Road Great Street Advisory Committee; then validated by the public at the first and second open house meetings. The goals were further analyzed to determine what the goals and objectives actually mean regarding expected outcomes that will differentiate alternatives.

It is important that the performance measures be defined before development of alternatives so that an unbiased assessment of alternatives during the design phase can take place. Performance measures used for the Natural Bridge corridor include:

- Economic indicators within the framework of the stakeholder vision statement
- Functional Relationship of Travel way *(With existing and proposed land uses)*
- Pedestrian accessibility and safety
- Bicycle accessibility and safety
- Accessibility to transit facilities (Metro Bus and MetroLink)

- Evaluation of any proposed alternative means of transportation
- Evaluation of traffic operations for motor vehicles
- Access management
- Public/Shared Parking
- Capital Costs
- Maintenance Cost
- Environmental Sustainability (Stormwater management and quality, Heat Island effect)
- Aesthetics (Usable public space, and visual appeal of the corridor design)

During the design phase, performance measures used for Natural Bridge Road listed above define the decision criteria in the corridor that will determine the extent to which each alternative will achieve the goals of the corridor. However, based on the existing conditions and future goals, certain measures will be higher priority than others, based on the prioritized goals. Therefore, it is necessary to assign weight (importance) to each performance measure. The resultant weighted performance measures will clearly indicate the preferred outcome and trade-offs of the alternatives.

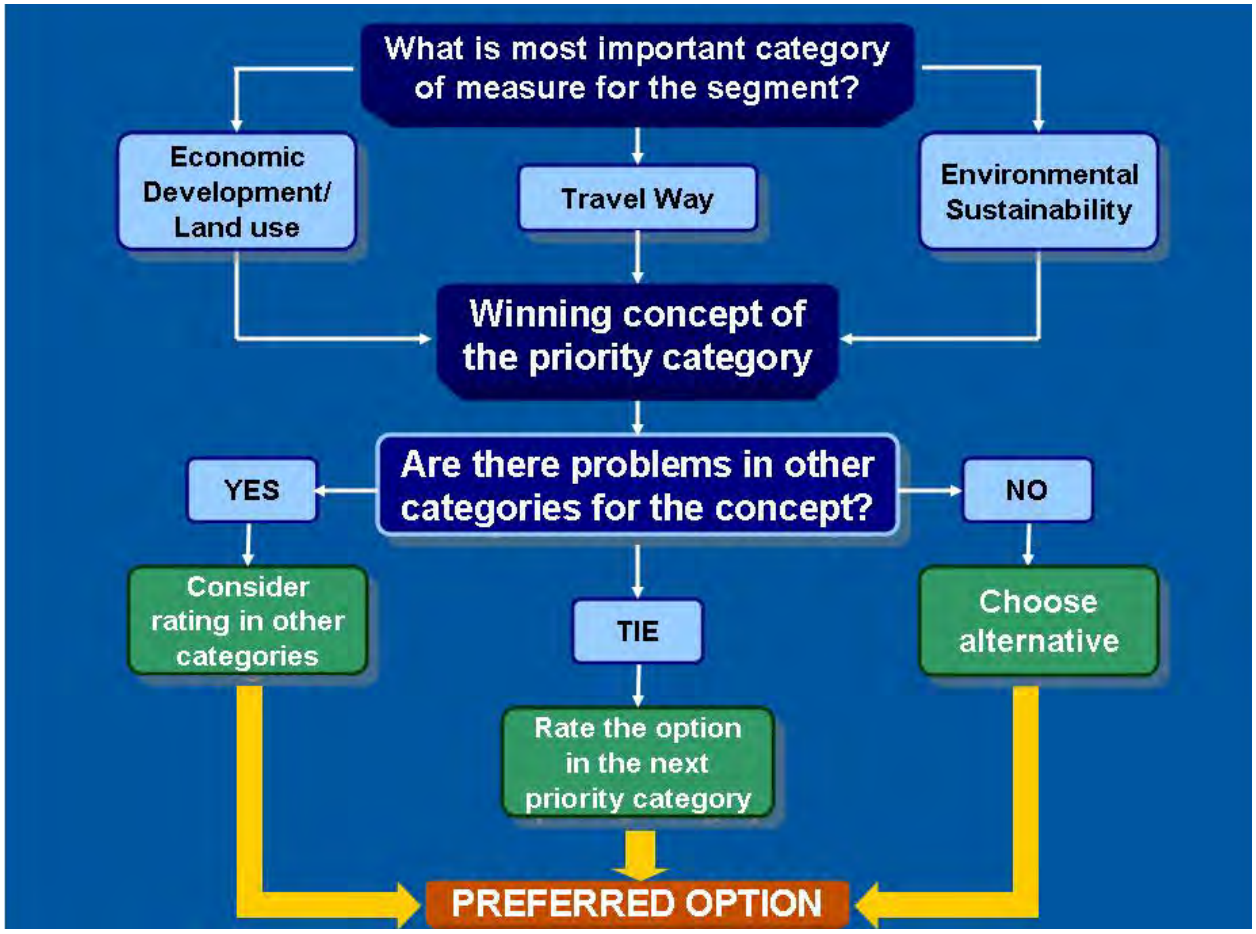
Evaluation Process

Each performance measure was ranked on the scale of 1 to 5; 1 being the least effective alternative and 5 being the most effective. Further, all performance measures were weighted on a scale of 1 to 5 based on their importance to the Great Street Advisory Committee for Natural Bridge Road, stakeholders, the public and officials in the corridor. The points received by each performance measure are an outcome of rank (effectiveness) multiplied by weight (importance). See Appendix 7.1 to see detailed calculations.

It is important that measures be quantifiable so that those interested in looking back at the process can understand how the alternatives were measured. Certain measures such as safety (accident rates are qualitative, but future rates are not) and land use relationship within the travel way are based on qualitative analysis. Some observational points are discussed in the descriptions of performance measures to enable the assessor to make their best judgment in assigning a rank (from 1 to 5) to such qualitative performance measures.

The flow chart below gives a snap shot of the process followed to select the preferred option

Exhibit 7.1: Process to select preferred option



Source CH2M HILL

Description of Performance Measures

To further detail these performance measures for the corridor, the indicators are defined in more detail below. Criteria will be defined as qualitative or quantitative, depending on measurement, and will be used to compare and narrow alternatives to be used in developing the conceptual plan for the corridor. An initial screening takes the overall range of options to a manageable number for formal evaluation and discussion with the public.

Economic Development and Land Use

Objectives:

- Increase economic sustainability
- Improved market perception of the area
- Improved quality of life in the area for businesses and residents
- Create a corridor that motivates involvement and ownership of the corridor by all stakeholders
- Enhance the perception of the area for economic opportunities
- Provide a diverse mix of land uses and a diverse customer base for the corridor
- Enhance economic development
- Provide for a business friendly environment that carries out the vision for the corridor
- Encourage development that is sensitive to the environment, pedestrians, transit and bicycles.
- Increase student activity (Elementary to University participation) in the corridor
- Increase employee activity from UMSL and Express Scripts in the Natural Bridge market for retail, dining and service businesses

Performance Measures and Evaluation Criteria

Operations with Land Use

Future Land Use

Evaluation criteria include:

1- Does not encourage future development, difficulty in accessing properties, does not provide usable land for development, does not create a aesthetically pleasing environment

3- Partially encourages future development, difficulty in accessing some properties, partially provides usable land for development, and creates an average aesthetically pleasing environment

5- Encourages future development, Ease of accessing all properties, provides usable land for development, and creates an aesthetically pleasing environment

Operations with Land Use

Existing Land Use

1- Does not support existing development, difficulty in accessing properties, does not help to retain existing businesses, and does not create an aesthetically pleasing environment

3- Partially supports existing development, difficulty in accessing some properties, partially helps to retain existing businesses and creates an average aesthetically pleasing environment

5- Supports existing development, ease of accessing all properties, helps to retain existing businesses and creates an aesthetically pleasing environment

Ability to provide new developable areas

1- Does not support existing development, difficulty in accessing properties, does not help to retain existing businesses, and does not create an aesthetically pleasing environment

3- Partially supports existing development, difficulty in accessing some properties, partially helps to retain existing businesses and creates an average aesthetically pleasing environment

5- Supports existing development, ease of accessing all properties, helps to retain existing businesses and creates an aesthetically pleasing environment

Parking

Increase/ decrease in parking supply

1- No parking spaces provided in the right of way (No opportunities for Shared Parking)

5- Maximum number of parking spaces provided in the right of way (Significant opportunity for shared parking)

Accessibility

1- Restricted accessibility for the whole corridor, no median cut outs provided or cutouts are not integrated with land use

3- Partly restricted accessibility, median cut outs are partially integrated with land uses

5- Ease of accessibility, either left turn lanes with refuge islands for pedestrians or median cutouts well integrated with land uses

Connectivity to Land uses

Connectivity to land uses from parking spaces based on walking time and level of pedestrian connectivity

1- Difficulty in accessing buildings from parking spaces (Example: more than 5 minute walk from parking lots, need for crossing street with moving traffic)

3- Partial difficulty in accessing buildings from parking spaces (Example: 2- 5 minute walk from parking lots, no need for crossing street with moving traffic)

5- Ease in accessing buildings from parking spaces (Example: less than 2 minute walk from parking spaces, availability of on-street parking, no need for crossing street with moving traffic)

Ability to provide additional open space for public and commercial uses in the corridor

1- Minimum square footage of open spaces provided for public and commercial uses in the corridor

5- Maximum square footage of open spaces provided for public and commercial uses in the corridor

Accessibility to businesses

Performance is based on ease of accessibility to land uses for patrons (vehicular, bicyclist and pedestrians) and deliveries

1- No direct accessibility and directional instruction

3- Partial accessibility and directional instruction

5- Direct accessibility and ease of directional instruction

Future Economic/Land-Use Measures

During the design phase these performance measures listed above will be used to choose a more effective alternative based upon expert opinions. However some important measures may not be quantifiable until the project has been fully implemented. Some of these parameters are listed below and can be used periodically to evaluate the success of the implemented option.

- Number of new businesses
- Businesses retained
- Increase/decrease of assessed property values (Quantitative/Qualitative)
- Increased tax base in areas of commercial development (potential increase in sales tax)
- Improvement to the corridor's economic status (Qualitative)
- Increased public/private partnerships and volunteer programs (Qualitative)
- Decrease in building vacancy rate
- Increase in square footage to land ration for commercial land uses

Travel Way Design

Objectives:

- Exceptional bicycle and pedestrian facilities provided
- Travel way design serves transit modes in the corridor
- Travel way design serves adjacent land uses
- Support the traffic operations necessary for sustainable development
- Travel way design serves delivery trucks, buses and emergency vehicles
- Travel Way design serves existing and future businesses
- Travel way serves existing neighborhoods
- Travel way serves existing institutions
- Provide for the safe movement of people and goods throughout the corridor

Performance Measures and Evaluation Criteria

Pedestrian safety

Pedestrian quality of service

1- Overall very low quality of service - No sidewalks, no crosswalk markings, not handicap accessibility, no pedestrian scale lighting, inadequate signage and way finding

3- Overall optimum quality of service – Acceptable width of sidewalks, visible, marked crosswalks, meets minimum ADA accessibility standards, minimum pedestrian buffers, pedestrian refuge islands at some locations, some street furnishing (public furniture), pedestrian scale lighting

5- Overall very high quality of service including large crosswalks, well marked, visible crosswalks (crosswalk material has contrasting color and texture compared to roadway), handicap accessibility, attractive pavement finishes, large pedestrian buffers, pedestrian refuge islands, street furnishing, pedestrian scale lighting

Accessibility in the corridor for all users

1- No sidewalks, non-conformity with ADA requirements

3- Optimum buffers (5 to 6 feet), wide sidewalks (8 feet or more), conformity with ADA requirements

5- Large buffers (more than 6 feet), wide sidewalks (8 feet or more), conformity with ADA requirements

Length of crosswalks

1- Maximum length of crosswalk

5- Minimum length of crosswalk

Bicycle accessibility

Linear feet of bike facilities provided

1- No bicycle accommodations

2- Share the road signs

3- Wide outside lanes

4- Separate bike lanes

5- Bike lanes and shared use paths

Bicycle quality of service

1- No bicycle accommodations, On-street angled parking

2- Share the road signs; on-street angled parking

3- Separate bike lanes or wide outside lanes; on-street parallel parking, bike parking

5- Bike lanes and shared use paths; no on-street parking; bike parking and storage facilities

Auto accessibility

*Vehicular level of service**

1- Level of service E/F

2- Level of service D/E

3- Level of service C/D

4- Level of service B/C

5- Level of service A/B

**NOTE: This is a commonly used method of assessing roadway operating conditions, which include delays and vehicles per lane per hour of motor vehicles through segments and intersections. For local government comprehensive planning purposes, level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility. 2) This term refers to a standard measurement used by transportation officials which reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F. (Segment 1)*

*Vehicular quality of service***

1- Level of service E/F

2- Level of service A/B

3- Level of service B/C

4- Level of service C/D

5- Level of service D/E

Note: The vehicular quality of service measurement includes both qualitative and quantitative assessment based on several factors in addition to pure motor vehicle measurements. In some areas of the corridor where there is on- street parking, emphasis on bicycles and emphasis on pedestrian; the above revised scale is appropriate for vehicular level of service in this specific corridor.

Transit operations

Bus stop spacing in alternative

1- No bus stops

2- Very few bust stops

3- Too many bus stops

5- Adequate spacing to maintain speed of bus and walking distance between bus stop locations

Accessibility of bus stop locations

1- None of the bus stops are accessible (Have pads)

3- 50 % bus stops are accessible (Have pads)

5- 100 % bus stops are accessible (Have pads)

Transit quality of service

1- None of the bus stop pads or other amenities; Traffic always stops when the bus stops at all locations

3- Bus stops may not have shelter but have a sign and some amenities (bench, lights); mostly have adequate spacing; Traffic may stop when the bus stops at some locations

5- Bus stops have shelters and amenities (Bench, Trash can, lights etc); adequate spacing between bus stops; bus turnouts

Connection to south MetroLink station

1- No facilities for pedestrian and bike connectivity (Sidewalks and on road/ off-road bike facilities)

3- Optimum facilities for Pedestrian and bike connectivity (Sidewalks and on-road/ off-road bike facilities)

5- Above average facilities for pedestrian and bike connectivity (Sidewalks and on-road/ off-road bike facilities)

Reduction of conflict points for motor vehicles, bicycles and pedestrians

1- Maximum number of conflict points

5- Minimum number of conflict points

Operation and maintenance costs

1- Only pavement (Square Feet)

3- Moderate square feet of pavement with large landscaped* medians

5- Minimum pavement and minimum landscaping

* Green Space

Capital costs

1- New facilities

3- Use existing conditions as much as possible

5- No Change

Environmental Sustainability

Objectives:

- Travel way design provides a multi-modal transportation facility that creates an attractive corridor sensitive to the natural and built environments
- Travel way design utilizes green, best management practices (BMP's) to enhance the relationship with adjacent creeks and watersheds
- Enhanced water quality and storm water management from the street environment to adjacent areas
- Adjacent open space along the corridor utilizes Low Impact Development (LID) Techniques for sustainability of the improvements and minimizes maintenance
- Travel way design reduces urban heat island effects
- Light levels for the travel way do not impact adjacent land use

Performance Measures and Evaluation Criteria

Open space

Square feet of active or passive green space in the corridor

1- Minimum area in square feet

5- Maximum area in square feet

Integration with existing open space along the corridor

1- Minimum area in square feet

5- Maximum area in square feet

Increase in tree canopy

1- Minimum number of trees

5- Maximum number of trees

Stormwater

Decrease in impervious surfaces (Square Feet or Acres)

1- Minimum area in square feet

5- Maximum area in square feet

Light levels for the travel way meet national lighting design guidelines

1- Minimum lighting levels for the roadway only with no focus on light pollution to adjacent land-uses

3- Minimum lighting for roadway, minimum lighting for the pedestrian realm but lighting levels that cause light pollution and glare to adjacent land uses

5- Optimum levels for travel way and pedestrian realm, minimization of light pollution on adjacent land use

In the case of existing uses that remain part of any future land use plan, alternatives that qualitatively support property values of land uses will be considered the best performing alternatives, while those alternatives that create a negative impact on land uses will be defined as performing poorly.

Since the future land use plan is just that, a future plan, these performance measures will be entirely qualitative. The primary goal of this measure is to qualitatively gauge how well the design supports the proposed land-use plan for the Natural Bridge Road corridor. A truly great street holistically connects land use and transportation. Therefore, alternatives that enhance accessibility in the nodes of activity along the corridor as identified in the Future Land Use Plan, and interconnection development nodes, will be the best performing alternatives in this evaluation. In addition, those alternatives that enhance public spaces in the corridor provide multi-modal accommodations and good access from adjacent neighborhoods as best performing alternatives. It is anticipated that the alternatives that do not match well with the Future Land Use Plan or are simply streetscape enhancements will not fare as well in performance.

Importance Factor

Based on the public survey, a degree of importance (high, medium and low) has been assigned to each measure. The importance factor acts as a multiplier for each category. Therefore the Multiplier "effect= importance factor" is multiplied by the rating.

For example, the travel way section rating for the importance factor of pedestrian quality of service is High (3) and the rating for option 1A is 2, 1b is 4 and 1c is 5 then the multiplier effect for 1A is 6, 1B is 12 and 1C is 15.

In the economic and land use section the importance factors are as follows:

High= 5, Medium= 3 and Low= 1

In the travel way and environmental sustainability sections the importance factors are as follows:

High= 3, Medium= 2 and Low= 1

The table below depicts the importance factor of each performance measure.

The Matrix

For ease of assessment these performance measures are arranged in a matrix format for use during the design phase for the evaluation design options. These measures along with public survey results of the options will guide the design team to select the best option for the corridor and to develop an overall corridor plan.

EXHIBIT 7.2: TRAVEL WAY PERFORMANCE MEASURES AND IMPORTANCE

PERFORMANCE MEASURES	Category & Measure Name			Importance
	Economic Development / Land Use Measures	Operations with Land-Use	Future Land Use	High
			Existing Land Use	Medium
		Ability to provide added new developable area		High
		Parking	Increase/ decrease in parking supply	Medium
			Parking accessibility	Medium
			Parking connectivity to Land uses	Low
		Ability to provide additional open space for public and commercial uses in the corridor		High
		Accessibility to businesses		High
	Travel Way Measures	Pedestrian Accessibility	Pedestrian quality of service	High
			Accessibility in the corridor for all users	High
			Length of crosswalks	High
		Bicycle Accessibility	Linear feet of bike accommodation provided	Medium
			Bicycle quality of service	Medium
		Auto Accessibility- Vehicular quality of service		High
		Transit Operations	Bus stop spacing in alternative	Medium
			Accessibility of bus stop locations	Medium
			Transit quality of service	Medium
			Connection to south MetroLink station	High
			Connection to north MetroLink station	Low
		Reduction of conflict points for motor vehicles, bicycles & pedestrians.		High
		Operation between modes		Medium
		Operation and maintenance costs		Medium
		Capital costs		High
	Environmental Measures	Open Space	Square feet of active or passive green space in the corridor	High
			Integration with existing open space along the corridor	High
		Increase in tree canopy (SF)		High
		Stormwater	Decrease in impervious surfaces (SF or Acres)	Medium
			Volume of stormwater runoff to the drainage system	Medium
		Light Levels		High

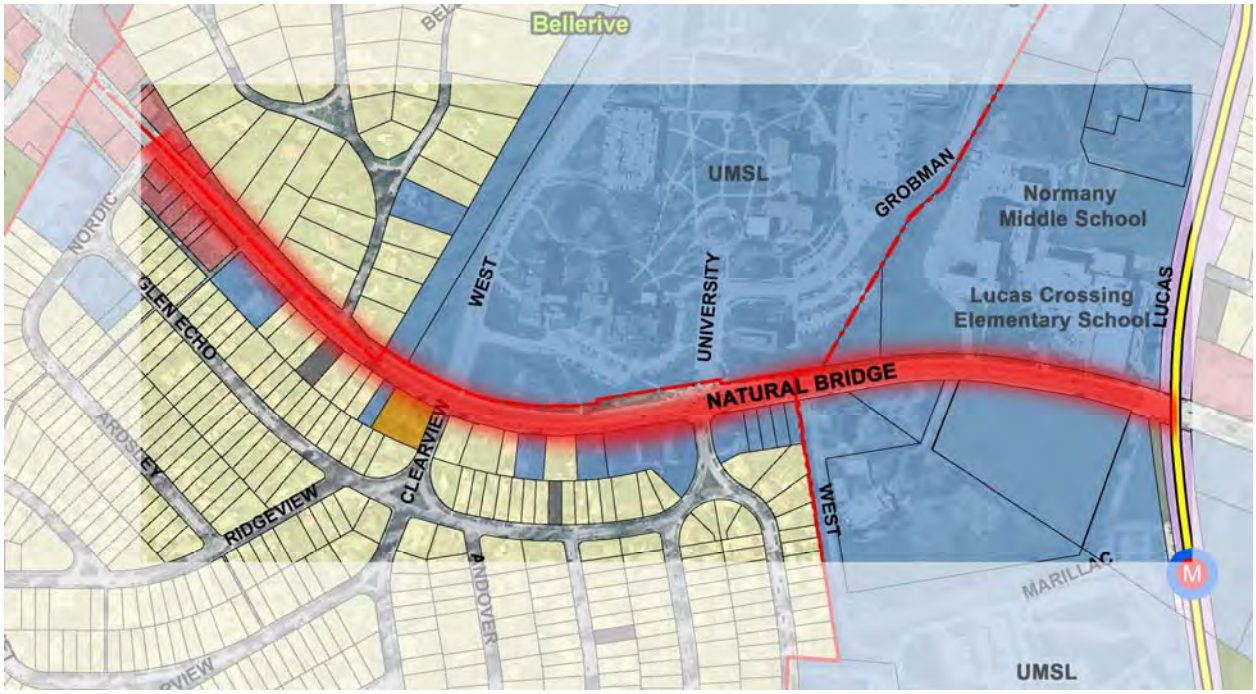
Source: CH2M HILL

Travel Way Alternatives

Following the development of the detailed evaluation criteria, alternatives for each segment were developed to take advantage of opportunities in the corridor, coordinate with existing land use, and respond to input provided by engagement with the public and stakeholders in the corridor. The no build alternative was included in all sections as well as at least two alternatives in each segment. A five lane alternative was not included due to the fact that a five lane section, pedestrian enhancement in the corridor, bicycle accommodations and reduction of pervious areas and greening the corridor could not be accomplished within the existing right of way. The alternatives assessed are as follows:

Segment 1 (Nordic Drive to the Metro Link Bridge)

Segment 1 of the Natural Bridge Road design corridor extends from Nordic Drive to the bridge over MetroLink.



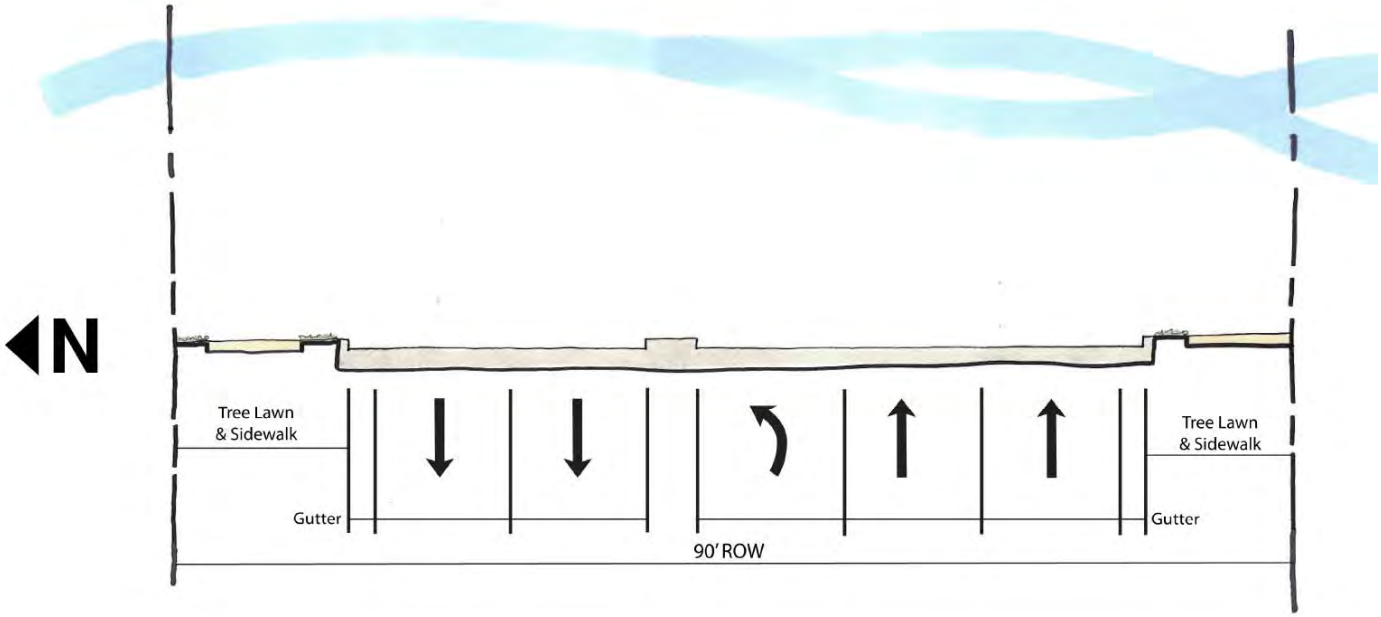
Segment 1: Option 1A – No Build Alternative

This option does not impact the travel way, or the land uses in the segment and is to be used as a baseline for any improvement in the corridor. A discussion was held with the East West Gateway Council of Government (EWGCOG) staff regarding a minimum build option in the corridor. It was determined that any minimum build option would not meet the vision for the corridor or the Great Street concepts represented in the web guide that is being followed for the planning and design of the corridor.

The existing roadway configuration is as follows:

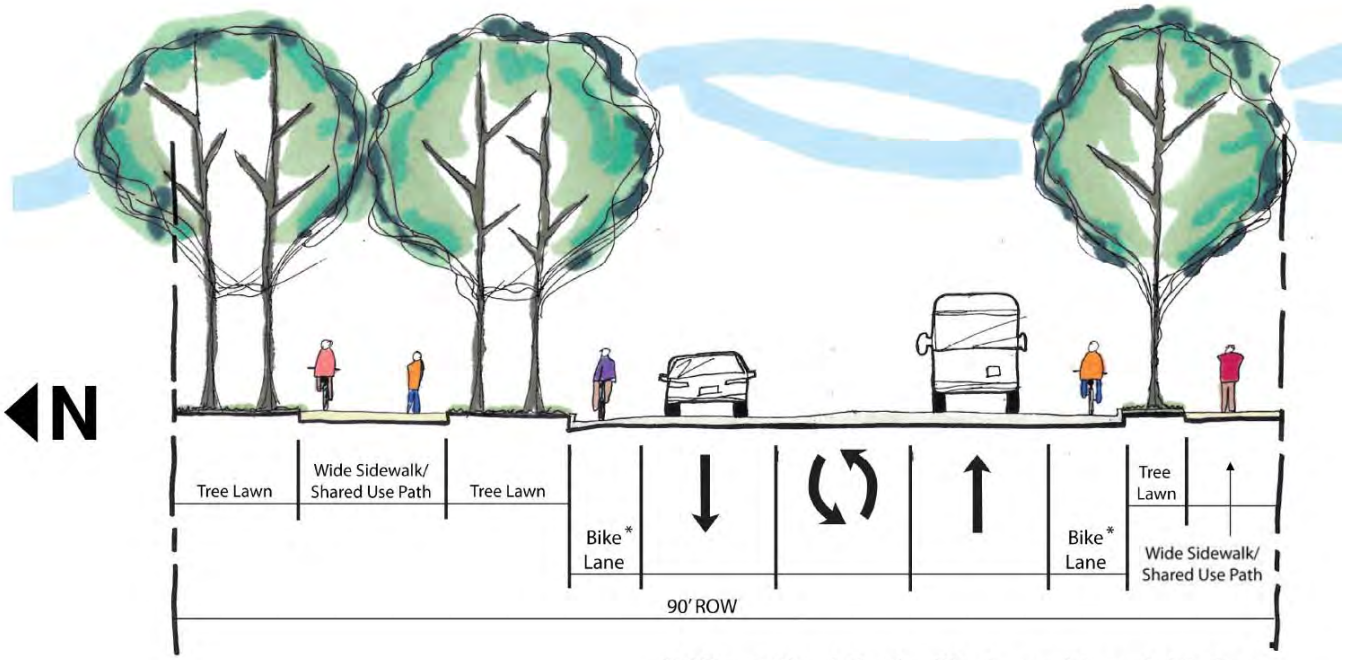
- 12-foot travel lanes and
- 12-foot center turn lanes

- 4-foot medians
- 3- foot curbs and gutter areas
- 4-foot tree lawn areas
- 4-5 foot sidewalks on north and south side of roadway



Segment 1: Option 1B – Road Diet Alternative with Three Lane Section

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes of traffic are not needed to achieve an



*** Alternative bike facility is a wide outside lane**

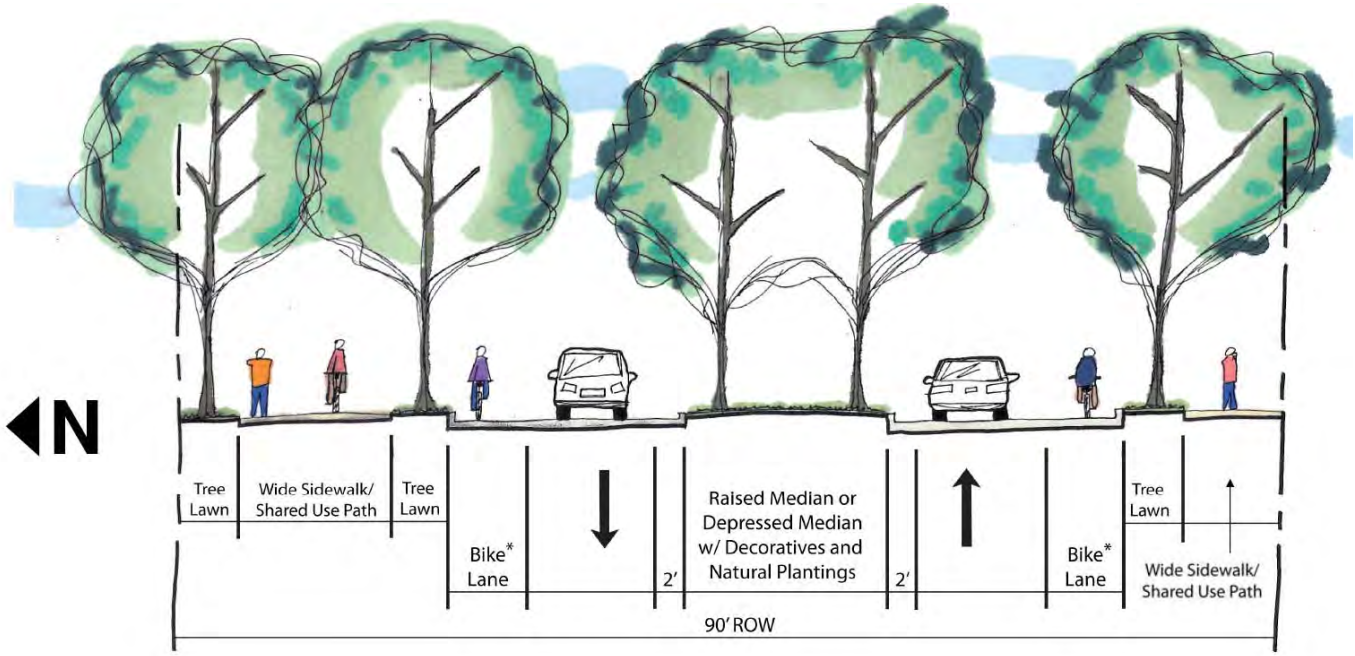
acceptable level of service. Therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, and green space.

This option includes the following:

- 11-12- foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to barrier curb (or wide outside lanes)
- 7-foot tree lawns
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawn behind the sidewalks
- Wide sidewalks/shared-use paths on the south side, a minimum of 8 feet wide

Segment 1: Option 1C – Road Diet Parkway Section

This option, as with Option 1B, includes the elimination of one travel lane in each direction. This option is based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service. Therefore, the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, and green space.



*** Alternative bike facility is a wide outside lane**

Left turn bays will be provided at side streets & openings for access points

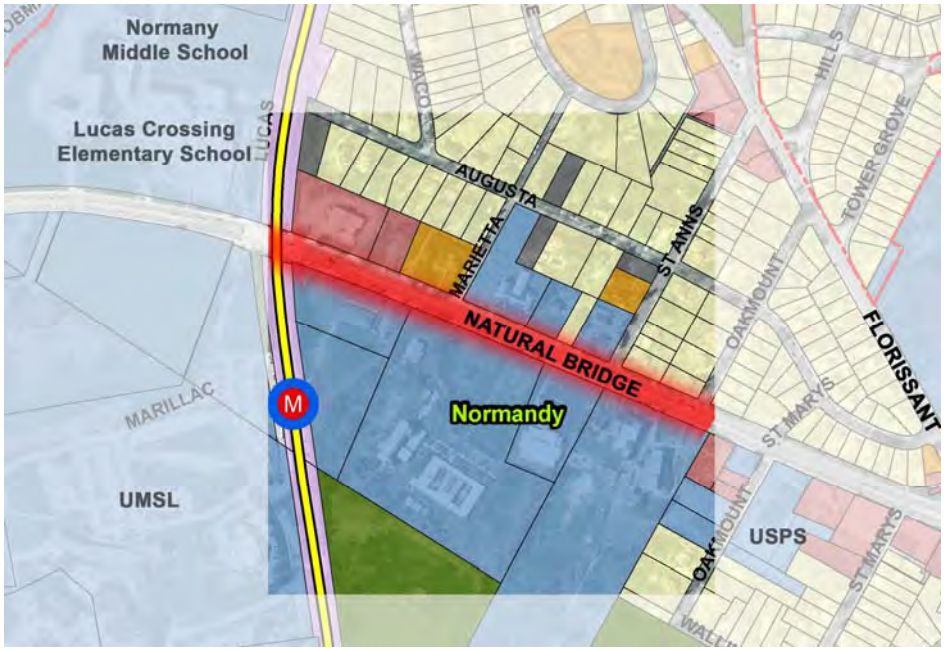
This option includes the following:

- 17-20 foot wide planted medians with barrier curbs
- 11-20 foot wide turn lanes where needed for access
- 11-foot travel lanes in each direction
- 2-foot offset from inside edge line to the median barrier curbs
- 6-foot wide bike lanes in each direction adjacent to barrier curb (or wide outside lanes)

- 5-foot tree lawns
- Wide sidewalks/shared use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- Wide sidewalks/shared-use paths on the south side a minimum of 8 feet wide.

Segment 2 (Metro Link Bridge to east of St. Ann's Lane)

Segment 2 of the travel way corridor covers the section of the corridor from the Metro Link bridge to Oscar's Café, which is just west of Oakmount Drive on the south side of Natural Bridge Road. This section continues the Segment 1 options due to the institutional nature of land uses, similar to Segment 1.

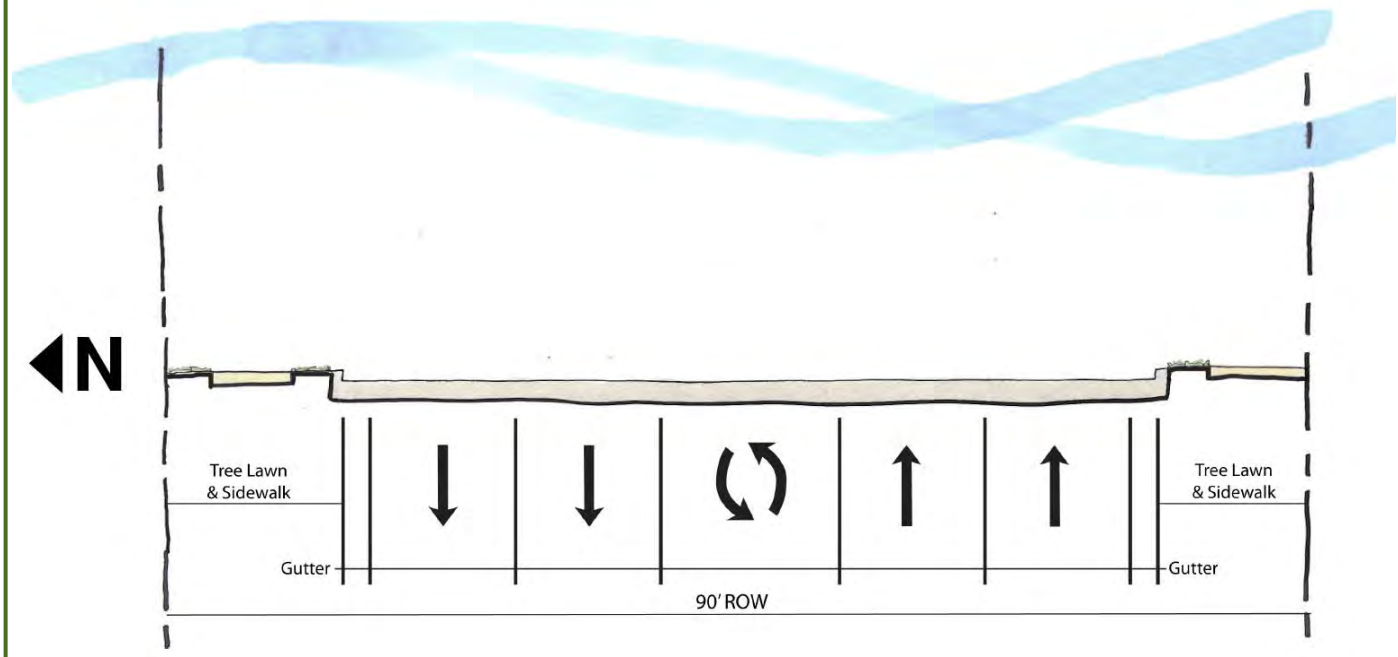


Segment 2: Option 2A – No Build Alternative

This option does not touch the travel way or the land use in the corridor and is to be used as a baseline for any improvements in the corridor. A discussion was held with the East West Gateway Council of Government (EWGCOG) staff regarding a minimum build option in the corridor. It was determined that any minimum build option would not meet the vision for the corridor and of the Great Street concepts represented in the web guide that is being followed for the planning and design of the corridor.

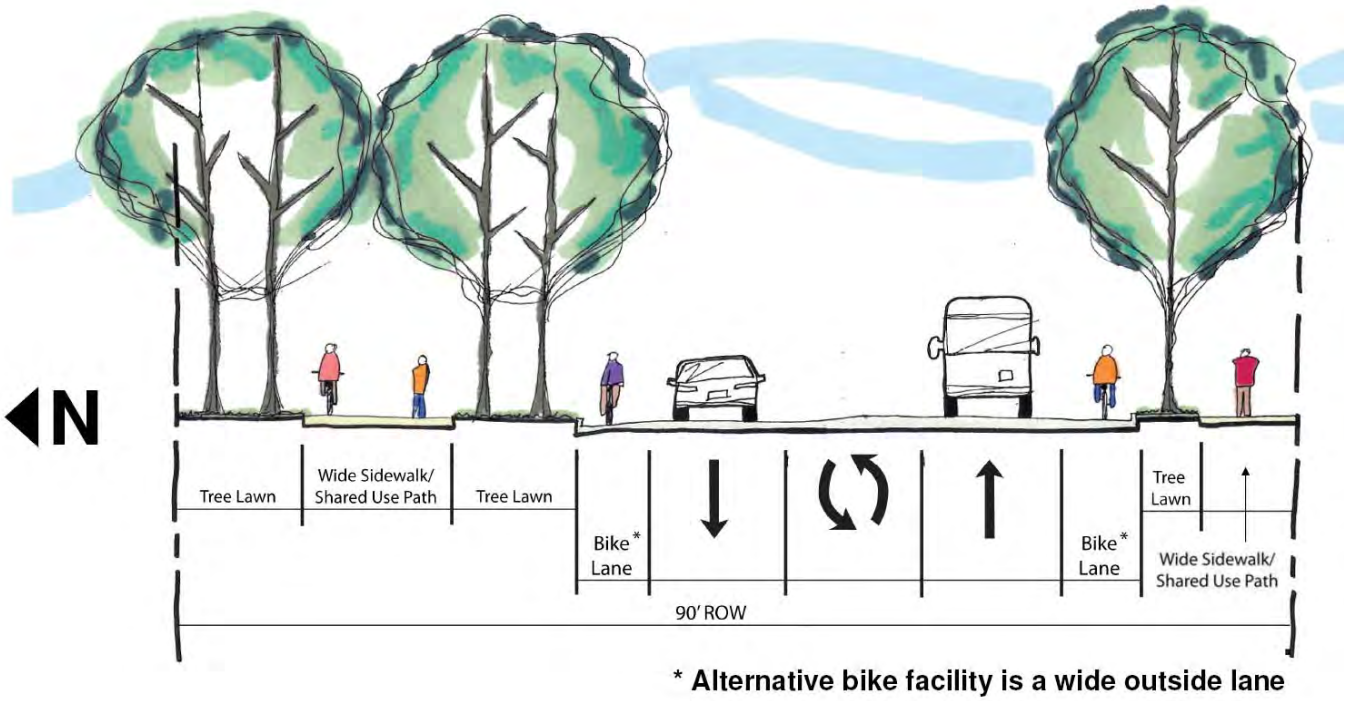
The existing roadway configuration is as follows:

- 12-foot travel lanes
- 12-foot center turn lanes
- 3- foot curb and gutter areas
- 4-foot tree lawn areas
- 4-5 foot sidewalks on north and south side of roadway



Segment 2: Option 2B – Road Diet Alternative with Three Lane Section

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service. Therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, as well as green space.



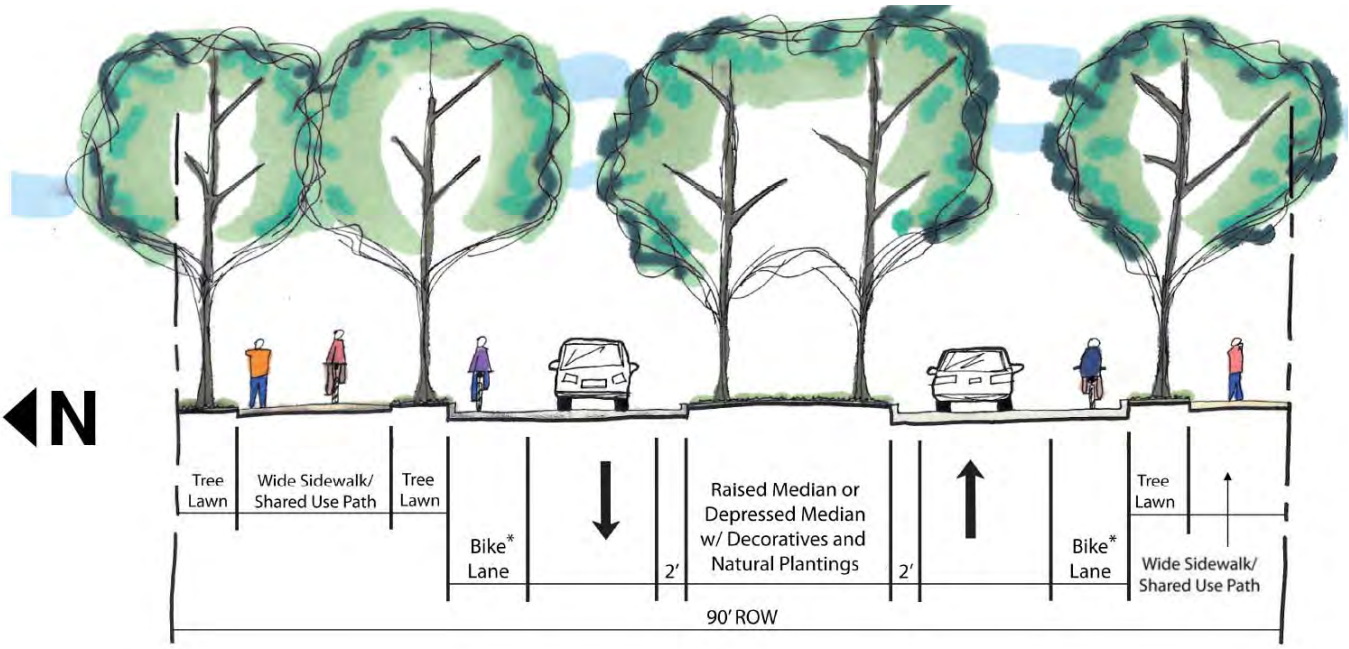
*** Alternative bike facility is a wide outside lane**

This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to barrier curb (or wide outside lanes)
- 7-foot tree lawns
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- Wide sidewalks/shared-use paths on the south side a minimum of 8 feet wide

Segment 2: Option 2C – Road Diet Parkway Section

This option, as with Segment 1: Option 1B, includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service. Therefore, the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, as well as green space.



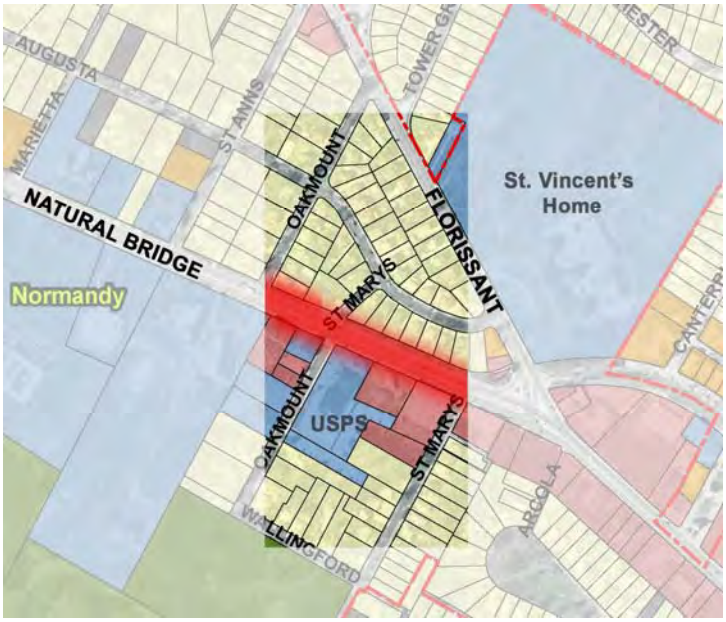
*** Alternative bike facility is a wide outside lane**

Left turn bays will be provided at side streets & openings for access points

This option includes the following:

- 17-20 foot wide planted medians with barrier curbs
- 11-20 foot wide turn lanes where needed for access
- 11-foot travel lanes in each direction
- 2-foot offset from inside edge line to the median barrier curbs
- 6-foot wide bike lanes in each direction adjacent to barrier curb (or wide outside lanes)
- 5-foot tree lawns
- Wide sidewalks/shared use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- Wide sidewalks/shared-use paths on the south side a minimum of 8 feet wide.

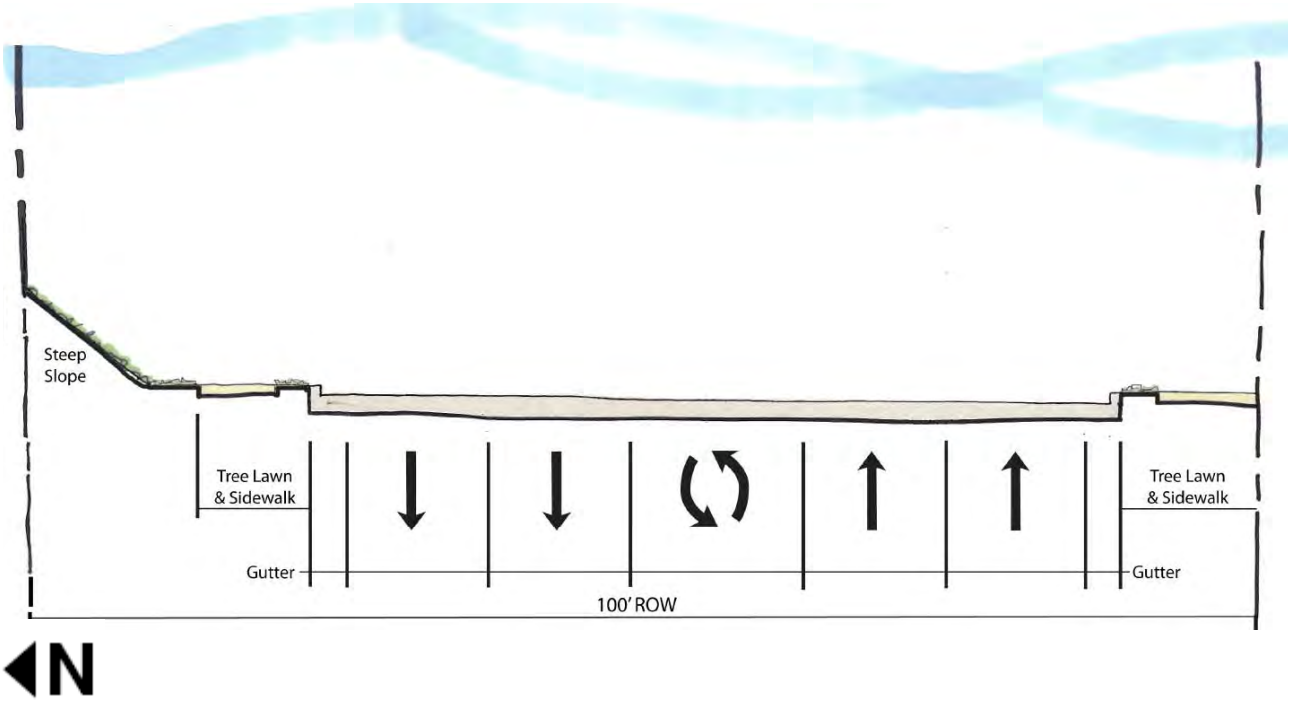
Segment 3 (East of St. Ann's Lane to Florissant Road)



Segment 3 begins a transition of the corridor from an institutional corridor to a commercial area. This section extends from east of St. Ann's Lane, on the south side, from St. Ann's Catholic Church, to the intersection of Natural Bridge and Florissant Roads (the "Wedge"). The north side of this segment is adjacent to homes and a hill from the sidewalk along Natural Bridge Road, while the south side is immediately adjacent to institutions businesses with variable setbacks of buildings to the right of way line. The segment reflects the need for maintaining institutional uses, as well as the need for the integration of residential development to economic development opportunities that exist, and may be introduced as part of the future land use plan.

Segment 3: Option 3A – No Build Alternative

This option does not touch the travel way or the land use in the corridor and is to be used as a baseline for any improvement in the corridor. A discussion was held with the East West Gateway Council of Government (EWGCOG) staff regarding a minimum build option in the corridor. It was determined that any minimum build option would not meet the vision for the corridor and of the Great Street concepts represented in the web guide that is being followed for the planning and design of the corridor.



The existing roadway configuration is as follows:

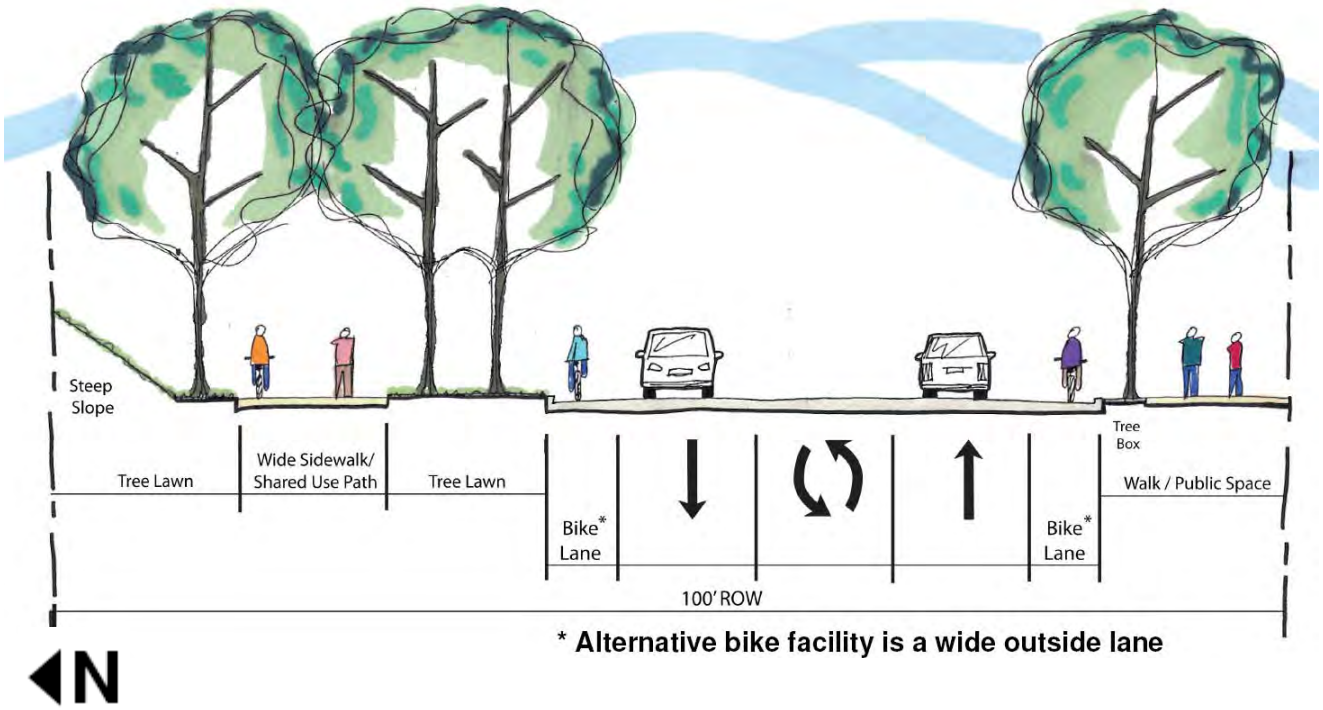
- 12-foot travel lanes and center turn lanes,
- 3- foot curb and gutter areas
- 4-foot tree lawn areas
- 4-5 foot sidewalks on north and south side of roadway to sidewalks extending from the curb line to the right of way lane at the building line

Segment 3: Option3B – Road Diet Alternative with Three Lane Section

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, as well as green space.

This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to a barrier curb (or wide outside lanes) on the north side and parking lane on the south side
- 5-foot tree lawns on the north side only
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- 15-foot wide sidewalks on the south side with the use of tree boxes/grates for trees in the streetscape areas

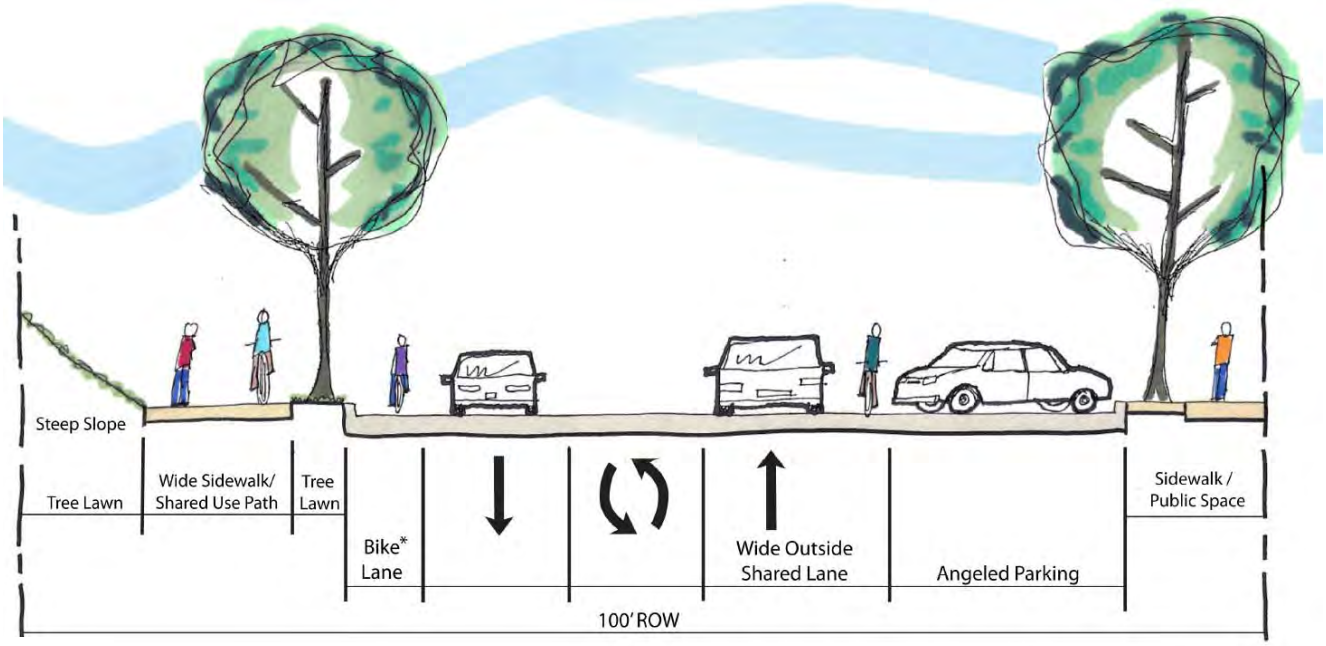


Segment 3: Option3C – Road Diet Alternative with Three Lane Section W/Parking on the South Side

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, parking lane, as well as green space.

In this option, we include the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to a barrier curb (or wide outside lanes) on the north side and parking lanes on the south side
- 8 foot parking lanes on the south side only
- 5-foot tree lawns on the north side only
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- 12-foot wide sidewalks on the south side with the use of tree boxes/grates for trees in the streetscape areas



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* Alternative bike facility is a wide outside lane

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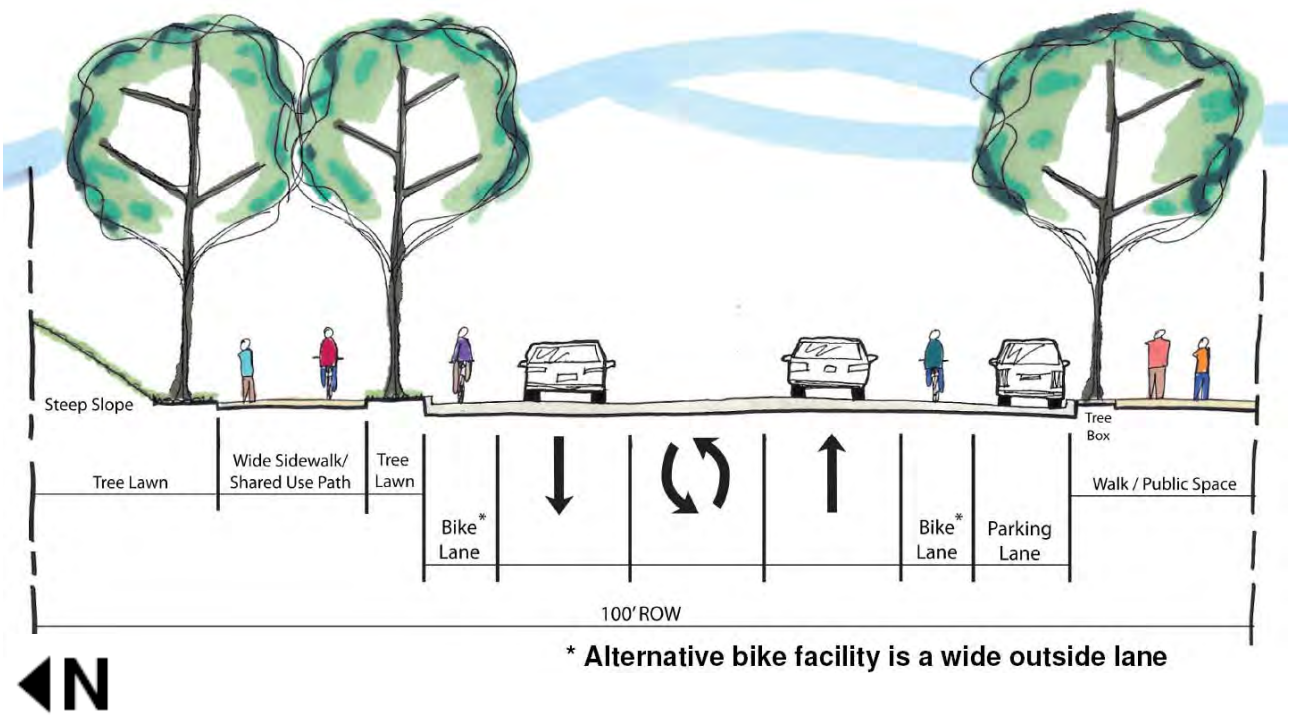


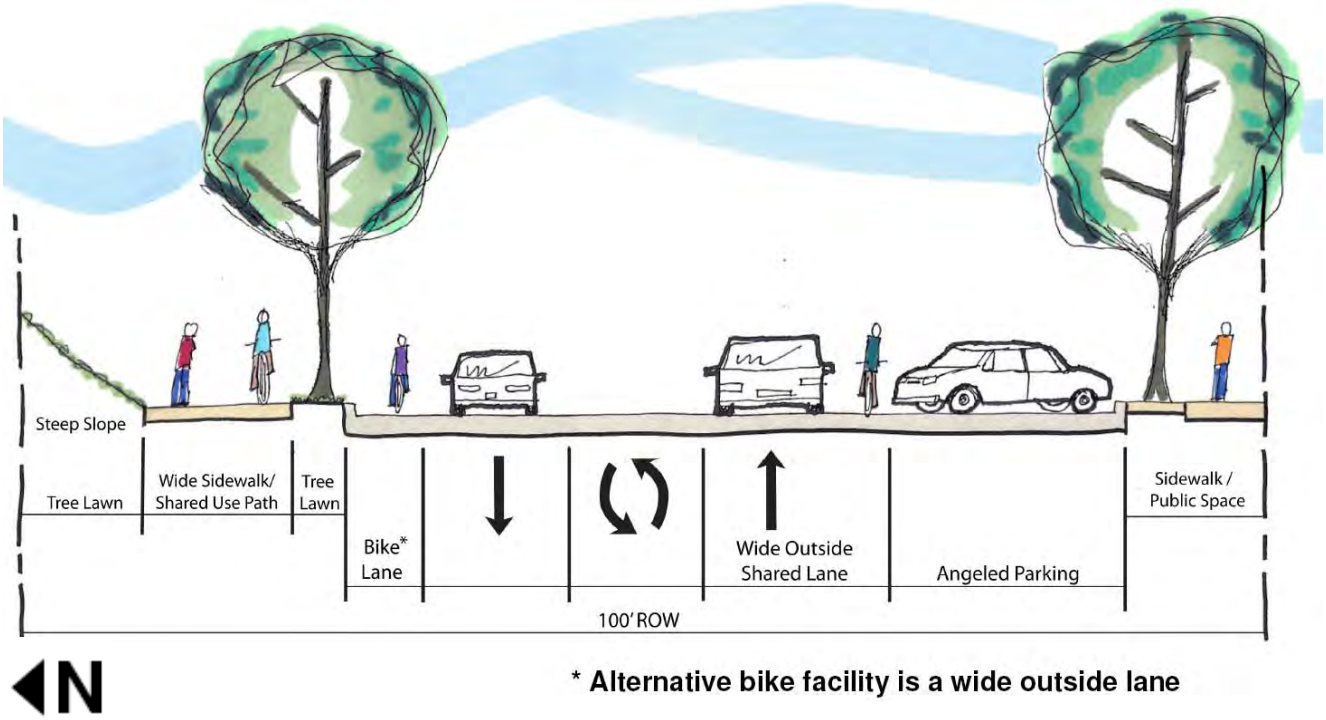
Segment 3: Option3D – Road Diet Alternative with Three Lane Section W/Angled Parking on the South Side

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, parking lane, as well as green space.

This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in the westbound direction
- 6-foot wide bike lanes in the westbound direction adjacent to a barrier curb (or wide outside lanes) on the north side
- 15-foot wide outside lanes eastbound adjacent to angled parking on the south side
- Angled parking lanes on the south side only
- 5-foot tree lawns on the north side only
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalks

- 12-foot wide sidewalks on the south side with the use of tree boxes/grates for trees in



the streetscape areas

Segment 4 (Florissant Road to Lucas and Hunt Road)

Segment 4 is the segment of the corridor which is entirely in the business area in the City of Normandy extending from "the Wedge" eastward to Lucas and Hunt Road. The north side of the corridor is defined by Roland Drive, the location of a significant historic entryway structure that will remain in place at its present location. This segment of the corridor is urbanized and is a mix of buildings constructed immediately adjacent to the street, and businesses with parking adjacent to the street.

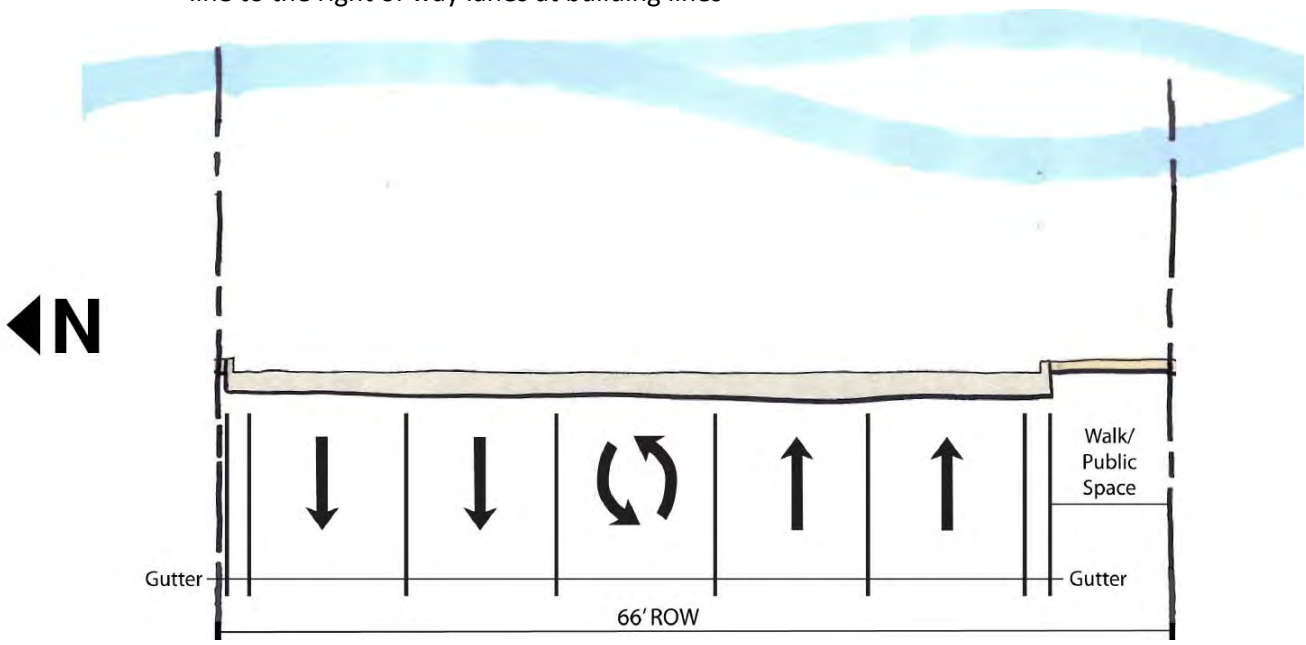
Segment 4: Option 4A – No Build Alternative

This option does not touch the travel way, or the land use in the corridor and is to be used as a baseline for any improvement in the corridor. A discussion was held with the East West Gateway Council of Government (EWGCOG) staff regarding a minimum build option in the corridor. It was determined that any minimum build option would not meet the vision for the corridor and of the

Great Street concepts represented in the web guide that is being followed for the planning and design of the corridor.

The existing roadway configuration is as follows:

- Two 12-foot travel lanes in each direction with a center turn lane,
- 3- foot curb and gutter areas
- Right of way at the back of curb on the north side west of Roland Drive to a total of 4-5 feet wide east of Roland Drive
- 4-5 foot sidewalks on the south side of roadway to sidewalks extending from the curb line to the right of way lanes at building lines



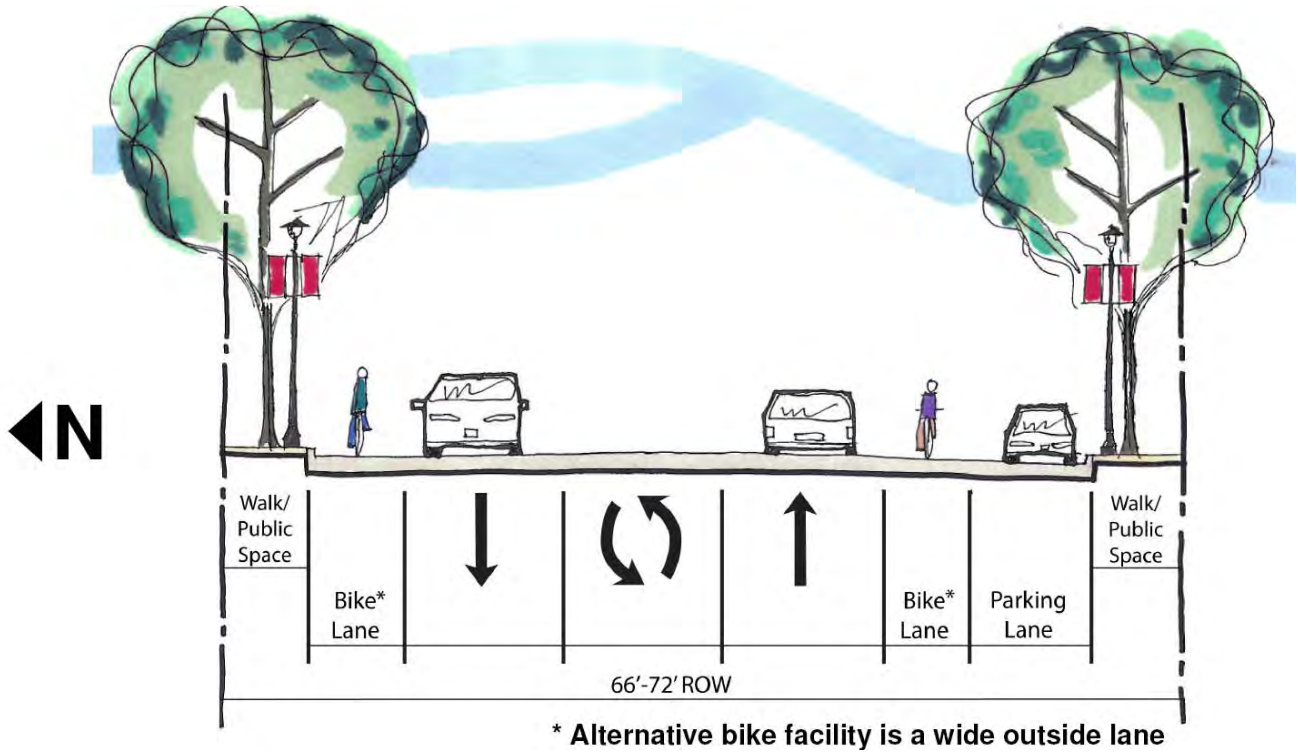
Segment 4: Option4B – Road Diet Alternative with Three Lane Section W/Parking on the South Side

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, parking lane, as well as green space.

This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to a barrier curb (or wide outside lane) on the north side and parking lane on the south side
- 8 foot parking lane on the south side only
- Sidewalks adjacent to the curb line in an urban streetscape section with tree grates for trees in the streetscape areas

- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns



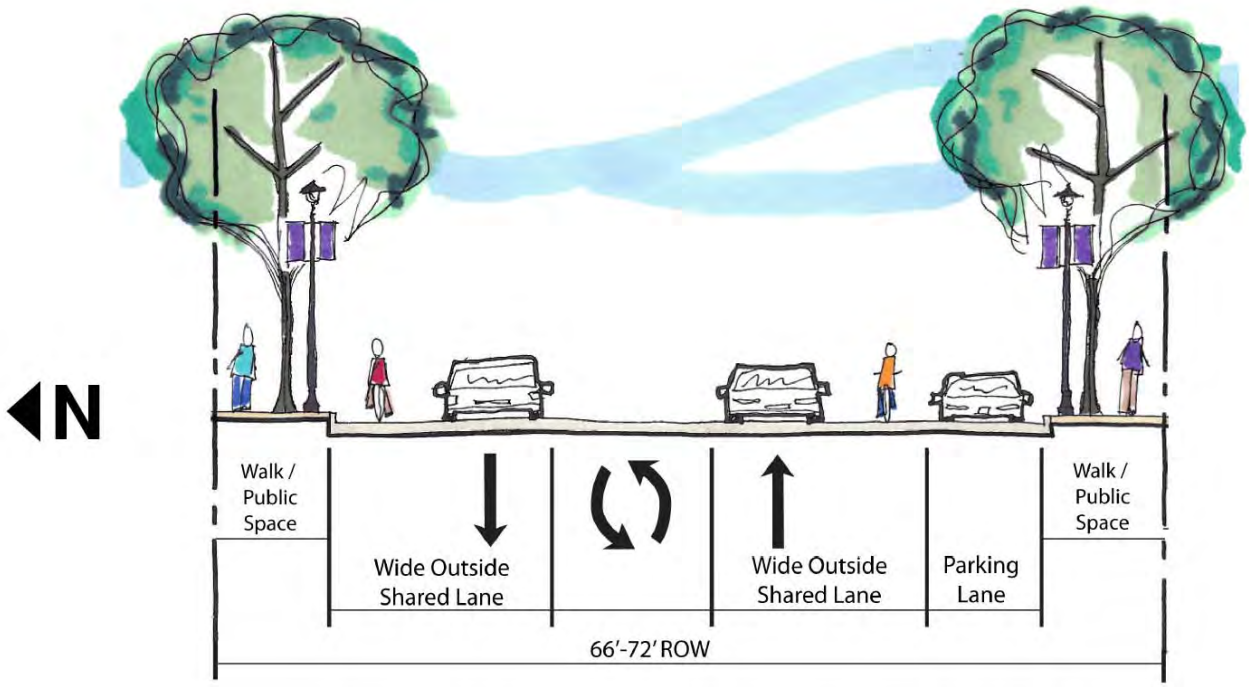
behind the sidewalks.

Segment 4: Option4C – Road Diet Alternative with Three Lane Section W/Parking on the South Side

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, parking lane, as well as green space.

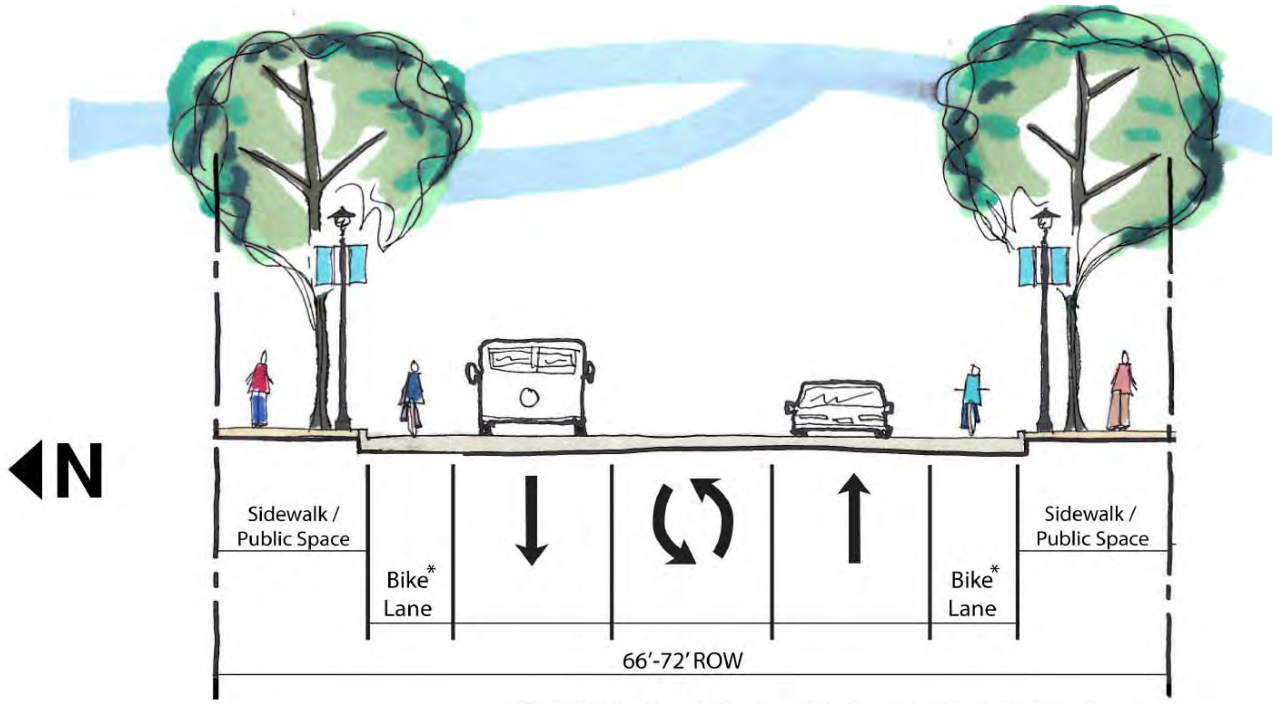
This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to a barrier curb (or wide outside lane) on the north side and a parking lane on the south side
- 8 foot parking lanes on the south side only
- 5-foot tree lawns on the north side only
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalks



Segment 4: Option 4D – Road Diet Alternative with Three Lane Section

This option includes the elimination of one travel lane in each direction based on traffic analysis concluding that in the peak hour, two through lanes were not needed to achieve an acceptable level of service, therefore the space used by the two travel lanes was reallocated to bike facilities, pedestrian facilities, as well as green space.



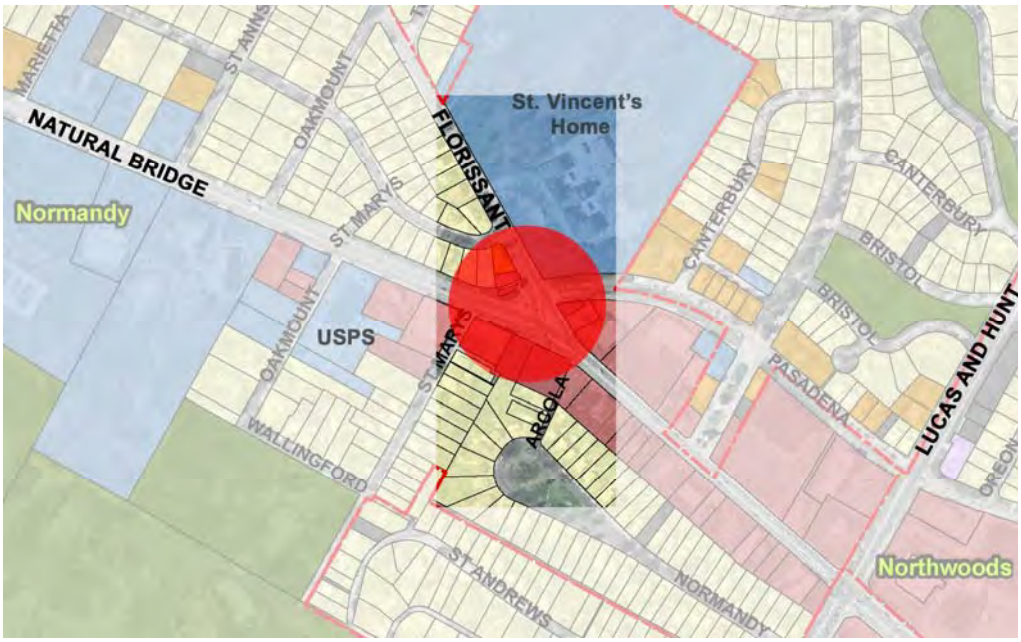
*** Alternative bike facility is a wide outside lane**

This option includes the following:

- 11-12 foot wide center turn lanes
- 11-foot travel lanes in each direction
- 6-foot wide bike lanes in each direction adjacent to a barrier curb (or wide outside lane) on the north side and a parking lane on the south side
- 5-foot tree lawns on the north side only
- Wide sidewalks/shared-use paths on the north side (minimum of 8 feet) with tree lawns behind the sidewalk
- 15-foot wide sidewalks on the south side with the use of tree grates for trees in the streetscape areas

Natural Bridge at Florissant Road Intersection (the "Wedge")

The intersection of Natural Bridge and Florissant Roads is a critical node for the entire Natural Bridge Road corridor. The Wedge area is an entry point into the corridor from I-70 between the entry points of Lucas and Hunt Road and Hanley Road. The new main entrance to the University of Missouri - St. Louis (UMSL) will be from University Boulevard (State Route N), which was formerly named Florissant road. The main entrance to Express Scripts is also from University Boulevard. South of the University entrance, the roadway returns to the name Florissant Road to the Wedge, and while not part of the Natural Bridge project, it provides access to the primary study area contained within the Future Land Use Plan and future revitalization opportunities.



No-Build option

As with all segments in the corridor, a no-build option for the Natural Bridge and Florissant Road intersection was considered. This option leaves the intersection as it is today.

Basic Option-"T" Intersection

The basic option for the intersection retains the signalized approaches for vehicles, as well as provided signalized pedestrian crossings on each leg of the existing T-intersection. This option provides significant public plaza space opportunities in the northeast and northwest corners of the

intersection and limited public plaza space on the south side of the intersection. On-street parking is provided up to the crosswalks at the intersection. A left turn from southbound Florissant Road to Pasadena Boulevard is also an alternative that may be added to this option.

Bump-out option

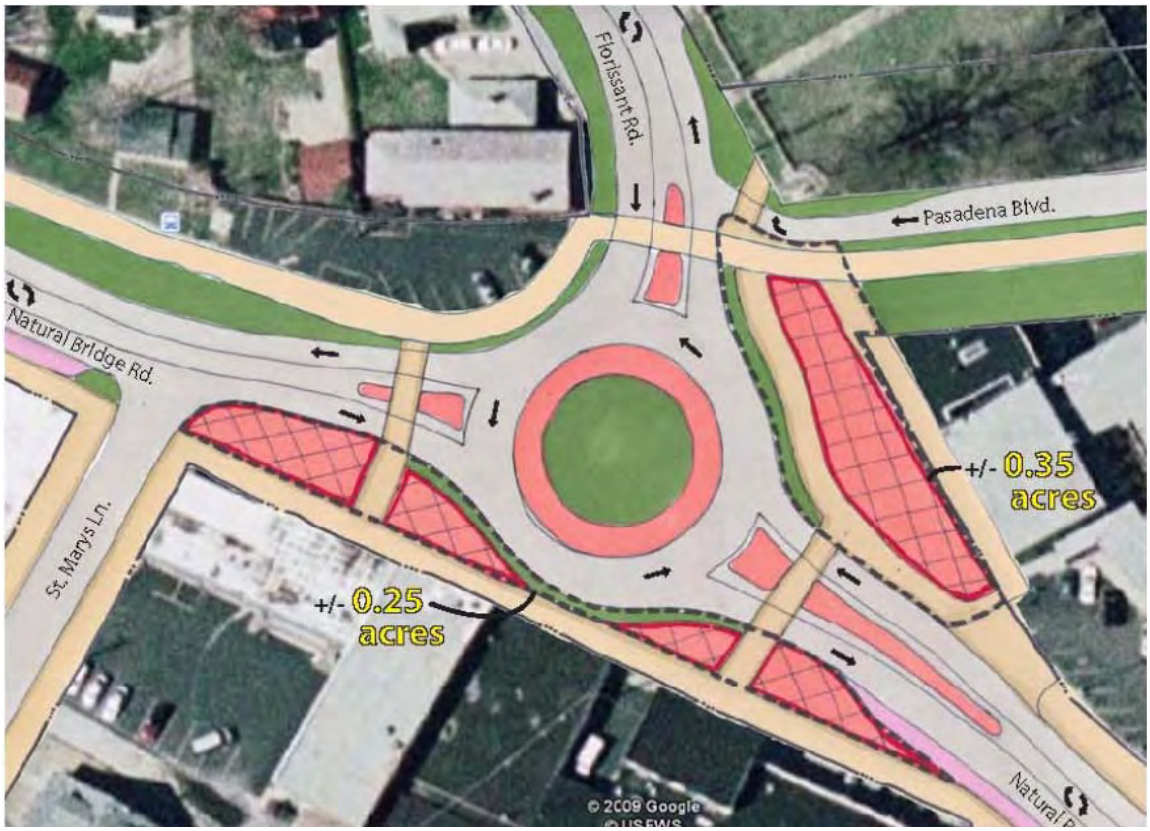
The Bump-out option is similar to the basic option in that all approaches are signalized including pedestrian crossings. The alignment of Natural Bridge Road, however, is diverted to the north to allow for additional public plaza space on the south side of the roadway creating a large plaza space to enhance potential economic opportunities at this intersection. On-street parking is provided up to the crosswalks at the intersection.

A critical issue in the design of the roundabout alternative is the design of the Pasadena Boulevard connection to Florissant road. This connection is close to the intersection, and with the pedestrian crossing on the north leg of the intersection, a right turn movement into Pasadena Boulevard from Florissant Road is not possible. Therefore only a right turn-out from Pasadena Boulevard to Florissant Road, northbound is included in the concept plan.

Roundabout

The roundabout option for this intersection was developed to enhance traffic operations, improve safety, and to provide a critical gateway into the Natural Bridge Road Corridor. Public plaza areas around the roundabout provide for public places for community events and for pedestrian interaction in this commercial node of activity. The roundabout option includes pedestrian crosswalks at each entry point; each will be unsignalized. Traffic will yield both to traffic in the roundabout, as well as pedestrians. The roundabout will be a single lane with adequate width for

trucks with a 40 foot wheel base to maneuver safely. The design will also accommodate a truck with a 62 foot wheel base using the truck apron in the center island. The roundabout will be designed for a 20 mile per hour design speed. A left turn from southbound Florissant Road to Pasadena Boulevard is also an alternative that may be added to this option.



A critical issue in the design of the roundabout alternative is traffic movement at Pasadena Boulevard and its adjacency to Florissant Road. This connection will be close to the roundabout, and with pedestrian crossings on the north leg of the intersection, a right turn movement into Pasadena Boulevard from Florissant Road will not be possible. Therefore only a right out turn movement from Pasadena Boulevard on to Florissant Road, northbound is included in the concept plan.

Travel Way Alternative Evaluation

Following the preparation of evaluation criteria and conceptual alternatives, the detailed evaluation criteria were used to assess the performance of each alternative with respect to the communities' input related to travel way design of the corridor. The relationships between the travel way and both the existing and future land uses is critical to determine the transportation/land-use connection and to establish Natural Bridge Road as a Great Street.

The criteria developed from public engagement at two open house meetings, as well as from stakeholder interviews and comment provided a distinct focus for the primary study area. Communication with the public and stakeholders resulted in an unquestionable interest in economic development along the corridor. Two other goals for the corridor were support of all modes of travel, sensitivity to the environment, and design of a visually appealing corridor. While these were lesser goals, they are no less critical in the evaluation process. There are four (4) segments along the corridor each having a distinct feel and economic focus. The travel way will need to serve the goal priorities in each segment in order to provide for the community vision and make Natural Bridge Road a Great Street.

The following identifies each segment and the goal priorities identified for each segment:

Segment 1 – This segment runs from Nordic Drive to the bridge over MetroLink. This area includes institutional and residential land uses. The road design will support existing land use needs to provide for an infrastructure and land use connection. Additionally, the focus of the travel way design focuses on environmental and aesthetic considerations, as a priority over economic development, since opportunities are minimal. The goal of this segment is a boulevard/parkway look and feel both to be visually appealing and to calm traffic since there is significant pedestrian and bicycle activity present today, and expectation of even more in the future. **The environment, aesthetic considerations, bicycle and pedestrian criteria are the priority in assessing this segment.**

Segment 2 – This segment is a transition from the institutional and residential land uses presented in Section 1. This segment of the corridor extends from the MetroLink Bridge to St. Ann's Lane and includes a mix of service oriented businesses, institutional uses, and multi-family housing. The future land use in this segment includes the potential for a transit oriented development at the Normandy City Hall site. This property provides an opportunity for dense, pedestrian oriented development focused on the MetroLink connection and secondary access to Natural Bridge Road. The design of the Natural Bridge Road frontage must support land use at this site. The pedestrian realm on the south side of Natural Bridge Road needs to create a connection from the MetroLink station to the "Wedge" in order to support new development and revitalization as envisioned by the public and stakeholders. **The economic development criteria are the priority in assessing this segment.**

Segment 3 – This segment begins the focus on commercial/mixed use economic development. The segment extends from St. Ann's Catholic Church to the intersection of Natural Bridge and Florissant Roads. As with the prior segment, this is a transition into a portion of the corridor that is focused on economic development. **The economic development criteria are the priority in assessing this segment.**

Segment 4 – The most critical segment of the corridor, from an economic development perspective, is from Florissant Road to Lucas and Hunt Road. The primary goal and criteria to assess the alternatives is commercial/mixed use economic development both for existing and future land use. There are two potential development nodes that are bookends to this segment, one being the Wedge (Natural Bridge Road at Florissant Road) and the other being Natural Bridge Road at Lucas and Hunt Road.

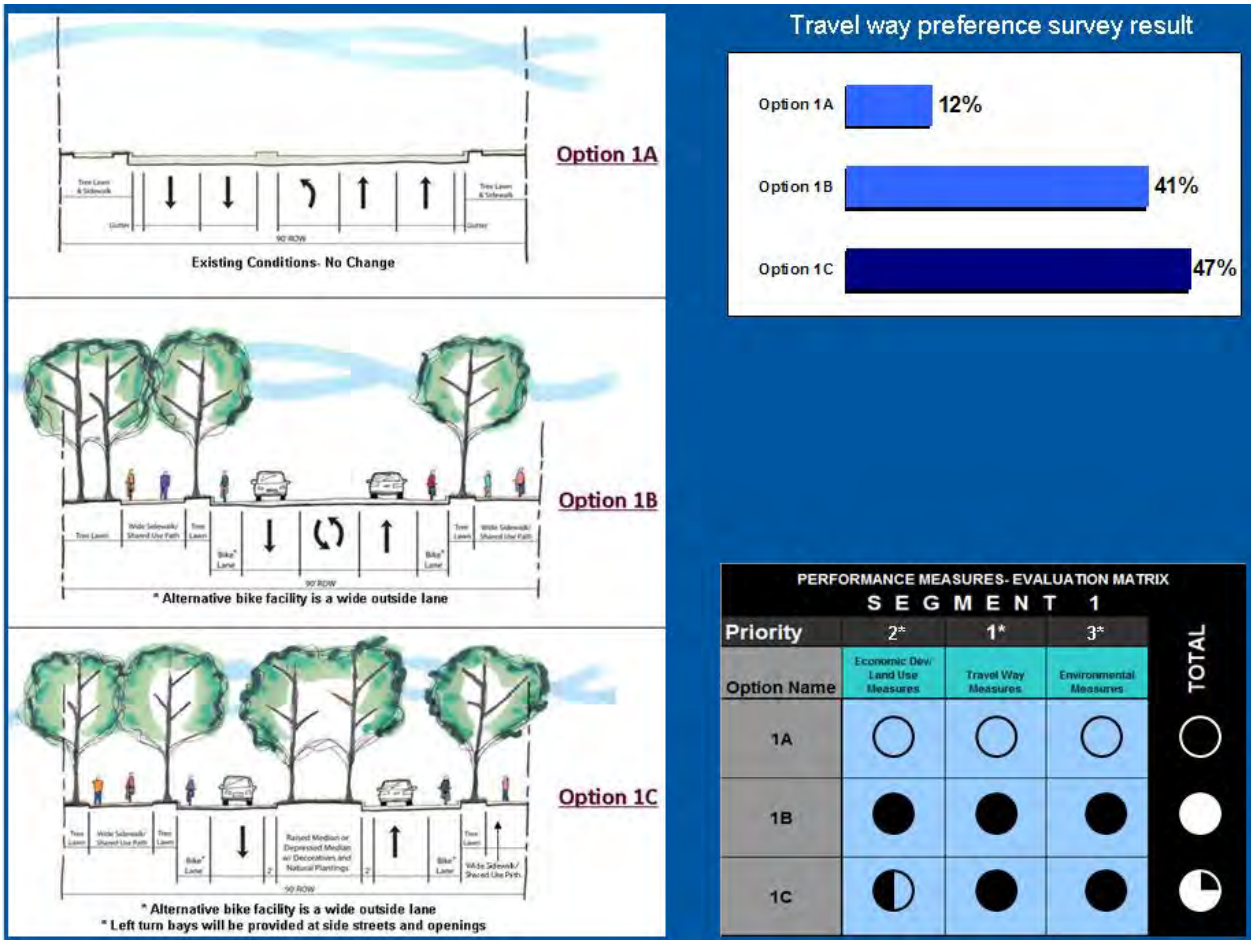
Natural Bridge Road at Florissant Road – This element of the corridor was evaluated separately from all other segments. This intersection receives emphasis within the Future Land Use Plan due to its critical position within the corridor. The primary goal and criteria that will be prioritized is commercial/mixed use economic development.

Analysis of Alternatives

The evaluation of alternatives was accomplished by the consultant team, using input from the public workshop, stakeholder interviews, and input from the advisory committee. The following descriptions identify the goals and priorities in each segment of the primary study area segments of the corridor:

Segment 1 (West of West/Clearview Drive to the Metro Link Bridge)

A detailed evaluation matrix was used to provide the method for assessing each alternative design option and segment of the corridor. For ease of understanding, a simplified matrix and the process shown at the beginning of the section was used to assess the alternatives. The "no build condition assessment" did nothing to improve the segment and provided a status quo condition for the



interaction of land use and transportation. No economic benefits were identified and the option was average on meeting the needs of existing uses. This option did nothing within the segment to address the newly adopted UMSL master plan. The only elements that received the best ratings were the absence of capital costs and traffic operations will remain the same as they exist today. Traffic flow at this time is considered excellent. The option does nothing to enhance future land uses, multi-modal focus that is envisioned or environmental elements such as reduction of pervious surfaces and adding green space. In all three goal areas, the "no-build condition assessment" rated ½ to 1/3 of the build options for the performance criteria.

The three lane option (Road Diet) rated very well in each goal area; in fact this option rated best in economic criteria, travel way elements, and environmental measures. This option offers significant access through the segment that allows the economic ratings to be very high. Economic development in this segment is not a focus, compared to alternate modes of travel as an alternative to automobile usage. Residence halls and south campus activities require a focus on bicycles and pedestrian traffic which this option provides. In addition, although landscaping and aesthetic elements outside of the curb lines compliment the residential and institutional factions of this sector of the corridor, these elements did rate well in these goal areas.

The road diet option that includes a wide landscaped median and one lane of traffic in each direction, turn lanes, and median openings at select cross streets and entrances was presented. This option rated much lower than the three lane section for economic criteria, but since this is not the focus of the segment, it is not as important as the travel way and the environmental criteria. This option rated exceptionally well in these areas; equal to the three lane section. However, the public response at the second open house meeting preferred this option slightly more than the three lane section, and the advisory committee clearly prefers this option as the alternative to move forward into the conceptual design phase of work.

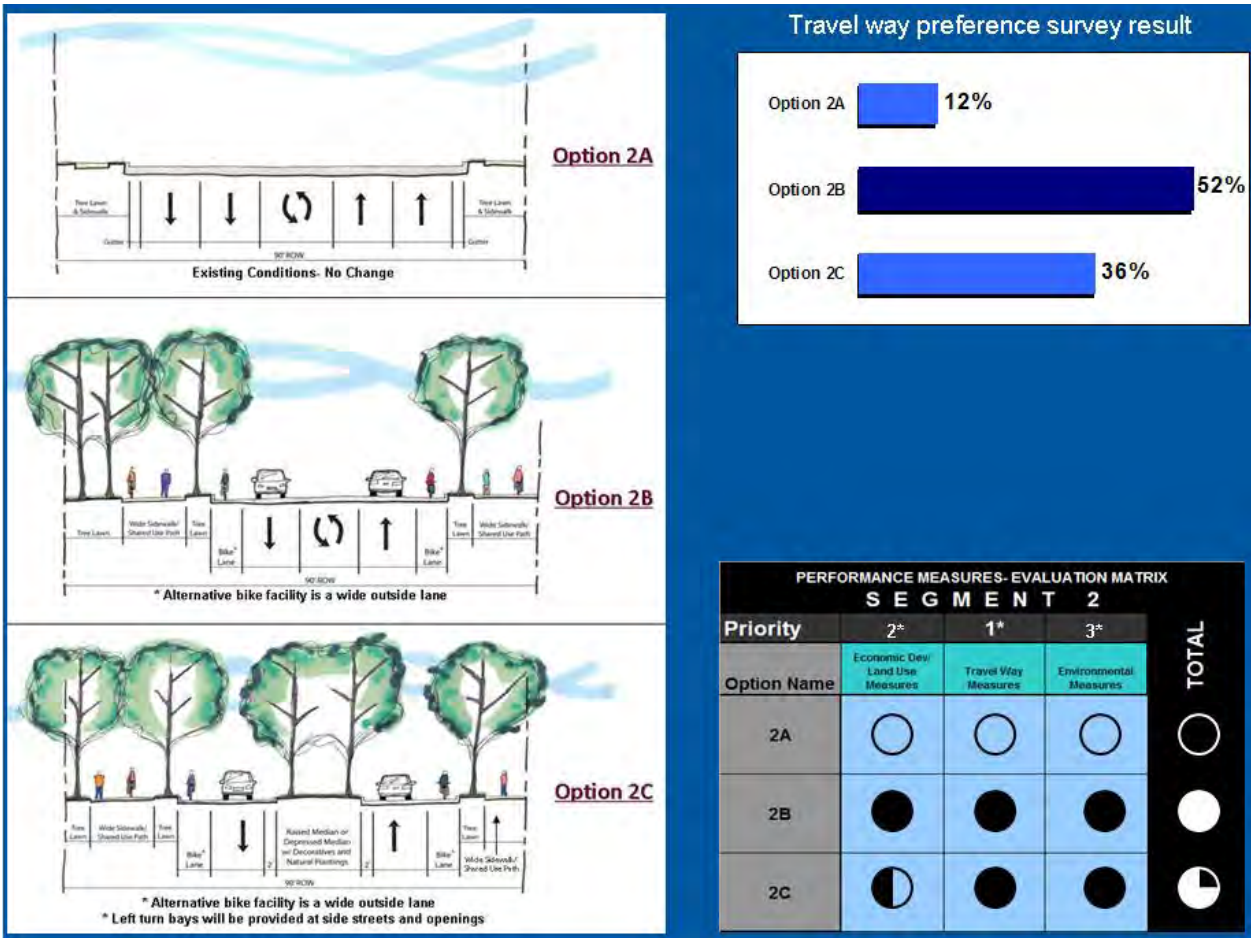
Preferred Alternative: The road diet option that includes a wide landscaped median, one lane of traffic in each direction, turn lane at intersections, and median openings at select cross streets and entrances.

Segment 2 (Metro Link Bridge to east of St. Ann's Lane)

The ratings for Segment 2 were similar to Segment 1 in that the "no-build condition assessment" option did nothing to enhance the corridor in any of the goal areas.

The three lane option rated very well in the economic, travel way and environmental areas. This segment is a transitional area and the travel way and environmental goal criteria are the most important with the exception of important commercial/mixed use development potential at the MetroLink station and the existing Normandy City Hall site. These sites, located within Segment 2 provide an excellent opportunity for transit oriented development (TOD). Therefore, the economic development goal criteria are an important consideration to Segment 2.

The road diet option, including a smaller landscaped median and one lane of traffic in each direction, turn lanes, and median openings at select cross streets and entrances makes up the design elements of this segment. This option rated much lower than the three lane section for economic criteria. However, this option did rate as well as the three lane section. The public response at the second open house meeting marginally preferred the three lane options; however, the advisory committee is looking for consistency in the design of the corridor and prefers to extend the median option from Segment 1 to Segment 2 as far as St. Ann's Lane.



Preferred Alternative: The road diet option that includes a landscaped median and one lane of traffic in each direction, turn lanes at intersections, and median openings at select cross streets and entrances.

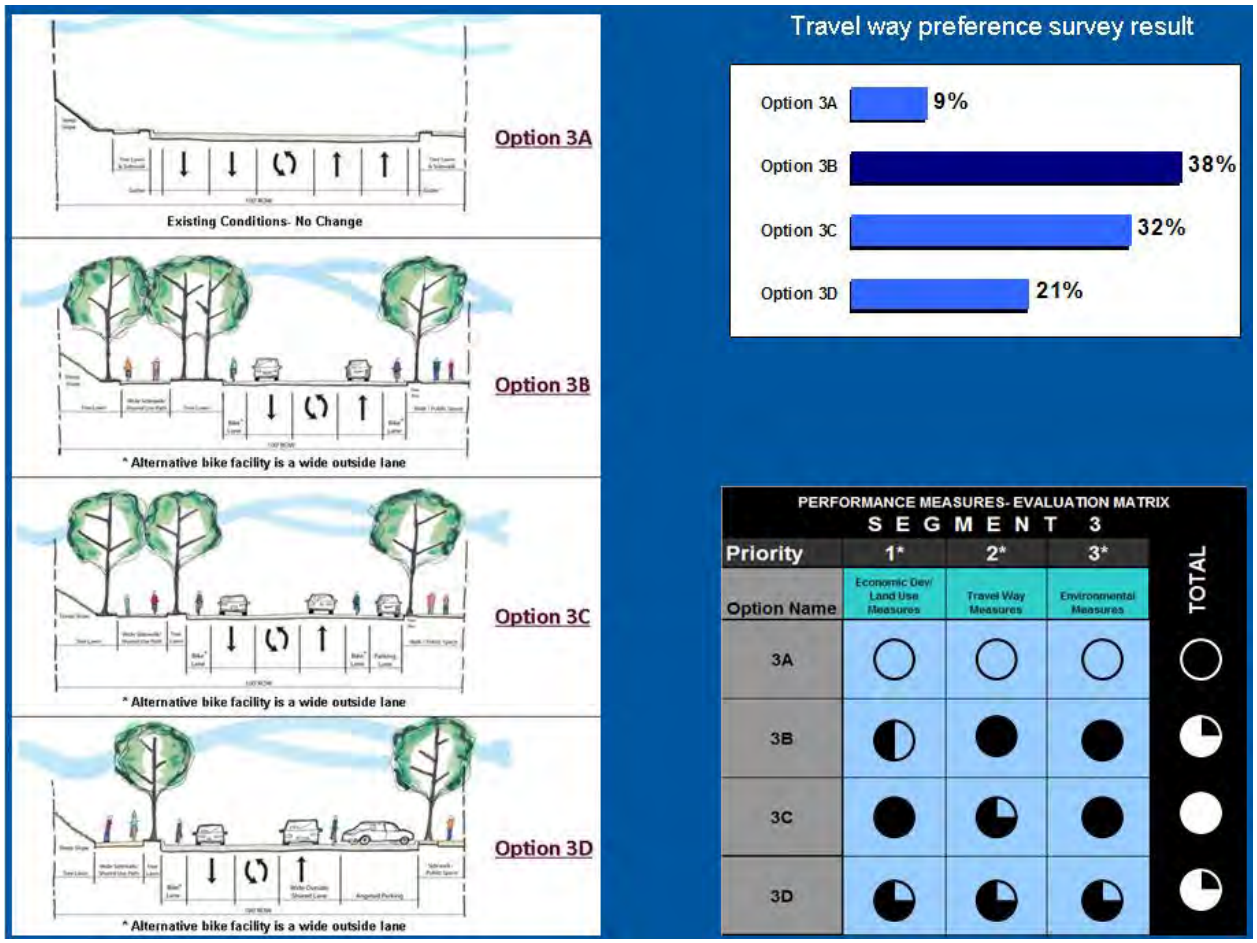
Segment 3 (East of St. Ann's Lane to Florissant Road)

This segment is distinctly focused on economic development opportunities as the corridor changes from an institutional and residential focus to a business and commercial focus on the south side of the roadway. The north side of Natural Bridge Road within this segment is residential, and will remain so. The "no-build condition assessment" option once again allows the travel way and land use to maintain the status quo, but does nothing to provide the elements to perform well in any of the three goal criteria.

The three lane segment alternative with no on-street parking performed very well in the travel way goal criteria, but was less than satisfactory in the economic goal criteria, which is the focus of this Segment 3. This alternative, did however, perform best in the environmental criteria due to on-street parking recommendations and additional pervious surfaces and landscaping recommended to be provided. The public, at the second open house meeting, identified this option as preferred, by a slight margin.

The three lane section with angle parking on the south side was an option suggested by advisory committee members, as well as the Citizens for the Advancement of Normandy (CAN) group. This option rated very well in all categories except in the travel way criteria and the environmental goal

criteria. The angled parking option decreased the operational characteristics of the roadway, reducing public areas and green space within the Segment 3.



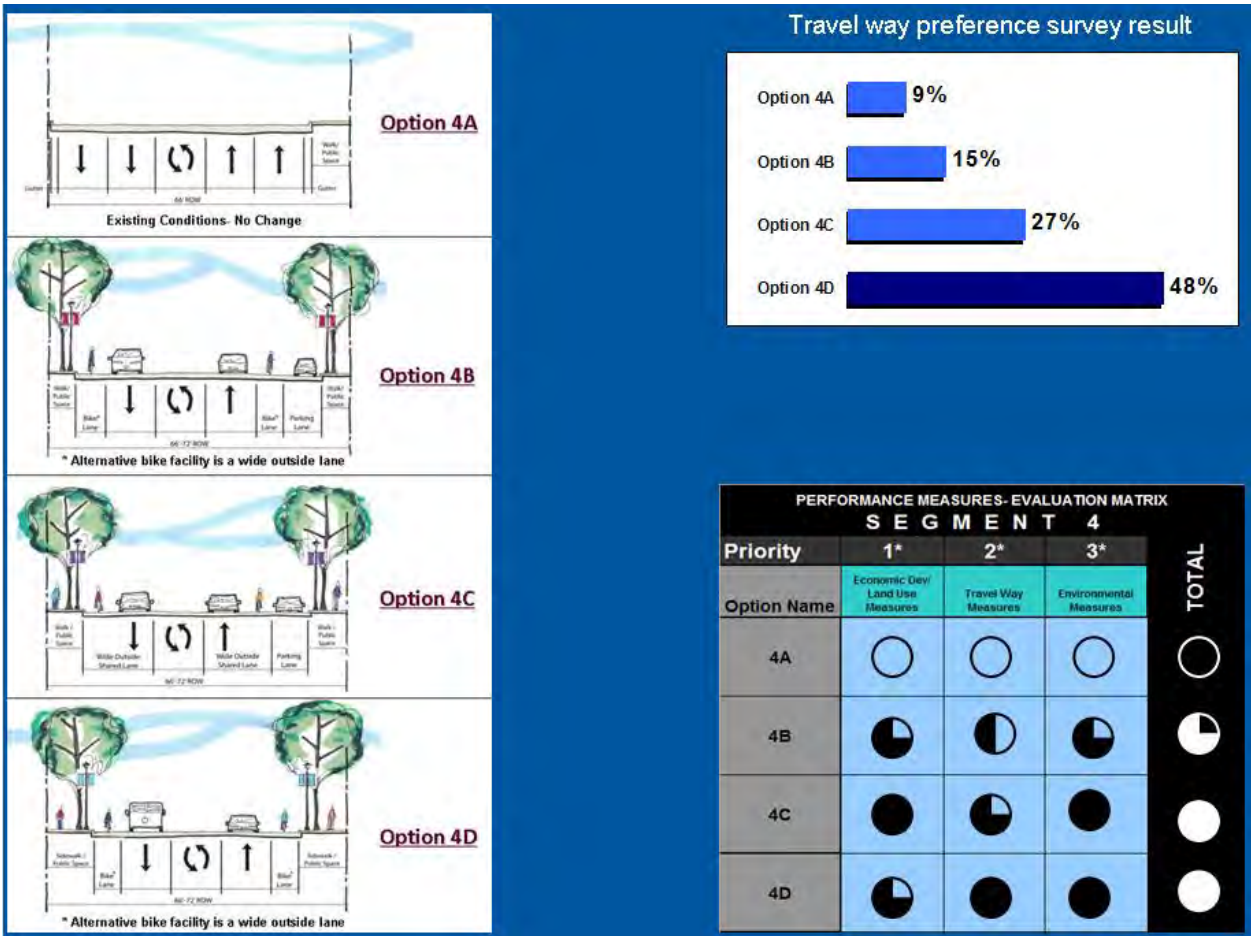
The three lane section with on-street parking on the south side rated the best in the economic goal criteria, which was the priority goal for Segment 3. This alternative rated second best in travel way (second to the no-parking alternative). Since the primary goal area in this segment is the economic criteria, this option is the preferred option in the opinion of the consultant team. The advisory committee was divided between the parallel parking option and the no parking concept. The focus on economic development in Segment 3 resulted in the selection of this alternative as the preferred option.

Preferred Alternative: Three-lane section with on-street parking on the south side, bike lanes, and wide sidewalks.

Segment 4 (Florissant Road to Lucas and Hunt Road)

Segment 4 is primarily focused on economic development opportunities. The "no-build condition assessment" option once again allows the travel way and land use to maintain as it exists today which is not acceptable in this corridor. The existing section is barely within existing right of way and sidewalks on the north side between Roland Drive and Florissant Road is not in the public right of way. There are no existing conditions that performed well in any of the three goal criteria.

The three lane segment alternative with no on-street parking performed very well in the travel way goal criteria and environmental criteria, but was less than satisfactory in the economic goal criteria, the focus of this segment. The public, at the second open house meeting identified this option as the preferred option by a large margin. The advisory committee was split on this option due to the on-street parking option on the south side of the street.



The three lane section with on-street parking on the south side was included within two options. One option included bike lanes and the other included wide outside lanes for bicycle accommodations. The bike lane option with parking provided many benefits and performed second best in addressing economic goal criteria, however, it provided much less room within the proposed pedestrian realm for sidewalk locations, street furniture, and trees. The evaluation for the travel way goal was a distant third of the four options.

The shared lane option with parking on the south side provided a better performance due to providing more space for pedestrians and trees, which in turn will enhance economic development opportunities. This option rated the best in the economic goal criteria of any option This alternative rated second best in travel way goal criteria (second to the no-parking alternative). Since the primary goal of Segment 4 is economic criteria, this option is preferred in the opinion of the consultant team. The advisory committee was divided over parallel parking, however, the focus of economic development in this segment led to the selection of this alternative as their preferred alternative.

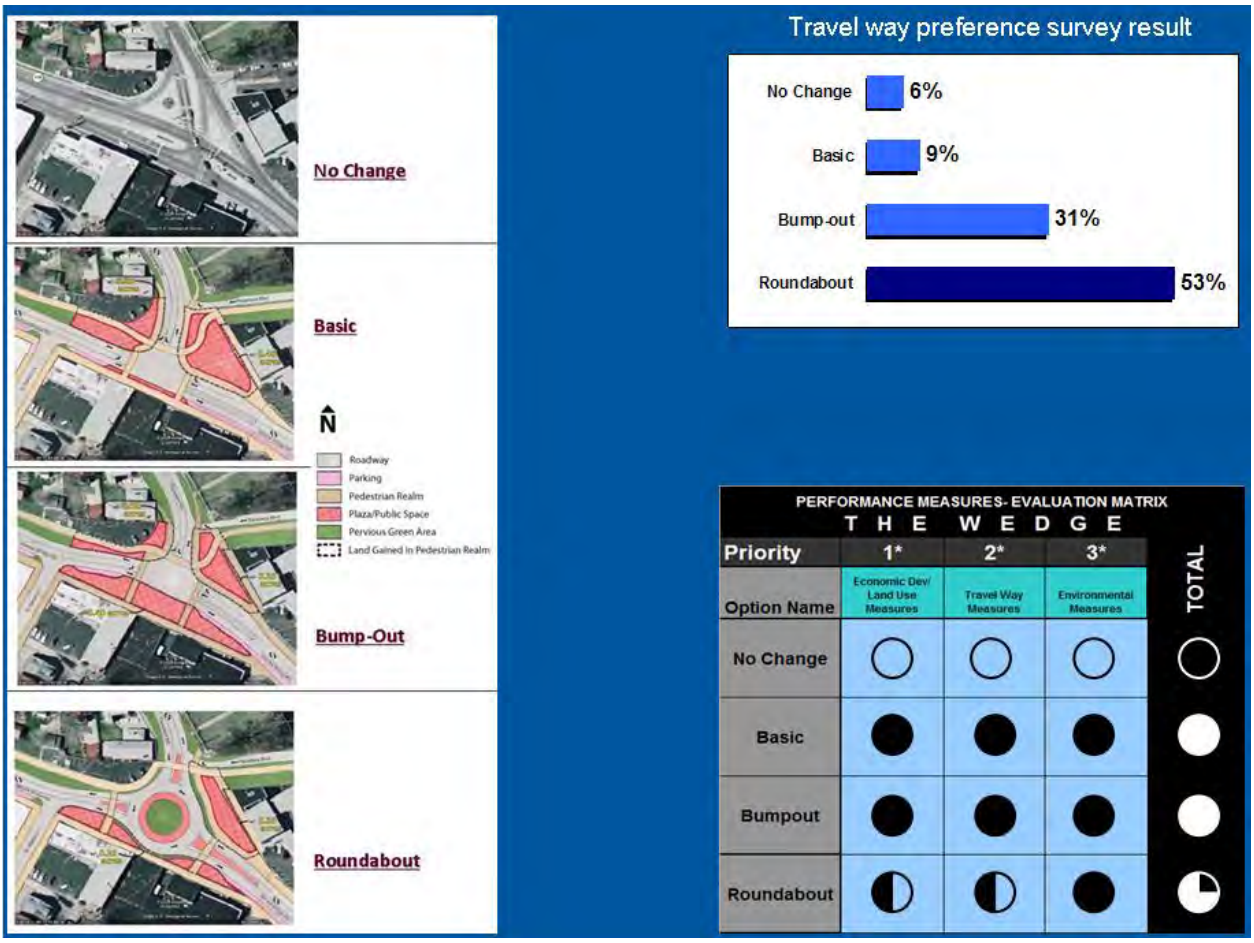
The road diet option, including a center turn lane, one through lane in each direction, and bike lanes provided good travel way goal performance, however, the ability of this option to support economic goal criteria reduced this alternative in the area of economic development goal criteria.

Preferred Alternative: Center turn lanes with wide outside lanes for bicycle and transit accommodations, and on-street parking on the south side.

Natural Bridge at Florissant Road Intersection

The evaluation of the Natural Bridge and Florissant Roads intersection was difficult to assess. Overall all of the build options improved this node as a focus of the corridor and for future economic development potential; however, there are subtle conditions that lead to the consultant recommendation.

The "no-build condition assessment" option does not address any evaluation criteria that the public supported as evaluation alternatives. Therefore this option rated very poorly in all three priority goals.



The basic "T" intersection option rated the best overall in the priority goal criteria in this node, including economic development and land use. This option also performed well in the travel way goal criteria. Additionally, this option is the recommended option of the consultant team based on its' performance in the priority goal area of economic development and travel way function for all modes. The environmental goal criteria for all build options are exceptional.

The bump out "T" intersection option rated well and the alignment was based on the roundabout option. This option did not provide as much additional area for development as the basic option but did perform better for pedestrian movements within the node.

The roundabout option rated well in all categories; however, a roundabout requires more land than the "T" intersections and decreases developable area. The immediate accessibility to adjacent property is impaired for those properties immediately adjacent to the roundabout area and thus a marginal poor rating was given. The performance of the roundabout related to safety and traffic movement is exceptional, though pedestrian movements are not protected. Bicycle movements must share the roundabout or shift to the sidewalk and paths around the roundabout; therefore the rating in this area is lower. Busses are only able to stop for passengers outside the effective area of the roundabout which reduces the evaluation related to transit usage. The public was overwhelmingly supportive of the roundabout option as was the advisory committee. The consultant evaluation showed that all of the build options would be acceptable and support project goals. These factors lead to the choice of the roundabout as the preferred option namely to provide the best gateway feature to the corridor at this key development node.

A fourth leg of the roundabout, was not considered in the assessment of these alternatives, but was included in catalyst site plans based on redevelopment opportunities in the "Wedge" area. The option of a fourth leg of the roundabout option is a viable addition to the intersection and would provide significant operational improvements when combined with a closure of the existing St. Mary's connection to Natural Bridge Road.

Preferred Alternative for Florissant Intersection: Roundabout intersection at Natural Bridge and Florissant Roads.

Chapter Summary

The planning process for alternative evaluation of road concepts was facilitated by the process of engagement with the community. The initial step of the planning process was to determine the preferred design alternative in the Natural Bridge Great Street Initiative. In addition to public meetings, an advisory committee group was formed and extensive interviews with stakeholders within the corridor were conducted. From the engagement process, the goals, priority for goals, evaluation criteria, and weighting for evaluation criteria were determined. Following the definition of challenges and opportunities, and evaluation criteria, alternatives were developed for each segment of the corridor:

Segment 1 – West/Clearview Drive to the Metro Link Bridge

Segment 2 – MetroLink Bridge to St. Ann's Catholic Church

Segment 3 – St. Ann's Catholic Church to Florissant Road

Segment 4 – Florissant Road to Lucas and Hunt Road

An evaluation process was developed to assess each of the four segments and alternatives in each segment were established to capture not only ratings from detailed evaluation, but also community input, and advisory committee input for the preferred alternative selection. Based on the evaluation process, the following preferred alternatives were selected for conceptual design:

Segment 1 - The road diet option that includes a wide landscaped median and one lane of traffic in each direction, turn movements at intersections, median openings at select cross streets and entrances

Segment 2 - The road diet option that includes a landscaped median and one lane of traffic in each direction, turn movements at intersections, median openings at select cross streets and entrances

Segment 3 - Three lane section with on-street parking on the south side, bike lanes, and wide sidewalks

Segment 4 – Three-lane section with on-street parking on the south side, wide outside lanes for bicycle and transit operations, and wide sidewalks

Natural Bridge at Florissant road Intersection – Roundabout intersection

These preferred alternatives will be developed as a complete conceptual plan extending from west of West/Clearview Drive to Lucas and Hunt Road. The plan will be presented and displayed so the public can provide comments prior to development of the preliminary design documents for the travel way, and finalizing the future land-use plan.

8 DESIGN GUIDELINES– PUBLIC REALM, LAND USE & SIGNAGE

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Section A: Public Realm

The design details for the street realm are intended to support both existing and proposed changes in the corridor. The design details for the public realm identifies various elements that are being included in the design plans for the corridor from west of West Drive/Clearview Drive and Lucas and Hunt Road. These design details and corridor plan can be found in Appendix 8.1 at the end of the Document.

The following elements will be included in the standard details for elements of the streetscape:

- Sidewalk Treatments and materials
- Shared Use Path design and materials
- Bus stop features and design
- Lighting
- Street Furniture
- Planting Palette
- Places for Art
- Trees
- Tree Grates
- Curbs and gutters, banding,
- Crosswalk treatments and textures
- Driveway details
- Parking details along the roadway
- Gateway Features
- Security features (call boxes and cameras)
- Fountains
- Plaza spaces
- Water fountains
- Spillover space details and guidelines
- Irrigation
- Stormwater BMP's
- Banners
- Median treatments
- Access management

Section B: Land Use

The design guidelines for the land-use realm identify various building types that are suitable for land-uses in the Natural Bridge Road corridor. Structures that fall into a certain "Land Use" categories based on the Future Land Use Map (refer Map 5.2) will follow the guidelines for that particular category.

The Land Use categories covered in these guidelines are:

- ***Residential***
- ***Neighborhood Mixed Use***
- ***In-Fill Development***
- ***Transit Oriented Development***
- ***Institutional Land Use***
- ***Utilities***

General Principles

The following principles shall be applied to all future land use categories along Natural Bridge Road as shown on Map 5.1 Future Land Use Map:

- Slopes greater than fifteen (15) percent are not to be developed except for trails and park facilities
- Civil engineering shall conform to the natural contours of any site eliminating the need for extensive cutting, filling or terracing
- When grading is necessary, contours shall emulate the topography of the existing slope and shall not be sculpted into exaggerated slopes or flat sites
- Hydric soils[1] are good for drainage of stormwater while the cost of transforming hydric soils into compacted developable land is high, therefore these soils, when found on site, shall be documented and protected
- Valuable view sheds shall not to be obstructed, therefore, buildings shall be sited to maximize view potential when applicable
- New building sites and infill sites are to be prepared at similar elevations to existing structures to insure continuous façade elevations
- The historic structures be preserved and respected when impacted by new or redeveloped improvements within their environments
- Natural and cultural resources shall be protected and preserved

[1] **Hydric soils**: Soils that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils. Available at http://www.dnr.state.md.us/criticalarea/glossary.html#h, Accessed April 02, 2011.

- Site planning shall integrate mature and native trees and existing native vegetation into site plans and building designs
- Planting along the corridor and adjacent to the corridor to increase canopy cover and green space
- Interpretive signage is encourage along the right of the way for enhanced public awareness
- Indigenous species are preferred in landscaping while invasive species shall be avoided and strategically removed
- All planning concepts shall be accompanied by implementation planning and finance strategies to assure market driven and financially feasible development on a timely basis
- All redevelopment shall take into consideration traffic flow and infrastructure alignment to assure maximum connectivity roads & transit facilities
- Use of green buffers such as green screens, evergreen shrubs or trees shall be installed between un-complementary land uses
- Structured development, whether new or redeveloped, shall advance the characteristics of the corridor and preserve its unique identity
- Environmentally responsive development shall be encouraged
- Green design strategies are encouraged to develop sites and buildings in a sustainable fashion. A checklist of minimum areas of green building practices follows:
    - Promote efficiency in energy usage through appropriate building orientation, materials and equipment selection
    - Efficient use of water through landscaping, creative water management techniques and paving choices
    - More dense, compact development is encouraged

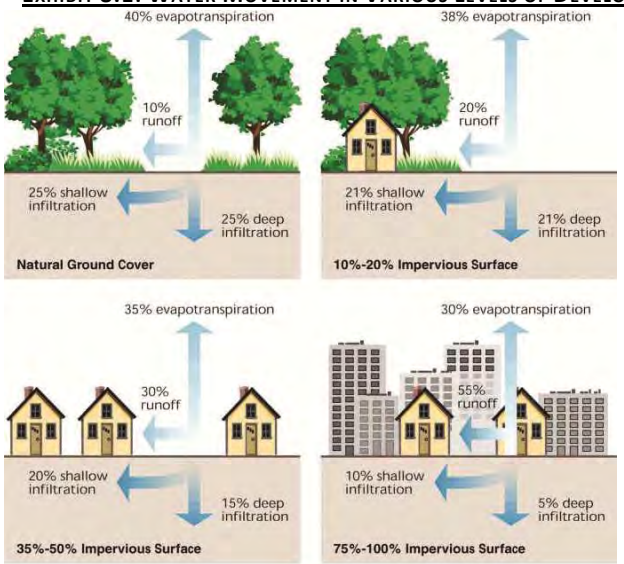
Principles for Low Impact Design and Conservation Storm Water Management

Low Impact Development (LID)[2] techniques that allow neighborhoods to develop in a sustainable fashion are encouraged. LID is an approach to site design and storm water management that seeks to maintain the site's pre-development rates and volumes of runoff, which is accomplished through the minimization of impervious cover, strategic placement of buildings, pavement and landscaping, and the use of small-scale distributed runoff management features that are collectively called "Integrated Management Practices" (IMPs).

[2] **Low Impact Development (LID):** Refer http://www.epa.gov/owow/nps/lid/ for detail information on site development using Low impact techniques. Accessed April 02, 2011.

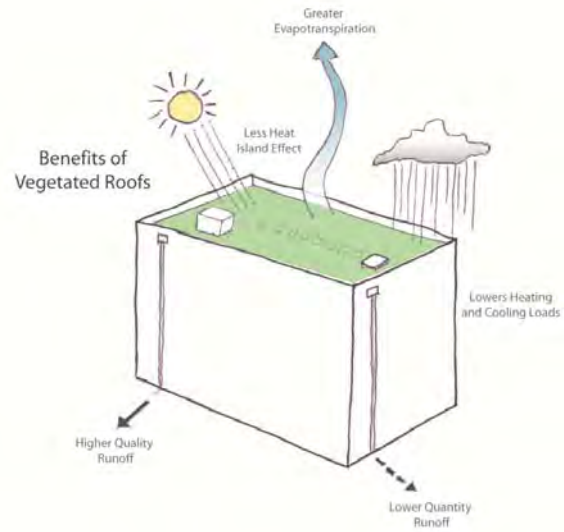
The suggested management features here relate to such water control methods as "bio-retention areas," "permeable paving," "vegetated roofs," and tree canopy cover that may be appropriate for consideration areas along Natural Bridge Road.

EXHIBIT 8.1: WATER MOVEMENT IN VARIOUS LEVELS OF DEVELOPMENT



Source: US EPA

EXHIBIT 8.2: BENEFITS OF VEGETATED ROOFS



Source: US EPA

Bio-retention:

Bio-retention is an integrated stormwater management practice that uses the chemical, biological, and physical properties of plants, microbes, and soils to remove or retain pollutants from stormwater. These retention areas are usually designed as shallow depressions with planting soil mix and a variety of plant material. In addition, they are usually designed as a conveyance system. In the typical clay soils found in the general area these require an overflow and connection to storm sewer for larger rain events.

Applications include:

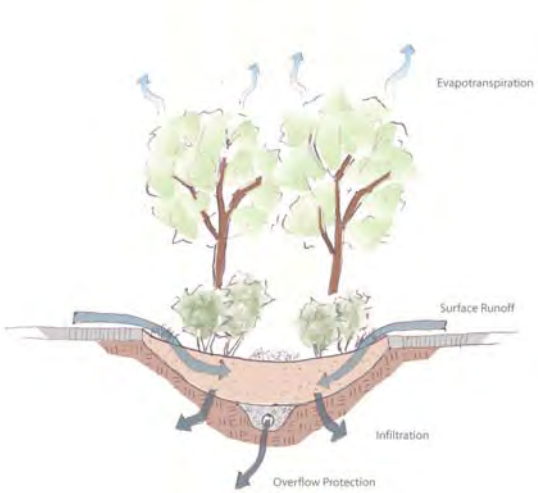
- Individual lots for rooftops, driveways and other site impervious surface infiltration
- Shared facilities located in common areas
- Land areas within loop roads and cul-de-sacs
- Shared pubic alleyways
- Green alleys
- Landscaped parking lot islands
- Right-of-ways and excess property resulting from reconfiguration of road alignments
- Common landscaped areas in apartment complexes or other multi-family housing locations
- Integration into garden areas

- Integration into large institutional facilities such as hospitals, large industrial sites, airport(s), university campus and K-12 sites

EXHIBIT 8.3: BIO-RETENTION

Source: www.buffalorising.com

EXHIBIT 8.4: BIO-RETENTION SECTION



Source: Hellmuth and Bicknese

Permeable Paving:

Permeable Paving is the preparation of site surfaces that accommodate pedestrian, bicycle, and vehicular traffic while allowing infiltration, treatment, and storage of stormwater. These methods are applicable to various levels of development and may be applied as a standard for the individual Communities associated with stormwater maintenance and overall aesthetics. Permeable paving materials should be carefully considered and alternative pavement may be recommended for high truck usage areas, trash pick up areas, and loading dock aprons. These often contain storage areas underneath to hold and slow down stormwater and are usually interconnected to other stormwater BMPs.

EXHIBIT 8.5: PERMEABLE PAVING SYSTEMS

Clockwise:

PERVIOUS PAVERS
Source: www.mytorontohomeimprovement.com

PLASTIC GRID SYSTEM
Source: www.ristormwatersolutions.org

PERMEABLE CONCRETE
Source: www.concretethinker.com

OPEN CELLED CONCRETE WITH GRASS FILL
Source: www.lastormwater.info

Applications include:

- Open-grated concrete or hot-mix3 asphalt pavement
- Aggregate or plastic pavers
- Plastic grid systems
- Permeable concrete pavement

Residential Land Use

The residential land use as indicated in the future land use plan is primarily single family. The single family residential structures are in good condition and are encouraged to be maintained with little or no additions to the structures. However if a particular structure in this category is torn down it can be developed as a single or multi family structure. Accordingly the guidelines below are classified in two categories

- Single family structure
- Multi-family Structure

Height, Ground Coverage & Density

- In order to ensure that the changes in density are gradual, new residential structure shall not be more that 25 % of the density of previous structure on the parcel or neighboring structures in quarter mile radius, whichever is greater.
- The height of the single floor structure shall be at least 14 feet from the ground
- The modulations in density shall not be abrupt.

Building Massing and Orientation

- Structures on corner lots shall have no blank walls facing the street and shall incorporate pop-outs, a variety of building massing techniques, and appropriate window placement and other design features working in scale and harmony with the configuration of any given corner lot dimensions
- Facades shall be designed as pedestrian friendly and shall make walking a pleasurable and safe experience
- Homes shall be oriented in such a manner that the majority of primary living space receives direct sunlight
- A change in wall plane of façades shall be in keeping with the architectural style of the building and shall be significant enough to affect the building mass

[3] Hot-mix is similar to standard asphalt except that the aggregate fines are reduced, leaving a matrix of pores that conduct water to the underlying aggregate base and soil (Cahill, et al., 2003).

- Rear yards not to occur along Natural Bridge Corridor.

Parking

Structure with one or two living units

(Single family homes, townhouses, duplexes, live-work units[4])

- The main living area shall be closer to the street than the garage, and offer a view of the street
- Where possible the access to the garage shall be from the side street or the alley
- Curb cuts onto Natural Bridge road should be minimized wherever possible
- All residential garage doors visible from a street or park to consist of articulated panels
- All residential garages accessed from a public street to consist of single car width driveways for one car garage configuration and two car widths in the case of double car garages.
- In all residential structures requiring three or more car garages no more than 2 car width of driveways shall be permitted.
- Pervious driveway and parking surfaces are recommended.
- The following features are encouraged to be incorporated in residential garage doors visible from a street:
  - Indoor living space or balcony space built over the garage with clear sight lines between the street and these spaces are encouraged
  - A strong shadow line around the garage face created by recessing the door(s) approximately one (1) foot behind the adjacent building plane gives depth and adds interest to the building mass
  - When multiple car garages are provided, limit garage doors to nine (9) feet in width with intervening posts at least one (1) foot in width.

Structure with more than two living units

(Apartments, condominiums, Student Housing, Senior Living)

- Parking shall be off street and not visible from the street
- Pervious driveway and parking surfaces are recommended
- If surface parking is provided, it shall be at the rear of buildings unless otherwise permitted by the individual Communities

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[4] The term **"live-work"** effectively describes accommodations that are specifically designed to enable both residential and business use. This differs from ordinary "work from home conditions" in its nature and in the intensity of business use that may be involved. While in "work from home", the work use of a unit is small scale and usually secondary to the domestic use, in a "live-work" unit amount of space devoted to the work use or that the work element is designed to accommodate more workers than just the resident and may be designed in a flexible form to encourage business expansion. Available at http://www.rics.org/Environmentalandlandconsultancy/Sustainability/Sustainabledevelopment/liveworkarticle040906.html, Accessed on April 04, 2007

- If shared garages and decked parking is provided, it shall be integrated with the building in a way that shall not result in large blank facades
- Garages, decked or underground parking shall be encouraged for all residential buildings exceeding 20 units per single structure
- Where possible the access to the garage shall be from the side street or the alley
- Covered bicycle parking should be considered for residential units for both long and short term needs of the living units, as noted in the table below.

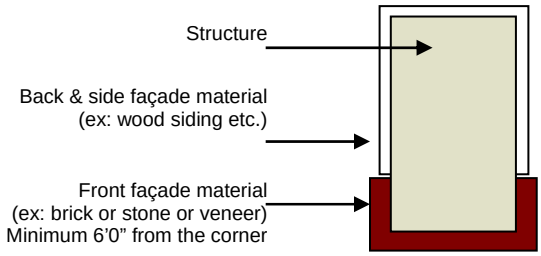
Multi-Family Dwelling	Long Term Bicycle Parking	Short Term Bicycle Parking
A. With private garages for each unit*	No Spaces Required	0.05 spaces for each bedroom, with a minimum of 2 spaces
B. Without private garages for each unit*	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.05 spaces for each bedroom, with a minimum of 2 spaces
C. Senior Housing	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.05 spaces for each bedroom, with a minimum of 2 spaces

Materials and Colors

Exterior building materials and colors make a strong contribution to the quality and richness of buildings and constitute a significant visual impact to dwellings. Therefore, building colors shall be selected to provide aesthetically pleasing and compatible detail to materials used in the construction of structures on adjoining properties as follows:

- Development shall be sensitivity to choice of colors and materials due to the need for compatibility with adjacent structures
- Building materials and architectural finishes are to possess physical properties that respond to the climatic condition of the central Mid-western region and allow for appropriate and convenient maintenance procedures that ensure a long lifespan for the selected materials
- Buildings shall be provided with a distinct "base" through the use of materials, texture and massing.
- Material changes shall not occur abruptly at the external corners. A minimum of Six (6) feet from the corner is required before any change in material occurs. See Exhibit 8.1

EXHIBIT 8.6: MATERIAL CHANGES AT THE CORNERS



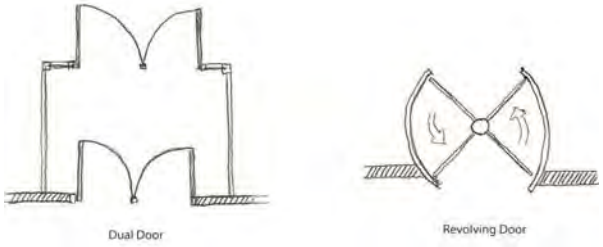
Source: CH2M HILL

- Facades with blank walls (a wall without windows or doors) are discouraged in any first floor building abutting any form of public connectivity (walkways, streets, etc) except when required for the structural integrity of the building
- Building materials have differing physical characteristics and uses. Glass, stone, wood, brick, steel etc., each exhibit varying levels of weight, strength, elasticity and resistance to weather. The use of a building material to be consistent with the physical properties of that material
- The use of natural materials is encouraged. The manner in which a material is applied should also be consistent with its physical properties
- Use of rapidly renewable, recycled, and/or regional materials is recommended
- When using stone or brick veneer, materials are to be considered carefully and the design to be detailed in a way that avoids a non-authentic appearance. The veneer is to represent as much as possible the inherent materiality of stone or brick as a heavy, weight-bearing material
- The choice of materials are to be properly scaled to the overall proportions of the structure
- Dryvit, EIFS stucco, and vinyl siding are discouraged
- Building materials are not to be individual components of a building but are to instead fit into the larger design palette consistent with the style of the structure.
- Renewable, salvaged and other materials with green attributes are encouraged

Entry Elements

- The principle entry shall be parallel to the street, and at least one pedestrian entrance shall be clearly visible from the street to ensure safety
- Porch like structures (enclosed or open) or other innovative entry elements shall be designed and proportioned to be in harmony with the structure
- Porches or other entry elements for all residential buildings shall be accessed directly from public street(s) at the frontal façade of the structure or pedestrian easement and must be visible from that street
- Apartments, Condominiums, Student Housing, Senior Living Units with more than four living units in a single building shall respond to the Midwest's snowy winters and hot summers and shall include dual doors to avoid abrupt climate changes

EXHIBIT 8.7: EXAMPLE OF PRINCIPLE ENTRY- DUAL DOORS



Source: Hellmuth and Bicknese

Windows

- While overall design composition plays an important role in the location of windows, varieties in shape, size and detailing may provide important design characteristics and aesthetic value to structures
- Light and vistas directly relate to the health and welfare of people and shall be considered in any residential design
- Other elements, including choice of material, overhang and weather protection shall be considered in window design
- Recessed windows (at least 6" from the façade surface) may create an interesting massing composition created by the play of light and shadow while providing weather protection and shall be considered as a design element for structures
- Window size and location shall be placed to allow visual access to the surrounding area
- Window placement shall consider privacy for the subject property and adjacent properties
- All windows shall be energy efficient and no single pane glass shall be used within structures. Double-glazed, low-E argon filled IGU's are recommended.
- All street facades shall have windows covering at least 25% of the facade area
- Overhangs, awnings and trellises which allow the low winter sun to penetrate the structure while blocking the high summer sun shall be considered during the design process and shall be considered in the overall design and massing of structures
- Trim molding, lintels and window sills shall be used to express a level of detail on the façade, consistent with the façade design and the overall design of the building

Roofs and Eaves

- Roofs have three principle shapes, including gabled (gambrel is modified gable roof), hipped (mansard is modified hip roof), or flat-built up. All residential buildings shall have hipped or gabled roofs. Flat roofs shall be used only when appropriate to the architectural style of the structure

EXHIBIT 8.8: EXAMPLE OF PRINCIPLE ROOF SHAPES

Source: Hellmuth and Bicknese

- The height of the façade and its proportional relationship to the roof are principle components of various architectural styles, therefore, the façade and roof line shall communicate with the style of the building.
- Each of the roof designs have many variations and shall be designed to be consistent with the overall design of the structure
- Eaves are a critical component at the junction between the wall plane and the roof plane. Building elements shall be considered in the detailing of eave design for residential structures, including overhang dimensions, shape and proportion of the structure and rain gutter placement and configuration
- Use of building integrated renewable energy technology (including solar thermal & photovoltaic panels) is encouraged
- Overhang dimensions of eaves shall be designed to provide required weather protection for the building and to provide shading during the summer months
- Rain gutter placement and their configuration along the eaves shall be designed specifically to carry rainwater runoff and snow melt from the roof
- Cornices shall be used as structural trim and not merely as decorative elements and their design shall be consistent with the architectural style of the structure
- Use of light colored or reflective roof materials or vegetated roofs is recommended to reduce heat island effect

Landscaping and Edge Treatment

Front yard landscaping is a means to express individual taste and render design diversity to the neighborhood, thus making walking, biking, and other forms of interaction with the property a pleasurable experience as follows:

- Landscape features shall exhibit a range of colors that is complementary to both buildings and the settings
- Use of low-impact techniques such as rain gardens is encouraged
- Use of indigenous species rather than invasive species is preferred and encouraged
- Drought tolerant plantings, or xeriscaping, is encouraged
- Edge treatment such as fences, low height hedges and flower beds can be used to create privacy by blocking direct view into structures
- Tree canopy coverage increase is encouraged to reduce overall stormwater impact
- Wherever possible it is encouraged to remove invasive species to prevent the spreading to adjacent lots

Rear Elevations

- At least 30% of the rear façade of structures shall include doors or windows to allow light and ventilation into the structure and to provide safe egress from the structure
- Use of permeable patio materials, and decks in backyards are encouraged

Neighborhood Mixed Use (Commercial & Residential)

Mixed use (commercial and residential) areas are generally transitional zones linking residential and commercial uses or "investment nodes". These areas create economic development opportunity locations created by the intersection of major streets along Natural Bridge Road. These areas are meant to augment larger commercial areas and businesses preferring to locate at major intersections or investment nodes due to ease of access and high visibility. Buildings enjoying corner retail and commercial space provide an opportunity to improve the character and continuity of retail and to provide new investment options within the established market place. The planning and overall design of these commercial areas shall remain sensitive to access, visibility, and traffic flow issues within established neighborhoods.

Development within this category will include small or medium sized (preferably not more than 10,000 SF) commercial uses at the ground floor and residential use above where feasible based on market demand. These uses shall be mixed vertically as well as horizontally. However, if a larger commercial development (such as anchor stores greater than 10,000 SF) is developed within this category, they shall be well integrated with the residential characteristics of the neighborhood impacted. New development will be sensitive to historic residential development patterns, existing monuments and other residential amenities within the infrastructure, and the relationship of residential amenities to new commercial investment.

Setbacks

A maximum 90% lot coverage is allowed in this category. The lot coverage shall not be less than 60%

- Mixed use developments shall have zero setback from the property line
- In sections of the street where the sidewalk is less than 15' wide the set back shall be 15' from the outer edge of the curb line. The property between the Right of Way and the building edge shall be dedicated to pedestrian realm and shall be treated as sidewalk area.

Height & Density

Single floor

Buildings comprising of single floors shall be minimum of fourteen feet (14') in height on the ground floor. The ground floor shall have commercial use, preferably retail.

Multiple floors:

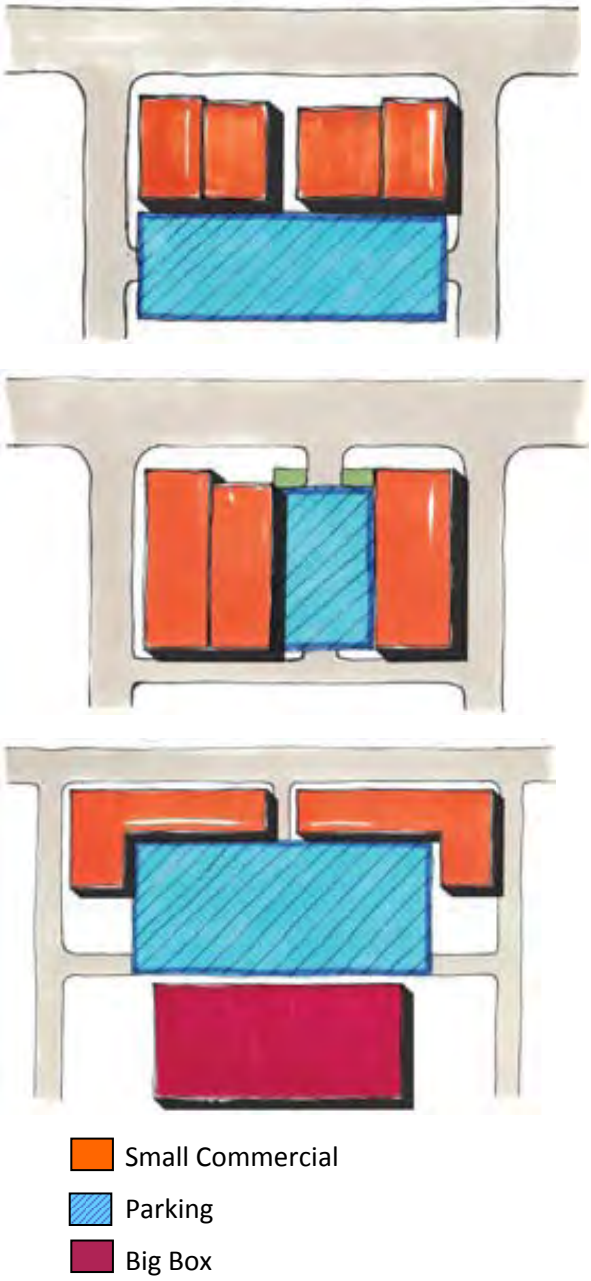
Buildings comprising of multiple floors shall be minimum of twelve feet (12') in height on the ground floor. The ground floor shall have commercial use, preferably retail. The upper floors can be used for either residential or office space.

- Density of mixed use development shall be higher than the average density in a quarter (1/4th) mile radius area from the center of each node
- The height of these structures shall increase by 25% but less than 50% at corners, nodes
- Housing above street level may have setbacks for the creation of balconies, porches, patios, or other structural elements that add interest and marketability to the building and its use.

Parking Requirements & Access

- Parking for residential and commercial uses shall utilize the same parking area, unless absolutely necessary to define residential use spaces from commercial use spaces.
- Parking counts shall depend on the current zoning requirements for the particular land use or pursuant to any variance approved by the City
- On-site surface parking shall be provided behind the structure or such that its not readily visible to person walking on the sidewalk on Natural Bridge Road
- Parking may be provided as decked parking or garages (Refer to Parking Garages and Decked Parking for more information on these structures)
- In the case of larger commercial structures (more than 10,000 square feet ground coverage) surface lots may be permitted in front of the building by way of special permission. However, not more than two rows of parking shall be visible from the street and additional parking required shall be provided behind structures
- If parking areas are provided adjacent to the structure they shall be separated from sidewalks by decorative parapet walls, landscaped flowerbeds, fences or designed common area elements all planned to enhance the property but they shall not impede visibility of buildings, signage and storefronts.

Exhibit 8.9: Examples of Surface Parking and Building Envelope Configurations



Source: CH2M HILL

- Low Impact Devbelopment parking is encouraged utilizing
  - Permeable pavement/pavers
  - Recycled content materials
  - Fully cut-off light fixtures
  - Tree canopy shading
  - Breaks in parking stalls
  - Well-delineated pedestrian circulation
  - Bicycle parking
- A clearly marked entrance(s) shall be maintained for residential or commercial uses on the upper floors.
- Corner lot buildings are encouraged to provide building ingress and egress from side streets and not from Natural Bridge Road.
- Parking shall be provided for neighborhood mixed use areas to provide both short and long term parking facilities for both commercial and residential properties as noted below:

Commercial		
Commercial Activity	Long Term Bicycle Parking	Short Term Bicycle Parking
Retail		
General food sales or groceries	1 space for each 12,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 5,000 s. f. of floor area. Minimum of 2 spaces.
General retail	1 space for each 12,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 5,000 s. f. of floor area. Minimum of 2 spaces.
Office	1 space for each 10,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 20,000 s. f. of floor area. Minimum of 2 spaces.
Auto Related		
Auto sales, rental and delivery. Auto servicing repair and cleaning.	1 space for each 12,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 20,000 s. f. of floor area. Minimum of 2 spaces.
Off-street parking lots and garages available to the general public either without charge or on a fee basis.	1 space per 20 automobile spaces. Minimum requirement is 2 spaces. Unattended surface lots are excepted.	Minimum of 6 spaces per 1 per 20 auto spaces. Unattended surface lots are excepted.

Residential		
Multi-Family Dwelling	Long Term Bicycle Parking	Short Term Bicycle Parking
A. With private garages for each unit*	No Spaces Required	0.05 spaces for each bedroom, with a minimum of 2 spaces
B. Without private garages for each unit*	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.05 spaces for each bedroom, with a minimum of 2 spaces
C. Senior Housing	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.05 spaces for each bedroom, with a minimum of 2 spaces

* A private locked storage unit may also be considered a private garage if a bicycle can fit into it.

Landscaping and Entry

- Due to zero setback requirements, landscaping opportunities may be minimal along the sidewalk and right-of-way. However, window planters, pots or similar plantings are encouraged to give warmth and render interest for the pedestrians and vehicular traffic.
- If a variance is granted to provide two rows of parking in front of structure, it shall be buffered from the sidewalk with landscaping (6 feet wide). Use of hedge or similar green screen and/or decorative parapet wall is encouraged.
- Public art shall be included in front of the structure, which will be located as defined on the site plan.

Architectural Guidelines for small and medium sized structures

This classification includes small and medium sized businesses and service establishments along Natural Bridge Road. These commercial locations shall allow for a pedestrian-friendly environment:

- Small sized commercial developments are defined as retail stores, restaurants, offices, daycare facilities and other business establishments that shall have a maximum footprint of 5,000 SF.
- Medium sized commercial developments are defined as retail stores, restaurants, offices, daycare facilities and other business establishments that shall have a footprint of more than 5,000 SF but less than 10,000SF.

Building Massing and Details

- Those uses (or businesses) that have their own style of architecture and signage are to modify their “corporate” images to confirm with the existing architectural character of the area (for example, fast food chains such as McDonalds and Subway).
- Courtyard areas if provided shall have a maximum depth and width of 20’ and shall be adorned with some type of temporary structures such as kiosks, bollards or similar innovative treatment to demarcate the area

- Building style that contributes to scale, commercial variety, and additional investment opportunities for commercial entities is encouraged
- Buildings shall provide a distinct "base" through the use of materials, texture or massing
- Architectural style shall maintain the small retail building character with adequate detailing
- Design elements shall consider, but are not limited to, providing offsets or bays, strong base materials, varying storefront treatments, multi-pane windows, and varying the bulkhead treatment and building fascias
- Buildings shall provide generous amounts of windows, skylights, or similar natural-light-producing products to create ground floors with a "transparent" quality to enhance the use of natural light and reduce energy consumption
- No window shall consist of reflective glass
- Lighting shall not illuminate or produce glare onto adjacent properties
- Buildings shall have architectural features and patterns that provide visual interest at a pedestrian scale, reduce massive visual effects, and recognize local character
- Continuous architectural elements for establishments that have a frontage of less than 60' shall be provided
- Horizontal elements shall be located at the joining of base and sill, awnings, parapet coping and other similar locations and shall include various material, texture, projecting surface, molding or other similar methods of structure detailing
- For commercial establishments that have more than 60' of street frontage, the expression of architectural or structural bays shall be created through changes in plane no less than 1' in width, such as an offset, reveal, or projecting rib at a minimum of every 60'
- Other techniques used to break the monotony of frontages that are more than 60' wide include but are not limited to the following:
    - Color change
    - Texture change
    - Material module change
    - Wall plane change
    - Changes in roof line elevations

Materials and Colors

Exterior building materials and colors comprise a significant part of the visual impact of a building. Therefore, materials shall be aesthetically pleasing and compatible with materials and colors used in adjoining properties as follows:

- Facade colors shall have low reflectance, be subtle, and blend well with the environment and not cause abrupt changes
- Building trim and accent areas may feature brighter colors, including primary colors, but neon tubing shall not be an acceptable feature for building trim or accent areas unless specifically approved by the City
- Front facades or facades visible from public streets that are not screened or abutting any form of public connectivity (walkways) shall not include blank walls (a wall without windows, showcases, displays, pedestrian entries) in any first-floor building wall except as required for the structural integrity of the building

Predominant exterior building materials shall be constructed with high quality materials such as:

- Brick masonry
- Large wood timbers
- Sandstone
- River rock and other native stone
- Tinted, textured, concrete masonry units
- Recycled and ecologically friendly materials
- Other similar high-quality building material

Roofs and Awnings

- Buildings shall provide protection for pedestrians from adverse weather conditions and utilize overhangs, marquees, and awnings at entrances, along pedestrian pathways, and at transportation waiting areas
- Variations in roof lines shall be used to add interest and to reduce the massive scale of larger buildings

- Roof features shall complement the character of adjoining neighborhoods
- When possible roof structures shall utilize sources of natural light (skylights) to increase energy efficiency and occupants' well being
- Roof design shall contribute to the reduction of stormwater runoff by managing water where it falls or accumulates
- Green roofs are encouraged wherever practical
- Parapet walls shall conceal flat roofs and rooftop equipment such as Heating, Ventilating, and Air Conditioning (HVAC) units from public view
- Building Integrated Photovoltaics (BIPV) is encouraged for use as awnings and overhangs as well as on the roof
- When roofs are used as expanded business areas (roof top or terrace seating for restaurants or expanded space for offices) they shall be constructed to protect occupants and be integral to the structural integrity of the entire building structure
- Awnings shall extend no longer than a single storefront or one (1) awning per tenant if appropriate to the overall design, functions, and appearance of the storefront
- Matching, retractable, fire-retardant awnings shall provide thematic character providing for creative and consistent signage and other branding, as well as shelter from climatic conditions

EXHIBIT 8.10: USE OF COLOR TEXTURE, MASSING, VARIOUS ARCHITECTURAL DETAILS AND SIGNAGE ELEMENTS THAT CREATE A PEDESTRIAN FRIENDLY STREETSCAPE

- Where possible utilize environmentally friendly materials including recycled content, low-impact, recyclable, non-toxic, and high performance characteristics.
- Fabric awnings are encouraged; canvas awnings with a matte finish are preferred; vinyl awnings are discouraged
- Awnings with high gloss finish are discouraged
- Illuminated, plastic awnings are prohibited
- Awning colors shall be compatible with the overall color scheme of the façade from which it projects and complimentary to adjacent building color schemes
- Solid colors or subtle striped patterns are preferred however, unique patterns designed for specific retail users that tastefully represent a logo or protect shall be considered by the City
- Awning structures shall be mounted at a consistent height of seven (7') to seven and a half (7.5') feet above the sidewalk
- Awnings are temporary structures and are exempt from setback requirements although their placement, material, and color shall be approved by City

Entry and Windows

- Ground floor storefronts shall have a minimum of 60% transparency, between the height of 2' and 7' above the grade of the walkway enabling visibility into stores and display windows
- All entries to have vestibules
- Entries and windows shall be designed at a human scale consistent with street characteristics and shall enhance visitor interrelationship with goods and services presented by various retailers and commercial establishments
- Windows will not consist of reflective glass or dark tinted glass that obstructs visual connection
- For uses that do not have visual appeal for pedestrians, less transparent surface ratios may be used if approved by the City
- Innovative designs for breaking the monotony of such facades that go beyond these guidelines in the massing and detailing section above, shall be at the option of the developer and shall be considered by the City
- Entry doors and windows to be energy efficient and a minimal of thermally-broken and double-glazed glazing units

Signage

- Signage shall follow the Signage Guidelines provided in Section C of this document

Architectural Guidelines for large commercial structures

The buildings in this category include any larger retail stores, business & service establishments along Natural Bridge Road. These locations shall allow for visual interest, identity and character. The intent is to create an environment, human in scale, where structures blend into the totality of their environment. The entire site shall have an overall pleasing appearance in scale and aesthetic composition.

Large commercial and institutional developments shall be sensitive to adjacent property and will take into consideration all residential development in nearby neighborhoods in respect to noise, traffic, circulation, lights, trash pick up, and any other conditions related to larger building imposing their conditions on residential structures. Large commercial buildings include, but are not limited to:

- large grocery stores
- big box stores
- retail stores
- pharmacy
- hotels and motels
- home care centers
- banks and ATMs
- office buildings
- medical office parks
- entertainment venues
- condominiums
- apartments

Retail stores (grocery, pharmacy, big box, anchor stores, and entertainment venues) are anticipated to be single story structures with their own distinguishing architecture and will be referred to as "principal structure" buildings. These principal structure buildings support smaller businesses that may be constructed on the same parcel are near the larger store (known as outparcel development). Smaller retail stores, in this configuration, are near the street and share parking, utilities, ingress and egress and signage with the principal structure. These type of large, one-story structures are ideal candidates for cool roofs and vegetated roofs to reduce heat island effect and stormwater runoff.

Other structure uses that fall into this category are office buildings, medical buildings, hotels, some entertainment venues and banks. These uses may be more than single story and are architecturally more flexible blending into surrounding development. These buildings may have superior architectural designs and become landmark venues in the area.

Lot Coverage and Height

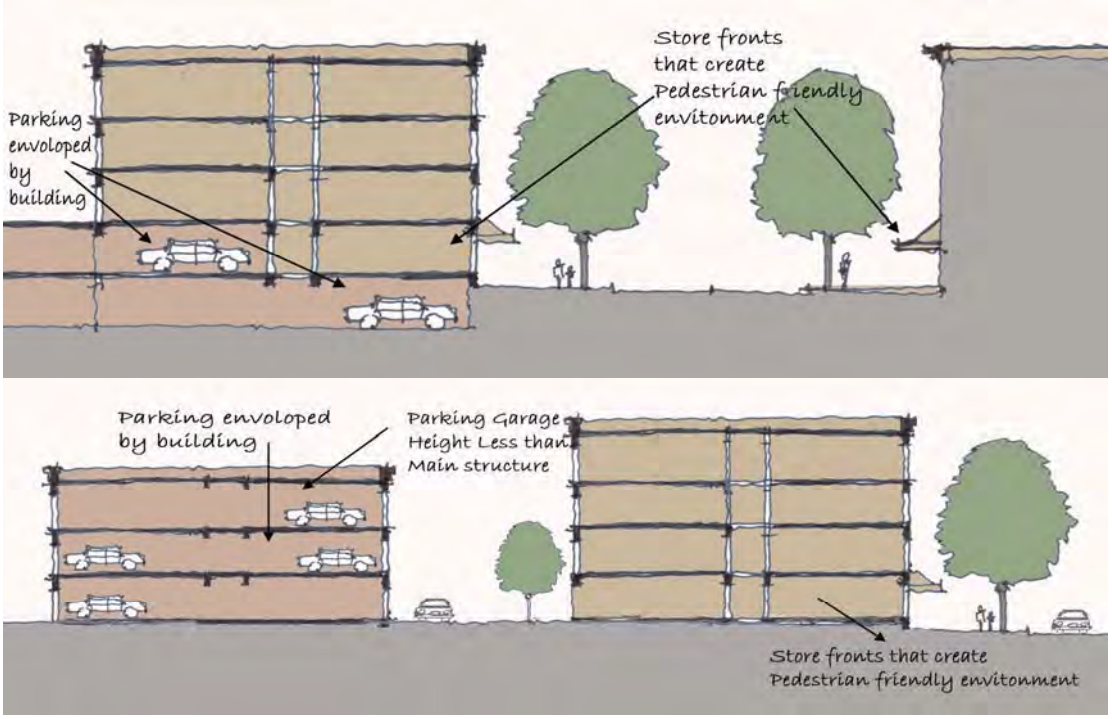
- Maximum lot coverage of 80% or more shall be allowed in this category.
- Lot coverage shall not be less than 60%.
- Buildings that have more than a 20,000 SF footprint shall act as principal structure with ancillary, smaller commercial uses (less than 5,000 SF) located closer to sidewalks (as described under small and medium sized commercial).

- All such buildings to have primary street frontage on the building setback and all parking to be at the back of the buildings, passages and side pedestrian access is encouraged to provide access to parking and make it visually accessible with signage.
- Ancillary building placement shall take into consideration their visual impact on the principal structure(s) and will not impede that visibility.
- For retail developments containing multiple tenancy, common wall adjacency shall be required to create a continuous, undisturbed façade providing for aesthetic appeal and safety to pedestrians by limiting structure separation with drives and loading dock areas.
- No off street parking or parking garages or structures to be located along Natural Bridge Road.

Decked Parking & Garages

- Locate parking garages underground or at the interior of parcels unless designed specifically as in-fill within commercial areas
- Envelope parking garages with retail or other uses, (See Exhibit 8.4)
- If parking garage abuts the sidewalk along Natural Bridge Road such parking garage design shall have tenant space activities such as retail at the street front
- Retail storefronts included within parking structures shall incorporate clear glass to provide visual interaction with pedestrian and vehicular traffic on the street
- First floor retail activities within parking structures shall be subject to the guidelines for Small and Medium Sized Commercial
- Building heights shall be equal to or lower than surrounding buildings unless parking requirements for the primary development use of the site warrants additional parking spaces
- Building architecture, materials and colors shall be similar to those of nearby structures
- Stairs and elevators shall be designed to fit within the footprint of the garage, rather than on the exterior, as an attached stair or elevator tower unless City regulations require exterior exiting due to the configuration of the site or building

EXHIBIT 8.11: PARKING GARAGE/ DECK PLACEMENT (ATTACHED AND DETACHED)



Source: CH2M HILL

- Entries shall be designed to minimize conflicts between vehicles and pedestrians
- Vehicular entries will be clearly marked
- Parking structures shall conceal views of vehicular storage from public streets and public spaces
- Parking structures shall incorporate innovative design ideas, especially related to façade treatment, signage, and public safety, mitigating landscape, and covered walkways.
- Openings to parking areas other than garage doors shall be limited to those required by the Building Code for ventilation
- Signage and light sources internal to the parking structure shall not be visible from outside the parking structure
- Lighting, particularly on parking decks, shall not illuminate or produce glare onto adjacent properties
- Setbacks from the property line are permitted to accommodate landscaping and other buffer features subject to design review
- Provide safe and clear pedestrian access from parking garages to street and/or retail/commercial spaces
- Aisle width, individual parking space dimensions, and handicap parking requirements are subject to City approval

- All garage designs shall be consistent with ADA guidelines. The bicycle parking requirements used for small to medium structures, applies to large structures at the same rates. Bicycle parking to be under cover.

Historic Structures

Structures that fall under this category refer to buildings built prior to 1941 and may be classified as contributing and noncontributing structures.

- *Contributing Structures* are those determined to be of historic significance by federal, state, or local designation
- *Noncontributing Structures* are those that have no historic significance or may be in need of rehabilitation

A noncontributing building built within the period of significance but substantially altered may be reclassified as a contributing building; however, it must be brought into compliance with its original historic facade by means of restoration. Renovations to historic structures to be energy efficient while paying attention to window sightlines and key building features.

Contributing Structures

- Additions, alterations to, and rehabilitation of contributing buildings shall retain and preserve the historic character of the buildings along Natural Bridge Road frontage.
- Additions at the rear of rehabilitated structures may be designed to include modern materials such as glass, brick, and wooden wall systems
- The removal, alteration, or replacement of features on the facade of an historic building must not alter the character of the building
- Removal of original materials or alteration of features and spaces that characterize a property shall be avoided
- Where severity of deterioration of the structure requires replacement of a distinctive feature, new features shall imitate the original design, color, texture, pattern and other visual qualities
- New balconies shall be prohibited on primary facades and rooftop additions unless otherwise permitted by the City
- Rooftop additions shall have a compatible and proportional relationship to the historic building and shall not change the original architectural character of the structure
- Additions shall be no higher than 20' above the roof deck of the building
- Rooftop additions shall step back a minimum of 15' from the facade of the building
- The design of awnings and materials used during renovation shall be related to the style and use of the building
- Where traditional retail storefronts exist or will be replaced, canvas awnings shall be used

- Historic wall signs shall be preserved

EXHIBIT 8.12: BEFORE AND AFTER IMAGES OF PRESERVED CONTRIBUTING STRUCTURES

Source: http://www.state.il.us/hpa/PS/mainstreet.htm

Noncontributing Structures

- Additions to and alterations of noncontributing buildings shall be designed to harmonize with the original building
- Additions to noncontributing buildings shall be sympathetic and subordinate to the original design of the building
- Additions shall complement the finished use intended for the building

Infill Development

This land use category is planned to allow the preservation of existing land use patterns while incorporating new development within the existing physical and cultural characteristics of the defined area, including:

- Small pedestrian oriented retail
- Small commercial offices
- Small medical offices
- Multi-family residential development
- Mixed-use commercial/residential

Commercial Development

- All guidelines that apply to neighborhood mixed use development are applied to commercial land uses in the Infill development category of future land use.

Residential Development

- Single family developments shall be prohibited in the infill development land use
- All guidelines that apply to multi-family development are applied to residential uses in the Infill development category of future land use.

Transit Oriented Development

Transit-oriented development is defined as a walkable, densely-developed, horizontal and vertical mix of residential space, commercial activity, entertainment facilities, and public open spaces within a 5 to 10 minute walk of public transit. Transit use connects the development to other places, thereby reducing the area's dependency on automobiles.

General Guidelines

- Make buildings landmarks to create notable places, aid in local way-finding, and make the area attractive and memorable.
- Encourage a mix of uses.
- Ground level uses shall be pedestrian oriented uses such as retail, restaurants etc.
- Encourage transit supportive uses, which are high pedestrian generators that directly promote greater transit ridership and opportunities for multi-purpose trips.
  - Offices
  - Hotels
  - Government buildings
  - Healthcare facilities/ Medical clinics
  - Daycare facilities
  - Health clubs/ Personal services
  - Retail shops (under 10,000 SF)
  - Restaurants
  - Neighborhood grocery stores
  - Coffee shops/ Outdoor cafes
  - Entertainment facilities
  - Neighborhood-oriented businesses (under 10,000 SF)
  - Financial institutions
  - Dry cleaners
  - Multi-family housing (Should not be allowed on ground floor)
- Discourage non-transit supportive uses that generate little or no transit ridership.
  - Automotive sales
  - Car washes
  - Large format food stores
  - Warehouse distribution
  - Regional parks
  - Large format faith facilities
  - Low density or single-family
  - Automotive services & repair
  - Large format warehouse retail (big box stores)
  - Strip commercial
  - Drive-in/Drive-through services
  - Outdoor storage

— Funeral homes
— Parking lots
— Low intensity industrial uses

Massing, Density & Setbacks

- Locate the uses as close to the station as possible.
- The highest densities shall be located closest to the station to optimize transit rider convenience.
- Intensity of development can taper off away from the station to create an appropriate transition and interface with the surrounding community.
- A minimum of sixty percent (60%) ground coverage is desirable (excluding surface parking, landscaping, temporary structures and plaza spaces)
- Maximum lot coverage is limited to eighty five percent (85%). However the design shall be sensitive to natural features and topography of the site
- The maximum floor-to-area ratio5 (FAR) shall be allowed based on the proposed development and market impact analysis submitted by the developer. However, a minimum of three (3) storied development is desirable on the side facing natural bridge Road and a minimum of six (6) storied development is desirable on the side facing MetroLink Station
- Buildings shall have zero setback on the side facing Natural Bridge road
- Setbacks on the remainder sides shall be approved based on the design of the structures. However, as a guiding principle the building shall be oriented such that there is minimum space lost due to setbacks
- The massing and placement of building should be designed in such a manner that it allows solar access to any public open space.

Public Open Spaces

- Provide public open spaces near a transit station to emphasize the station as a public place and act as central activity and gathering points for people using transit
- Special design consideration shall be given to arrival points within the station area neighborhood or district.
- Any public open space shall be accessible from primary pedestrian routes within the station area.

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[5] The floor-area ratio is the ratio of the gross square footage of structures on a site to the gross square footage of the site. For example, an FAR of 1.0 on a 10,000 square foot site could be achieved with a one-story building of 10,000 square feet, a two story building in which each floor measures 5,000 square feet, a four story building in which each floor measures 2,500 square feet, etc. The FAR controls the density of the site. A high FAR will allow higher densities than a low FAR. FAR allows flexibility in design while controlling for overall building size. The FAR is used in conjunction with height limits, setbacks, and lot coverage to arrive at acceptable densities and design of a development. Source: http://www.mass.gov/envir/smart_growth_toolkit/bylaws/TOD-Bylaw.pdf, Accessed June 25, 2010

- Provide multiple choices of entry to the public open spaces where possible
- Public open spaces shall be furnished with amenities that invite its continued use. Examples include water features, trees, flowers, trellises, unit pavers, pedestrian lights, benches, trash receptacles, newsstands, etc.
- The integrating open spaces with public art that express local community theme and renders identity to the space will be provided for in the development plan
- Public art shall be provided in open space areas
- Detention areas if provided shall be designed such that they are integrated with the public open spaces and become community asset
- Natural Bridge road streetscape shall be consistent with adjacent sections of streetscape, east of the Natural Bridge Road bridge over MetroLink.

Landscape

- Landscaping will be an integral part of TOD and provide an attractive and pleasant pedestrian environment
- The material used for landscaping shall be durable and require little maintenance. Use of local materials is encouraged where possible
- Landscaping shall use native planting as they are drought resistant and require little maintenance once established. No more than 10% planning shall be non-native by area planted (excluding lawn area)
- Provide seasonal landscape color with flowers in planters and medians where feasible
- Landscaping shall be used as an element to mitigate heat island effect during summer months. At maturity, the tree canopies should shade most of the hardscaped areas (streets, parking lots etc) within the development.

Connectivity and Access

- A continuous, direct, safe & interesting pedestrian connection shall be provided between
  - MetroLink station and the uses
  - Ground level uses and Natural Bridge road
  - MetroLink station and Natural Bridge road
- Street level pedestrian routes will be provided, connecting to buildings and to the transit station
- Narrow, landscaped pedestrian access are encouraged between retail/commercial space and rear parking. Protective pedestrian access is encouraged to make pedestrians feel safe and separated from automobile traffic.

- All access and connection shall meet or exceed current ADA requirements
- Vehicular access shall be separated from pedestrian functions where possible and practical
- Design of pedestrian connections shall respond to seasonal changes. Provide weather protection through the use of awnings, building projections and colonnades with ample, enclosed shelters for those taking transit.
- Station area and pedestrian connections shall be well lit at all times.
- Lighting used shall not cause night pollution or glare people using the building or driving on street
- Tastefully designed and legible signage shall be provided to orient people to buildings and activities around the station.
- Emphasize sightlines and views to and from the station to help orient pedestrians to their surroundings and to find their way.

Parking

- The development shall have shared parking facilities.
- Maximum parking requirement shall be
  - 3 parking spaces per 1000 square feet of commercial development
  - 1 parking space per residential unit
- Reduction of parking requirements will be considered on a case by case basis based on a study by a registered professional engineer, which provides the analysis of appropriate numbers of parking spaces needed for the project.
- Major parking shall be provided as decked or Garage parking
- Main entrance to garage shall be provided via internal street and not on the Natural bridge Road to avoid traffic back-up on the street
- Not more than 10% of the parking shall be provided as surface parking. Surface lots are prohibited in front of businesses on natural bridge side of the development.
- A minimum of 15 percent of all surface lots shall be landscaped. No row of parking shall be more than 10 spaces wide without being interrupted by a landscaped area.
- Bicycle racks or lockers shall be provided at the rates shown in the below table for each type of use for both customers and employees.
- Pervious surfaces or light colored concrete are encouraged for parking areas
- Vegetated islands on surface lots are encouraged to reduce heat island effect

Commercial		
Commercial Activity	Long Term Bicycle Parking	Short Term Bicycle Parking
Retail		
General food sales or groceries	1 space for each 10,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 2,000 s. f. of floor area. Minimum of 2 spaces.
General retail	1 space for each 10,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 2,000 s. f. of floor area. Minimum of 2 spaces.
Office	1.5 spaces for each 10,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 20,000 s. f. of floor area. Minimum of 2 spaces.
Auto Related		
Auto sales, rental and delivery. Auto servicing repair and cleaning.	1 space for each 10,000 s.f. of floor area. Minimum of 2 spaces.	1 space for each 20,000 s. f. of floor area. Minimum of 2 spaces.
Off-street parking lots and garages available to the general public either without charge or on a fee basis.	1 space per 20 automobile spaces. Minimum requirement is 2 spaces. Unattended surface lots are excepted.	Minimum of 6 spaces per 1 per 20 auto spaces. Unattended surface lots are excepted.

Residential		
Multi-Family Dwelling	Long Term Bicycle Parking	Short Term Bicycle Parking
A. With private garages for each unit*	No Spaces Required	0.10 spaces for each bedroom, with a minimum of 2 spaces
B. Without private garages for each unit*	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.10 spaces for each bedroom, with a minimum of 2 spaces
C. Senior Housing	0.05 spaces for each bedroom, with a minimum of 2 spaces	0.10 spaces for each bedroom, with a minimum of 2 spaces

* A private locked storage unit may also be considered a private garage if a bicycle can fit into it.

Architecture

- The architecture shall draw clues from the existing characteristics of the area yet try to create new identity for the area.
- The main entrance of the buildings shall face the Natural Bridge road as far as possible.
- The main entrance shall not be set back more than five feet from the front property line, unless a public seating area or plaza is provided in front of the building.
- Facades over fifty feet in length shall be divided into shorter segments by means of façade modulation, repeating window patterns, changes in materials, canopies or awnings, varying roof lines and/or other architectural treatments.
- The ground floor of a front commercial façade shall contain a minimum of 50 percent glass to allow for views into the interior of the building, providing interest for pedestrians.
- Clear glass that permits a clear view into a building is preferable to tinted or reflective glass that prohibits views into a building
- Architectural style and materials shall be compatible with the surrounding area, and facades must provide a visually interesting environment.
- All buildings shall articulate the line between the ground and upper levels with a cornice, canopy, balcony, arcade, or other visual device.
- Building and fenestration to be designed for daylighting and shading as appropriate. Integrated lightshelves and sunscreens are encouraged as needed.

Institutional Land Use

Institutional category relates to educational, civic and religious institutions in the area including University of Missouri and St. Louis, Normandy middle school, Lucas crossing elementary school, churches, post office and St. Vincent's home

University of Missouri at St. Louis (UMSL)

- University of Missouri has developed a master plan for the campus and is expected to follow the plan in years to come. Hence the guidelines in this document shall not be applied to the university property classified under institutional land use only

Other Institutional Uses

- While it is not anticipated that these parcels will be developed for any other use in future, in the even such a situation arises neighborhood mixed use design guidelines and Residential design guidelines for multifamily development shall be followed depending on whether the parcels are developed for residential or commercial purposes.

Parking for bicycles shall be provided for both sort and long term parking as reflected in the following table:

Type of Activity	*Long Term Covered Bicycle Parking Requirement*	*Short Term Bicycle Parking Requirement*
Non-assembly cultural (library, government buildings, etc.)	1.5 spaces for each 10 employees. Minimum of 2 spaces	1 space for each 8,000 s.f. of floor area. Minimum of 2 spaces.
Assembly (Church, theaters, stadiums, parks, etc.)	1.5 spaces for each 20 employees. Minimum of 2 spaces	Spaces for 5% on maximum expected daily attendance.
Health Care/Hospitals	1.5 spaces for each 20 employees or 1 space for each 50,000 s.f. of floor area, whichever is greater. Minimum of 2 spaces	1 space for each 20,000 s.f. of floor area. Minimum of 2 spaces.
Education		
a. Public, parochial and private day-care centers for 15 or more children.	1.5 spaces for each 20 employees. Minimum of 2 spaces	1.5 spaces for each 20 students of planned capacity. Minimum of 2 spaces
b. Public, private, and private nursery schools, kindergartens, and elementary schools (1-3)	1.5 spaces for each 10 employees. Minimum of 2 spaces	1.5 spaces for each 20 students of planned capacity. Minimum of 2 spaces
c. Public, parochial and elementary schools (4-6), junior high and high schools	1.5 spaces for each 10 employees, plus 1.5 spaces for each 20 students of planned capacity. Minimum of 2 spaces	1.5 spaces for each 20 students of planned capacity. Minimum of 2 spaces
d. Colleges and Universities	1.5 spaces for each 10 employees. Minimum of 2 spaces	1.5 spaces for each 10 students of planned capacity. Minimum of 2 spaces

Utilities

- The parcels that fall under this land use are the ones that house the MetroLink station and tracks.
- It shall be made sure that these parcels are buffered from surrounding development to reduce noise & light pollution created by the MetroLink and traffic from the station
- The station design & architecture shall be unique and create identity for the place
- Use of modern materials such as glass and steel is encouraged
- The station shall be pedestrian oriented and shall meet or exceed ADA requirements
- The station design shall allow for a direct connection to the future TOD development on the east side of the tracks
- Care shall be taken to create a safe environment for the people who use MetroLink
- Bicycle Parking for long-term parking shall be provide for 7% of projected a.m. peak period daily ridership, and short term 2% of projected a.m. peak period daily ridership.
- Long-term bicycle parking to be covered.

Vacant Buildings and Vacant Land

While "Vacant Buildings and Vacant Land" is not a future land use category, the design guidelines stated below are subject to implementation during the trasition time between the current land use and future land use.

"Vacant Building" means any residential or nonresidential building, or any part thereof, which is not occupied and has not been occupied for at least the preceding ninety (90) days by a person who has a legal right to be on the premises.

"Vacant Land" is defined as a property that does not have a built structure and is not used as Parks or for Recreation or public gathering.

- Vacant or abandoned properties shall be maintained by the owner(s), including, but not limited to, buildings, stormwater management, parking lots and structures, landscaping, local environment, and the visual impact along Natural Bridge Road.
- Maintenance shall include watering, trimming and pruning landscaping, promptly repairing any damage to buildings and site improvements, and the prompt removal of graffiti
- Signage shall be removed immediately upon vacation of the property
- Any covering of glass surfaces shall be installed to blend in with the building and will be maintained by the owner of the property
- Encourage use of urban agriculture and community gardening on vacant land with owner permission

EXHIBIT 8.13: EXAMPLE OF VACANT PROPERTY MAINTENANCE

Source: http://www.cooperativeconservationamerica.org/viewproject.asp?pid=999

SECTION C: SIGNAGE GUIDELINES

Signage shall be creative, appropriate to the business establishment, and installed to City standards. Signage graphics shall not be jarring, cluttered or competitive. Signage must be designed to City standards and constructed of durable, quality material. The city intends to provide owners and tenants with the opportunity to express their identity through signage. These design guidelines essentially classify all signage into two categories, primary and secondary signage.

Primary Signage

Primary Signage includes the primary identification signage for any establishment. It is intended to identify the operations within the structure by name at the main public point of entry. For larger establishments with extensive street frontage, more than one primary sign may be permitted if approved by the City.

Primary signage types include monument signs facing Natural Bridge Road, wall plaques, fascia signs, awning signs, and exterior blade signs at main public entry doors when there is no monument sign. Primary signage may be illuminated from within the sign element or by exterior lighting directed onto the sign face. See individual sign types below for the types of illumination that are permitted. All illuminated signs must be fabricated and installed in compliance with all applicable building and electrical City Codes.

Secondary Signage

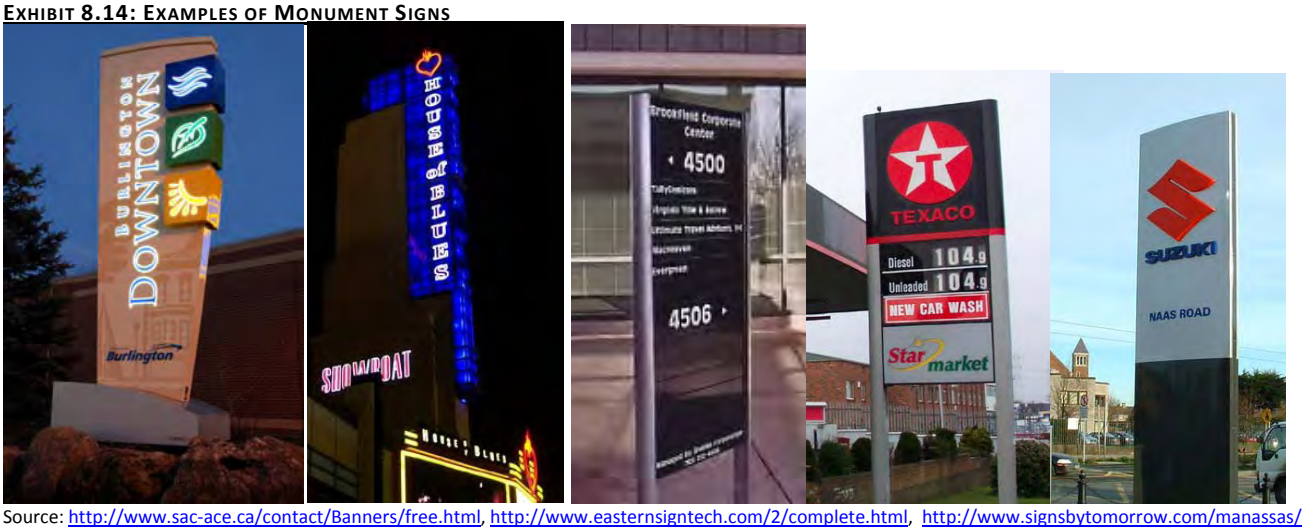
Secondary Signage is intended to give direction and necessary information in addition to the main identification provided by Primary Signage. Multiple types of secondary signage serving a single purpose is not permitted; i.e. a fascia sign and a wall plaque at the same entry door.

Monument Signs

- More than one monument sign may be permitted for a development, however only one sign per each two hundred (200) linear feet of frontage is permitted up to a maximum of two (2) signs on each property facing Natural Bridge Road
- Maximum height permitted: eight (8') feet for Small and Medium Sized Commercial and fifteen (15) feet for Larger Commercial or as approved by the City
- Maximum width permitted: four (4') feet for Small and Medium Sized Commercial and eight (8') feet for Larger Commercial or as approved by the City
- Landscaping is required around monument signs and shall be submitted with the monument sign as part of a unified design
- Landscaping around monument signs will be selected as to growth height, watering requirements, and long term care requirements
- Illumination: Internally illuminated graphics routed in an opaque field are permissible when the graphics are limited to no more than 25% of the total field area
- Illumination shall be subdued and not garish

- Illuminated translucent panels may be permitted for larger commercial signs only

EXHIBIT 8.14: EXAMPLES OF MONUMENT SIGNS

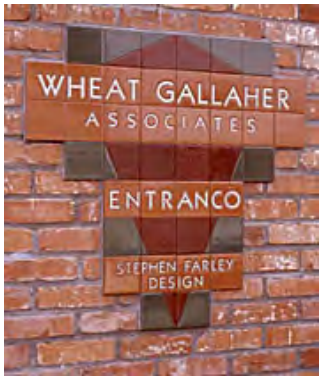


Source: http://www.sac-ace.ca/contact/Banners/free.html, http://www.easternsigntech.com/2/complete.html, http://www.signsbytomorrow.com/manassas/ , http://www.taylorsigns.ie/For%20Signs%20Ireland-Contact%20us.html

Wall Plaques

- Wall plaque signs must be applied to solid walls on which the plaque will be no more than 40% of the rectangular wall area to which it is applied
- Plaques will not exceed twelve (12) square feet and must be proportional to the wall to which they are installed
- Plaques will be mounted at eye level and individual letters shall not exceed a height of ten (10”) inches
- When the wall plaque is the primary signage for a commercial establishment, the sign may be illuminated
- Internally illuminated graphics routed in an opaque field are permissible when the graphics are limited to no more than 25% of the total field area
- Illumination shall be subdued and not garish
- Externally illuminated plaque signs shall be allowed
- Any kind of lighting used for external illumination will be placed no lower than seven (7’) feet to avoid vandalism
- Exposed neon is prohibited due to possible vandalism at this mounting height
- When the plaque sign is secondary signage, it shall not be illuminated

EXHIBIT 8.15: EXAMPLES OF PLAQUE SIGNS:



Source: http://www.halecustomsigns.com/signs.htm, http://www.tilecanvases.com/steve.htm, http://www.tikibosko.com/tikicarve_custom.html,

Fascia Signs

- Fascia signs are horizontal signs mounted on building fascia or eaves
- When the fascia sign is the primary signage for the structure, the sign may be illuminated
- Internally illuminated graphics routed in an opaque field are permissible when the graphics are limited to no more than 25% of the total field area
- Fascia signs may incorporate neon designs and lettering or may be externally lit
- Secondary fascia signs shall not be illuminated
- Fascia signs shall be mounted a minimum of seven (7') feet above grade from the bottom of the sign and shall not exceed twelve (12') feet in length and two (2') feet in height

EXHIBIT 8.16: EXAMPLES OF FASCIA SIGNS:

Use of Neon

Internally illuminated

Externally illuminated

Source: http://www.mplbusinessimages.com/shopfront_signage.htm
http://www.prestigesigns.net/products.aspx?catid=2

Awning Signs

- Storefronts utilizing awnings as a design element have the option of including signage as part of the awning concept

- Lettering and logos shall be proportional to the awning face and shall be located on the front face of the awning
- Awning signs may be illuminated by remote accessory lighting only
- Light fixtures may be located above the awning only and shall be fully integrated with the building façade
- In no case shall awnings be enclosed on the underside and internally illuminated in such a manner that the awning functions as internally illuminated signage
- All transformers, ballast, and conduit shall be concealed

EXHIBIT 8.17: EXAMPLES OF AWNING SIGNS:

Source: http://www.allbritesigns.com/signs.html, http://www.december.com/places/mke/album/photopanera.html

Blade Signs

- Blade signs add a creative element to retail and commercial districts and provide excellent signage visibility to pedestrian ways. Well designed, these signs add to the distinction and identity of shops and businesses.
- Blade Signs are double sided signs that project perpendicularly from the face of a building
- Blade Signs may incorporate neon as the illumination source or they may be designed to be externally lit
- Signs may not exceed four (4) square feet with a maximum dimension of two (2') feet in any direction
- These signs shall be of a distinctive shape with three-dimensional character where possible
- Blade Signs shall extend out over public walkways to a maximum of two (2') feet and shall be installed at a height of nine (9') feet above grade.
- The sign must be soundly suspended from the building's structural façade
- All transformers, ballast, and conduit shall be concealed
- Any changes in size and mounting of blade signs shall be subject to the approval of the City

EXHIBIT 8.18: EXAMPLES OF BLADE SIGNS

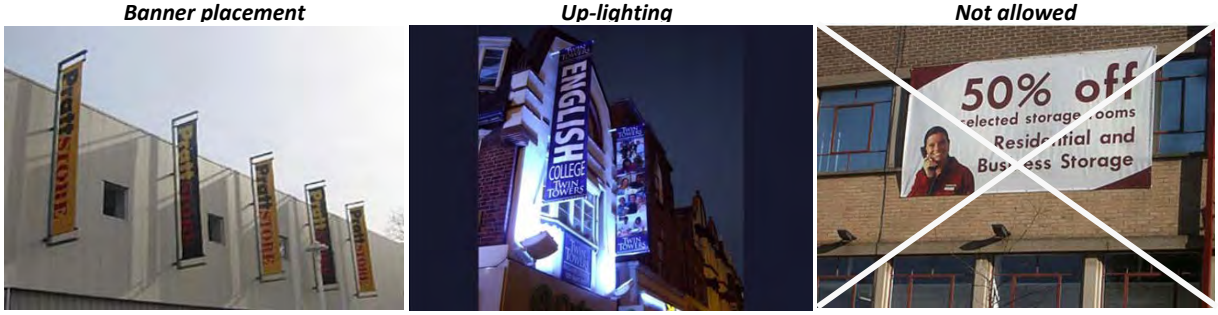
Source: http://www.prestigesigns.net/products.aspx?catid=2, http://www.thesignfactoryusa.com/Products.htm , http://www.fingerlakessandbox.com/b2evolution/index.php?blog=1

Banner Signs

- Single and double sided banner signs shall project perpendicularly from the face of a building
- Banners applied to the wall shall not be allowed
- Banner signs shall be made of fabric, canvas or other similar material with a sturdy support system adhered to the facade of the building
- Banner signs shall be externally lit with lighting fixture(s) placed above or below the banner
- Signs may not exceed twelve (12') feet in height and two and one half (2'6") inches wide
- Banner signs shall be mounted so that the bottom of the banner is no less than seven and one half (7'6") feet above the sidewalk elevation.
- Any changes in size and mounting of banner signs shall be subject to the approval of the City

EXHIBIT 8.19: EXAMPLES OF BANNER SIGNS:

Banner placement ***Up-lighting*** ***Not allowed***



Source: http://www.prestigesigns.net/products.aspx?catid=2

Glazing Signs

- Glazing Signs are secondary signs applied directly to the inside surface of storefront glass and include metal leaf, painted lettering, and etched, cut and sandblasted lettering
- Glazing signs shall display the store name or logo only

- Glazing signs may not exceed 25% of the total glazed area
- These signs shall not create a cluttered look at the storefront
- Glazing signs are permitted only for signage subject to the approval of City
- Any changes in terms of area usage, and display graphics other than logo and store name, shall be approved by the City
- Exterior signs shall be limited to the name of the establishment and will not contain a menu of items sold within the premise and will not contain the address of the building or the telephone number of the establishment

EXHIBIT 8.20: EXAMPLES OF GLAZING SIGNS

Source: http://www.thefarmonadderley.com/contact.htm, http://www.topstitchin.com/, http://news.medill.northwestern.edu/chicago/news.aspx?id=62585 ,

Orientation Map Signs

- Exterior orientation maps are permitted for the Natural Bridge Road corridor and may be placed in strategic, landscaped areas along the corridor
- These signs will complement the distinctive characteristics of the corridor
- Maps may be designed as interactive or static
- Maps shall be designed as easy to read and graphics shall be clear and easily understood
- Maximum height permitted: eight (8') feet or as approved by the City
- Maximum width permitted: four (4') feet or as approved by the City
- Illumination: Illumination shall be subdued and not garish
- Illuminated translucent panels may be permitted for larger commercial signs only

EXHIBIT 8.21: EXAMPLES OF ORIENTATION SIGNS

Source: http://www.stradallc.com/show_project.php?52, http://www.eire.com/2005/01/16/new-map-of-dublin-at-talbot-bridge/, http://www.waymarking.com

Promotional or Temporary Signs

- Temporary Signage may be approved for promotional sales such as grand openings, promotional merchandise sales events, arts and crafts shows, and other promotional activities related to the economic growth of the corridor
- These signs shall not create a cluttered look at the storefront and must be consistent in design to surrounding signage
- Promotional sales event signage approval shall be approved by the City for a maximum period of forty (40) days
- Promotional signage requested for a period of over forty (40) days shall be subject to approval of the City

Operational Signs

- Establishments may utilize no more than five percent (5%) of their storefront area for promotion of products or services offered, rate or schedule boards, professional or business organizational affiliation, and tour maps
- Sign messages shall be attached to the interior of the window glazing and may not be illuminated
- Signs indicating hours of business and emergency phone numbers are permitted, one at each building entrance or service door
- Operational signs at public entrances shall not exceed one square foot (1') in size
- At no time shall operational signs generate a cluttered look to the storefront

Menu Boards and Sandwich Signs

- Glass covered, fixed menu boards displaying the printed menu of the restaurant or cafe may be displayed within the main entry alcove or lobby
- Maximum size for fixed menu boards shall be four (4') feet
- Portable Sandwich boards may only be used per authorization by the City

EXHIBIT 8.22: EXAMPLES OF MENU SIGNS AND SANDWICH BOARDS

Fixed Menu Boards ***Sandwich boards***

Source: http://members.virtualtourist.com/m/a2cca/71211/2/, http://barscigarsandbrew.com/shop/odds-ends.html , http://www.discountdisplays.co.uk/html/sandwich-board-signs.html

Animated Signs

Animated signs create considerable distraction to traffic flow. Therefore, they are permitted to be used only at locations that do not interfere with traffic flow. The placement, size, colors displayed, level of illumination created, and speed of graphic change shall be approved by the City

Wall Painted Signs

These sign types may create a cluttered look to the streetscape if not strategically placed and creatively expressed. These signs may also create considerable distraction to traffic flow. While they are permitted to be used, their placement, size, height, colors displayed and level of illumination created will be subject to City approval.

EXHIBIT 8.23: EXAMPLES OF WALL PAINTED SIGNAGE

Other Signs

Any other type of signage not covered in this section or signage using newer technology that are not covered by these guidelines will be evaluated based on their design and functional merit and will be subject to approval of the City. Such signage shall be consistent with character of the area and shall be safe for pedestrians & consumer. Access the property on which the sign is located and any traffic movement in the area shall not be compromised.

9 PUBLIC ENGAGEMENT

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CHAPTER-9: PUBLIC ENGAGEMENT

Methods of Public Engagement

The use of citizen participation is an essential component in reaching a public consensus or "common philosophy" within the community. Planners and designers regardless of their personal talents and capabilities, working in isolation and apart from the client, will not be able to craft plans that will be accepted by citizens or implemented by the City on behalf of the citizens. Engaging the community in the planning/design process can strengthen the plan by utilizing local knowledge of various stakeholders. A collaborative planning process that includes various methods of public engagement provides a more open, inclusive, and interactive way of involving citizens in the total planning process.

The public engagement process for the Natural Bridge Great Streets Project included local businesses, developers, special interest groups, government representatives, city officials, neighborhood groups and citizens at large. This was done in five (5) ways:

- Electronic Survey
- Open House Presentations and Public Comment Forums
- Planning Workshops
- Stakeholder Interviews (includes elected officials and city staff)
- Advisory Committee Meetings

Stakeholder Interview Summary

Process and Purpose

The project team interviewed a select group of preliminary stakeholders to get their input regarding preparation of a more extensive project stakeholder list. The preliminary stakeholder group suggested that the team conduct interviews with leaders from the Chambers of Commerce, various neighborhood associations, and community organizations. The interviews with these and other key stakeholders are part of an attempt to establish long-term, positive relationships with those who have been actively involved in Natural Bridge Road development and to find out what their expectations are for the project. Informational handouts and stakeholder interview guidelines were developed for use at these interviews.

Stakeholder interviews were conducted with representatives of the following organizations:

City of Pasadena Hills	North County Incorporated
Village of Bellerive Acres	Missouri Department of Transportation
Village of Bel Nor	Oscar's Café
Village of Bel-Ridge	City of Pasadena Hills
Citizens for the Betterment of Normandy	Schulte Hardware
City of Normandy	St. Ann Catholic Church
Gateway Trailnet	St. Ann Catholic School
Glen Echo Country Club	St. Louis Beacon
Great Rivers Greenway District	St. Louis County Council
Metro Transit	St. Louis County Highways
United States Post Office	St. Louis County Library

Organizations listed as stakeholders but could not conduct interviews

PARAQUAD	Afro World
Unity Evangelical Lutheran Church	United Methodist Church of Bel Nor
Office of U.S. Senator Claire McCaskill	Murchison Tabernacle
Office of U.S. Senator Kit Bond	Office of U.S. Representative Wm. Lacy Clay
Express Scripts	

The purpose of the stakeholder interviews were to:

- Discover stakeholder knowledge about the project
- Seek stakeholder input about the existing corridor
- Understand preferences and vision for corridor improvements
- Identify specific issues or concerns & misinformation, if any
- Determine how stakeholders and their constituents want to receive information and be involved in the planning process

Key Findings

The interview involved a range of questions such as, what is required for project success, what transportation concerns do you have for the corridor, what community issues, potential development projects or planning activities that could impact this project? Below are key findings:

Maintain traffic flow and access – Natural Bridge Road is currently a thoroughfare for many motorists. Because this corridor is vastly underutilized, commuters and emergency responders often use the road at speeds exceeding the posted speed limit. This further decreases the corridor's attractiveness for pedestrian uses. Stakeholders were interested to know if "traffic calming" measures i.e., a three-lane road, can accommodate existing traffic. If not, how can we facilitate pedestrian activity?

Get community buy-in – There are many competing interests along the 3.8 mile stretch of Natural Bridge Road. Collaboration is of keen interest to stakeholders who recognize that the road is also a state highway within the jurisdiction of St. Louis County, falling within five municipalities and serving several educational facilities. It is up to the project team to determine and communicate clearly the common goal of all the stakeholders.

Reflect community character – Each of the five communities represented in the corridor has its own unique and rich history. Many of the residents are homeowners and lifetime residents who share the corridor with a vibrant student population. Land use in the corridor must address the needs of both older adults and young adults. UMSL's student housing is located south of the corridor and student-type land uses are currently limited. Questions for the project team include: what land uses fit into the character of the corridor and what is the potential impact to the corridor if connectivity is not improved between pedestrians and nearby transit facilities?

Compare on-street parking vs. off-street parking – What is the extent to which on-street parking encourages business patronage and is off-street parking compatible with local needs?

Consider safety perceptions - Pedestrian activity is currently hindered by the five-lane configuration of the road and travel speeds of oncoming traffic. Any existing or planned transit amenities need to be clearly presented to the public to address specific concerns about pedestrian safety.

Issues and Concerns

The community engagement process will ensure meaningful, ongoing interactions by addressing the following additional issues.

Overcoming Public Perception

For many years, residents living in the project area have heard about various development plans within the corridor. Comments made during the stakeholder interviews indicated that area residents suffer from a term common to the planning process known as "project fatigue". This condition occurs when community members become disengaged in public participation, due to repeated and continuous planning efforts with little or no results.

"Project fatigue" can be addressed with an intensive public information campaign designed to communicate project details, particularly regarding goals, planning phases, and desired outcomes. Upon communicating the goals of the process, it is important that the project team and stakeholders publicly celebrate "early wins." Celebrating early achievements will work to engage community members disenchanted with the process. For instance, since Phase I is complete and Phase II is underway, communication with the public will emphasize the results of Phase I and the anticipation of events to occur in Phase II. In Phase II, Natural Bridge Great Streets consultants, along with East West Gateway Council of Governments (EWGCOG) officials will need to demonstrate that action is being taken toward major corridor improvements. The challenge will be to help the community follow the process stages and recognize the necessity of current phases, in order to be considered for federal funding for major improvements.

Commercial and Residential Concerns

A mixture of residential and commercial land uses make up the landscape along Natural Bridge Road.

- There is a hotchpotch of land uses along Natural Bridge Road from I-170 to Hanley. Large big box type development can be seen near the interchange in Bel-Ridge followed by small mix of uses as we move towards east. There are also some residential uses in this stretch. Over all this mix and match type of development doesn't create a sense of cohesiveness in this stretch of Natural Bridge Road. Also the stakeholders feel that the land in this stretch is underutilized and does not create an attractive gateway for the communities.

- East of Hanley Road to MetroLink Station: combination of institutional, residential land uses. This creates a gap between of commercial uses along the corridor. The disconnected uses coupled with lack of appealing streetscape discourage people to walk along the corridor.

- Extending eastward along Natural Bridge Road from the MetroLink station to the North Florissant "wedge" there is a mix of residential uses along the north side of the corridor; small commercial developments, including a funeral home, the Hunt House historic building and several small professional offices. On the south side of Natural Bridge Road religious institutions are prevalent, including a grade school, Catholic Church, and Sisters of the Good Sheppard convent and operations. In addition to the institutional development in this vicinity, a county library and a restaurant are located adjacent to the institutional grounds.

- Currently, land use east of Florissant Road (the "wedge") is comprised of the Normandy Business District and the Pasadena Hills neighborhood. Concerns in this area are related to traffic flow and accessibility for residents to their homes and the businesses that serve them. Businesses include: a hardware store, several restaurants, a hair and clothing store, a liquor store, and a shoe outlet. During rush hour periods, residents face traffic flow issues when attempting to access businesses and homes located immediately behind commercial structures.

The EWGCOG and its consultants have shared recommended land use overlay results with area business owners and residents through the public engagement process. An emphasis has been

placed on open communication with the public in order to identify the community's vision for the corridor and to provide market driven planning to facilitate implementation.

Traffic Calming and Reduction of Lanes

A concern expressed by most stakeholders is centered on the reduction of lanes on Natural Bridge Road from two in each direction to one lane in each direction. One scenario presented in Phase-1 provides for the center lane to be maintained throughout the corridor except in the area extending from the MetroLink bridge to West drive (to the west). While they understand that this reconfiguration will lead to traffic calming and better pedestrian environment, the stake holders are concerned about the traffic congestion that might occur in an event there is an accident on I-70.

Economic Development

Stakeholders agreed that there is currently a lack of new economic development in the project area. Many suggested that the project team look into including senior and student housing and additional commercial development to spur revitalization.

Funding Gaps

Stakeholders believe that many area residents will be expecting construction to commence on the proposed roadway improvements for Natural Bridge Road soon after the completion of this study. Based on this expectation, the public engagement process has provided the opportunity to discuss project funding putting into perspective the actual funding realities and explaining that funding is currently available for the design phase and first phase of construction. This construction phase funding has been obtained through MoDOT for 2014 and will include restriping throughout the primary study area and complete construction of roundabout and plaza areas associated with it. Future design and construction costs associated with future phases of work will need to be separately financed. The project team will explore funding options for the construction phase. In the interim, it will be important for project consultants to manage the public's expectations and project limitations.

Open House and Online Survey Results

March 4, 2010

Introduction

On March 4, EWGCOG hosted the first public meeting to commence the Natural Bridge Great Streets Project Design Phase. Held from 4:00 to 8:00 pm at the University of Missouri – St. Louis J.C. Penney Conference Center, the meeting's primary objectives were to introduce residents to the project, confirm the advisory committee's vision and solicit feedback regarding issues and concerns impacting travel and economic development along the corridor. One hundred and nineteen participants registered at the event and of those attending, 76% completed the printed survey form (Appendix 9.1). Another 19 individuals shared their thoughts on a similar online survey form.

EXHIBIT 9.1: OPEN HOUSE

Source: CH2M HILL

Meeting Format

Structured as an open house with two presentations, attendees had the opportunity to view display boards at five information stations staffed by EWCOG officials and project team consultants. The stations were:

- Project Overview
- Existing Conditions and Work-to-Date
- Goals, Objectives and Measures
- Great Streets Toolbox
- Public Involvement

The consulting team presented an overview of the road segments and outlined the project goals and objectives. The attendees met with team members and answered the survey form.

Survey Results

Respondent Demographics

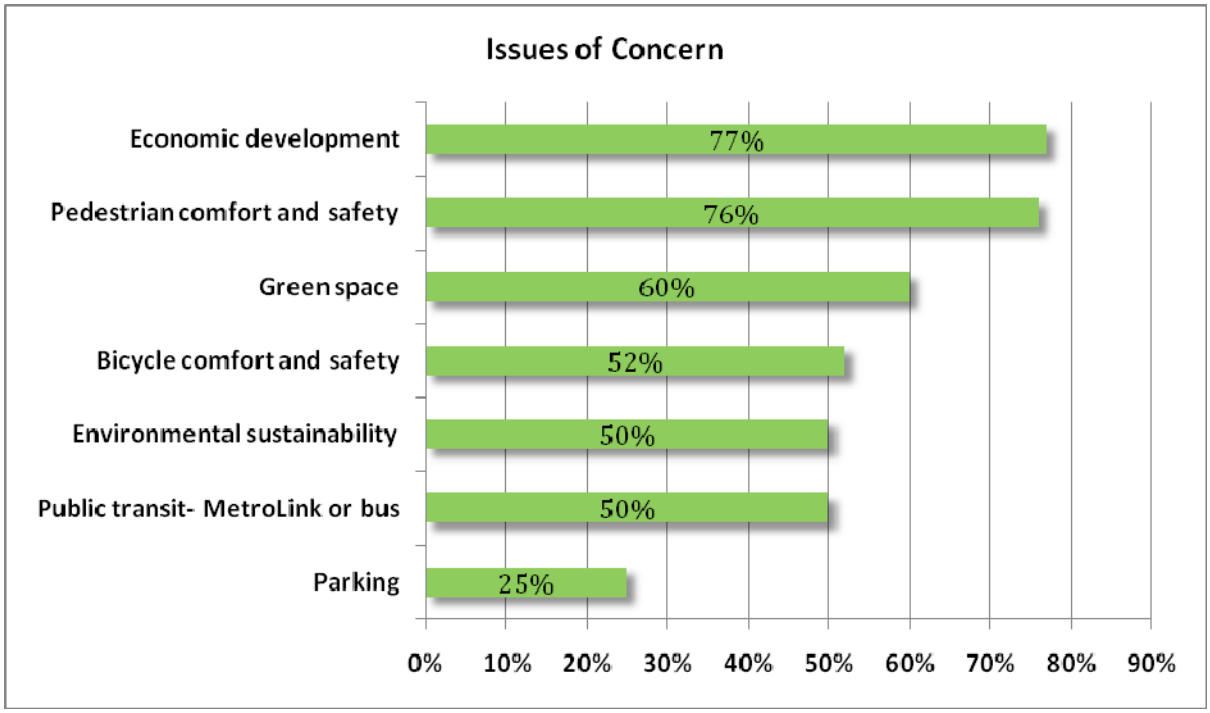
With more than 100 respondents completing the survey, Bel-Nor, Bellerive Acres and Pasadena Hills had the largest number of residents attending the open house. The chart on the next page details the respondents' responses and municipality of residence.

Regarding corridor usage and familiarity, approximately 36% of the respondents live along Natural Bridge Road; 66% use Natural Bridge Road to commute; 21% work for a business establishment along the corridor; and 2% own a business or establishment along the corridor.

General Issues of Concern to Respondents

The three most critical issues expressed by respondents were: economic development (77%); pedestrian comfort and safety (76%); and green space development (60%). The chart below details the responses for all issues listed on the survey form.

EXHIBIT 9.2: ISSUES AND CONCERNS



Source: Zoomerang Surveys

Importance of Roadway Issues

On a scale of one to five, with five being most important, respondents were most concerned with crosswalk safety (4.37) and property accessibility for residents, customers and delivery trucks (4.34). The table below provides a distribution of responses, as well as the overall rating for each issue.

EXHIBIT 9.3: ROADWAY ISSUES

Roadway Issues	Level of Importance					Rating
	Least (1)				Most (5)	
Safe sidewalks	3%	4%	10%	21%	63%	4.37
Property accessibility	5%	1%	10%	24%	60%	4.34
Inclusion of bicycle facilities	14%	12%	21%	29%	24%	3.35
Slower speed limits	20%	16%	33%	23%	8%	2.83
Medians	25%	14%	31%	20%	11%	2.78
On-street parking	30%	27%	20%	13%	10%	2.45

Importance of Pedestrian Realm Issues

Regarding the pedestrian realm, respondents were most concerned with: adequate lighting (4.46), landscaping (4.14) and MetroLink accessibility (3.83). The table below provides a distribution of responses, as well as the overall rating for each issue.

EXHIBIT 9.5: PEDESTRIAN REALM ISSUES

Pedestrian Realm Issues	Level of Importance					Rating
	Least (1)				Most (5)	
Adequate lighting	2%	0%	8%	30%	60%	4.46
Trees and plantings	3%	8%	12%	25%	52%	4.14
Accessibility to MetroLink stops	7%	3%	23%	35%	32%	3.83
Trash receptacles	7%	14%	20%	28%	31%	3.62
Accessibility to bus stops	7%	9%	30%	32%	23%	3.56
Wider sidewalks	12%	11%	20%	28%	29%	3.49
Benches and resting places	12%	15%	26%	27%	20%	3.27
Elements of interest for children	14%	15%	31%	15%	24%	3.19
Public art	19%	18%	20%	20%	21%	3.06

Importance of Economic Development & Land Use Issues

Respondent ratings included parking availability and accessibility (4.07), business growth (4.00) and neighborhood oriented commercial uses (3.97) with the economic development and land uses issues as the most important issues for those responding to the survey form.

EXHIBIT 9.6: ECONOMIC DEVELOPMENT AND LAND USE ISSUES

Economic Development & Land Use Issues	Level of Importance					Rating
	Least (1)				Most (5)	
Parking availability and accessibility	11%	8%	27%	34%	21%	4.07
Business growth	8%	4%	13%	31%	44%	4.00
Neighborhood oriented commercial uses	9%	4%	17%	23%	48%	3.97
Mix of residential/commercial land use	7%	4%	14%	41%	34%	3.92
Destination-oriented development	9%	6%	19%	30%	36%	3.79
Re-development or revitalization opportunities	11%	5%	12%	29%	43%	3.47
Usable public space for gathering and commercial uses	13%	9%	26%	28%	24%	3.40
Improved corridor aesthetics	8%	3%	12%	30%	47%	3.06

Importance of Parking Supply

With respect to parking availability, respondents wanted to ensure that adequate parking is available (3.73) and they favor off-street facility(ies) (3.30) over on-street parking (2.66).

EXHIBIT 9.7: PARKING SUPPLY ISSUES

Parking Supply Issues	Level of Importance					Rating
	Least (1)				Most (5)	
Adequate parking	8%	3%	31%	25%	33%	3.73
Central, off-street facility	14%	8%	26%	38%	14%	3.30
On-street parking	26%	12%	40%	12%	10%	2.66

Importance of Environmental Sustainability

Regarding environmental sustainability, respondents were most concerned with better lighting (4.39), stormwater management from street environment (4.10) and shade provided by trees (4.04). The table on the next page summarizes the respondents' results.

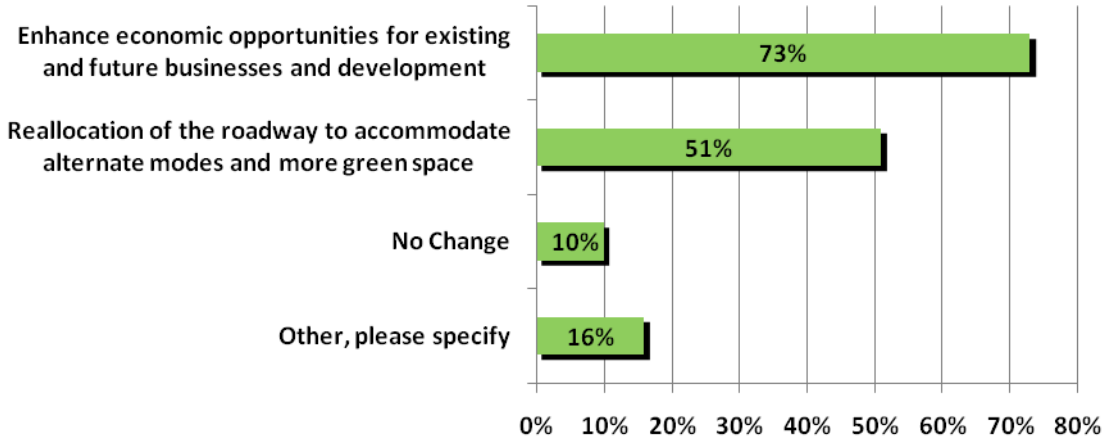
EXHIBIT 9.8: ENVIRONMENT SUSTAINABILITY ISSUES

Environmental Sustainability Issues	Level of Importance					Rating
	Least (1)				Most (5)	
Better lighting	2%	2%	8%	31%	57%	4.39
Stormwater management from street environment	4%	5%	15%	30%	46%	4.10
Shade provided by trees	6%	6%	9%	38%	42%	4.04
More green space adjacent to the roadway	8%	7%	17%	31%	37%	3.84

Natural Bridge Road Vision

Responding to their vision for Natural Bridge, 73% of the respondents envision economic development, followed by reallocation of the roadway for alternate transportation modes and more green space (51%). In comparison, no change to Natural Bridge Road was selected by 10% of the respondents. The table below illustrates the distribution of responses.

EXHIBIT 9.9: NATURAL BRIDGE ROAD VISION



Source: Zoomerang Surveys

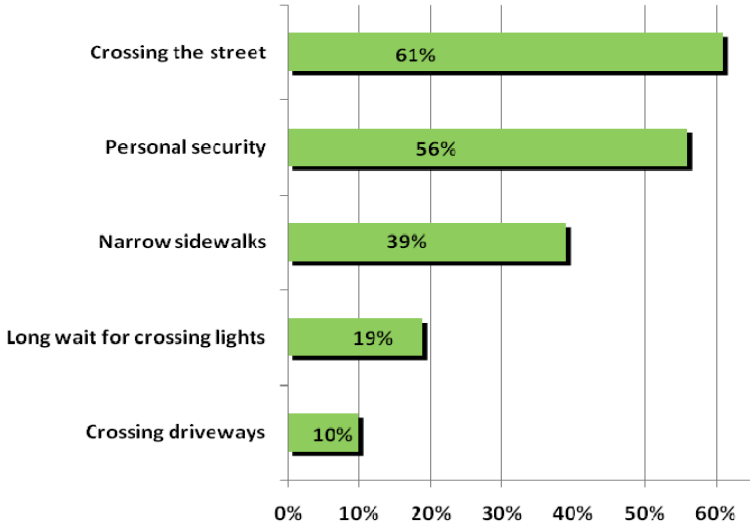
Several respondents selected "Other" and noted specific types of venues envisioned for the corridor such as a community center, affordable condominiums, restaurants, bars, a childcare center, and a stage/outdoor entertainment venue. Others offered suggestions for improving the corridor's aesthetics such as underground power and telephone lines, decorative lighting, overall beautification and medium sized trees.

Concerns When Walking on Natural Bridge

As detailed in the following chart, respondents were most concerned with crossing the street (61%), personal security (56%) and narrow sidewalks (39%).

Respondents who selected "Other" indicated their issues were the sidewalk's poor condition and the corridor's overall appearance. Others noted safety concerns because of rowdy student behavior and police chases.

EXHIBIT 9.10: WALKING CONCERNS



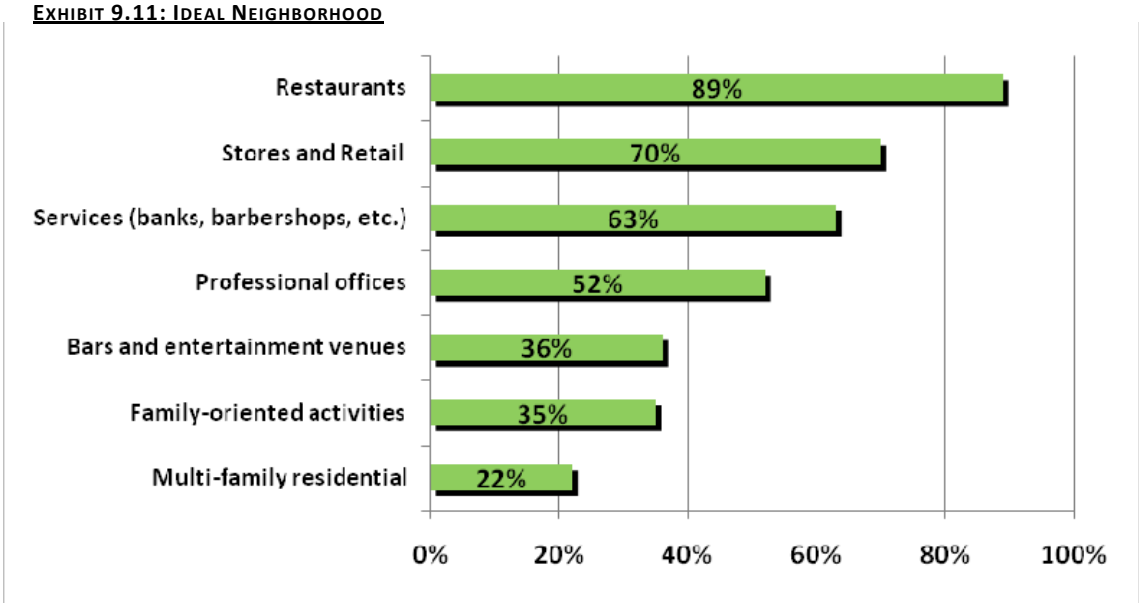
Source: Zoomerang Surveys

Ideal Neighborhood for Natural Bridge

Respondents felt Natural Bridge Road is the ideal neighborhood for restaurants, stores and retail and services (banks, barbershops, etc). Many of the respondents provided the identification of specific retails such as Trader Joe's and St. Louis Bread Company; and others suggested the removal of existing adult focused businesses, such as the payday loan store, adult books and movies. The table on the next page provides a synopsis of public's desire for residential, retail and commercial development. Two respondents suggested replacement of the shoe store with a community recreation center.

Designated Bike Lanes

EXHIBIT 9.11: IDEAL NEIGHBORHOOD



Source: Zoomerang Surveys

Approximately three-fourths of the respondents (74%) indicated they preferred designated bike lanes. Several respondents suggested the placement of bike lanes throughout the corridor on the side of the road while others suggested that bike lanes be separate from the street.

Land Use and Economic Development Workshop

April 13, 2010

Introduction

A planning workshop provides a forum for collecting, organizing and recording public input. The "Natural Bridge Great Streets Economic Development Land Use Planning Workshop" was tailored for "citizen planners" within the community, with the purpose of utilizing their first-hand knowledge and experiences to identify problems and recommend solutions in a teamwork based format.

This workshop was presented to the public as an excellent opportunity to identify the community vision of area residents. The responses provided the project team with an understanding of the issues that are most important to citizens and their community. This information has helped the project team establish a direction for the future of the neighborhoods and businesses in the study area.

The workshop was held on the UMSL Campus at the JC Penny Center on April 13, 2010 and was attended by approximately 50 people. The workshop focused on the following issues:

- Economic development and business stability
- Future development
- Housing and neighborhood stability
- Quality of life

Meeting Format

Candidates were assigned to table locations as they signed in for the workshop. Each table was facilitated by a planning team

EXHIBIT 9.12: OPEN HOUSE

Source: CH2M HILL

member and contained an area map and questionnaire (Appendix 9.2) to guide participants through the discussion. They were asked to appoint one person to record the group's discussion and one person to present the team's ideas at the end of the workshop. As mentioned a planning team member was present at each table to facilitate the discussion and to make sure that every person in the group had a chance to express their thoughts on the topics discussed. At the end of the workshop each table was asked to select the question that they thought was most important to them as a group and present their findings to the entire workshop.

The following comments are a compilation of comments and recommendations combined from both workshop sessions pertinent to categories discussed within the groups.

Workshop Results

Positive aspects of the study area

- Access to public transportation - MetroLink and Bus
- Close to airport
- Highway access
- Centrally located
- Easy traffic flow
- University of Missouri at St. Louis
- Great churches
- Strong schools
- No congestion
- Good housing stock and character
- Strong and diverse community
- Low crime rate
- Potential for business opportunities
- Open spaces (golf courses)

Negative aspects of the study area

- Lots of fragmented municipalities
- Lack of good eating establishments, franchises, market/grocery store
- Lack of diversity in activities, especially for youth
- Poor visual appeal and streetscape
- Not pedestrian friendly
- Narrow sidewalks
- Lack of Greenery (trees/ landscaping)
- Not sufficient lightning,
- Lack of attractions
- Dead space and vacant land
- Unsafe, perceptions of north county in general
- Lack of street presence of buildings on major intersections
- Loss of businesses
- Crime rate and vandalism
- Not conducive to neighborhood feeling
- Normandy School Districts
- High percentage of Non Taxable Property
- Not a thriving college/ neighborhood community atmosphere despite UMSL

- South UMSL campus housing students have issues getting to north campus and Normandy middle school

Commercial Establishments

Consistently the participants felt there is not enough commercial, retail, office and dining choices in the project area. They wanted to see the following commercial establishments in the area as new development options:

- Fitness
- Eating establishments - restaurants, breakfast place, wine bar, micro brewers, ice cream parlors, coffee shops, sports bar, fine dining, bakery
- Offices, medical and businesses
- Family owned businesses
- Quality shoe store
- Movie theatres
- Art Gallery
- Good quality retail and boutique stores
- Neighborhood grocery store and Farmer's Market
- Music Venue

Specific franchises and brand names that participants wanted to see in the area included, Trader Joe's, Whole Foods, Bread Company, Starbucks, FedEx and/or Kinko's, Pack and Ship, 24 Hr Fitness and First Watch Restaurant.

Redevelopment areas

One of the major goals of the workshop was to understand from participant's point of view the areas they considered appropriate for redevelopment within the study area. The types of development they would like to see in this area are listed below:

- Hanley and Natural Bridge intersection
  - Restaurant with outdoor dining
  - Stage or Pavilion with live music
  - Upscale dining such as the Bread Company, bars, and sit-down restaurants
  - Grocery store
  - A play ground, dog park
  - Senior citizen living community

- City Hall Site
  - Office Building
  - Hotel

- North of Natural Bridge between Maretta and St. Ann's
  - Daycare
  - Multi-family housing

- Oblate Sisters Property
  - Commercial in front and residential behind
  - Senior housing

- South of Natural bridge between Oakmont to St. Mary's
  - Retail
  - Small offices

- Wedge Area
  - Restaurants
  - Small boutique stores
  - Restore theater
  - Mixed use retail at street level and residential above
  - Garden shop

- Beautification of entrance to the University

- The $20 shoe store and O'Reily Auto Parts
  - Banquet hall
  - IKEA or similar furniture store
  - Big box development

- Roland and Natural Bridge
  - Beautification of entrance
  - Small businesses (as in Ferguson)

- Florissant to Natural Bridge

- St. Vincent's Home
  - Extended stay hotel
  - Visiting graduates housing
  - Senior housing

Housing Choices

The participants were asked if it was appropriate for multi-family housing to be considered in the "Wedge Area". They were asked to think about types of multi-family housing like student housing, senior citizen and assisted living facilities and market rate condominiums that could facilitate life-cycle housing.

While some participants were opposed to rental, Section8 and fraternity housing, others thought that the "Wedge" area is a good location for student housing with retail at street level and housing above. However, they were more open to the idea of university controlled housing.

St. Vincent's home and the Normandy school building site were seen as good sites for senior housing. Other multi-family housing sites included the parcels north of Natural Bridge Road between Maretta and St. Ann's, and south of Natural Bridge Road in front of the Oblate Sister's Church between the county library and the Normandy City Hall.

Image of the Neighborhood

A neighborhood is a unique and identifiable part of the larger community. Generally, the neighborhood can be defined by the roads and other features that form its borders or central

activity area such as a school, park, lake or church. Public amenities can also define an area such as public plazas; gateways or landscaping. Based on this understanding of need for identifiable neighborhoods and the elements that make it happen, the participants were asked to list the features and elements that they would like to see in their neighborhood. The list below is a compilation of their ideas:

- Quality, unique lighting (Circa 1930's lamp posts)
- Lighting in the median
- Signage
- Red Brick affect on Sidewalks, textured pavement
- Landscaping and green space, trees, flowering trees and plants
- Standard architecture element
- Bike parking
- Median
- Brick masonry
- Fountains and waterfalls
- Banners
- Outdoor café, ice-cream parlor

Vision

In order to better understand the vision of the participants, they were asked to identify places they would consider as a model development for the study area. Listed below are their choices of developments and communities that may inspire redevelopment in the study area:

- Downtown Ferguson, MO
- Downtown Kirkwood, MO
- Downtown Clayton, MO
- Delmar Loop, University City, MO
- The Boulevard, Richmond Heights, MO
- Washington Ave, St. Louis, MO
- Central West End, St. Louis, MO
- Downtown Lawrence, KS
- Neighborhood Development in Portland, OR
- Louisville, KY
- Bardstown, RI
- Downtown LeClaire, IA
- Beale Street, Memphis, TN
- San Antonio, TX

Travel Way Preference Survey

April 13, 2010 and online survey (April 14 2010 to April 28, 2010)

Introduction

Based on the initial survey results from the open house, the consulting firm prepared several options for each of the four travel way segments and the "Wedge". The travel way preference survey was geared toward understanding participant's preference of the options stated. The results of the survey, coupled with consultants technical evaluation of each option based on the performance measure, results in the selection of final options for each particular segment. Below is the map showing the limits of each segment and the "Wedge".

Segment 1: Nordic to MetroLink Bridge

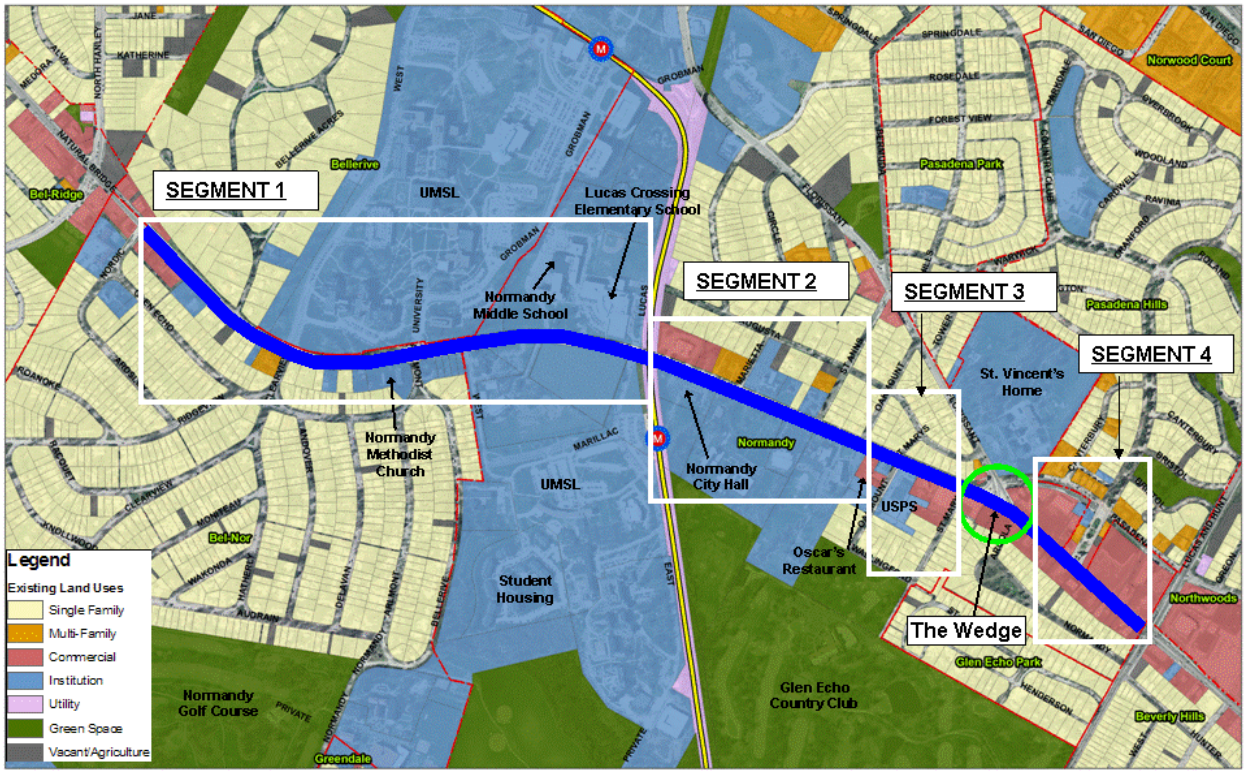
Segment-2: MetroLink Bridge to Oakmont

Segment 3: Oakmont to St. Mary's

Segment 4: Arcola to Lucas and Hunt

The Wedge: St Mary's to Arcola

EXHIBIT 9.13: LIMITS OF THE SEGMENTS



Source: St. Louis County GIS, CH2M HILL

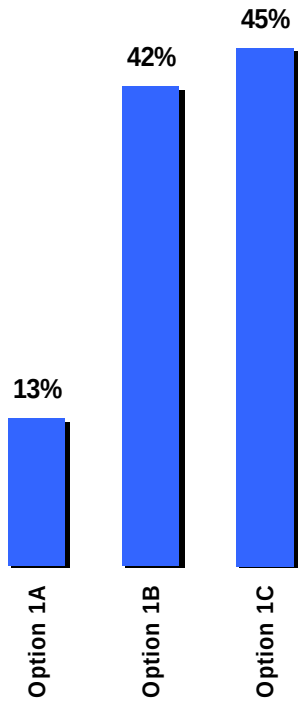
Meeting Format

Participants were given a survey form showing all options per segment on a single sheet for ease of comparison. They were also provided with an area map showing limits of each segment. A presentation was made explaining each option in detail. At the end of each presentation participants were asked to register their preference on the form.

An online survey was also opened to the public for 2 weeks starting April 14, 2010 to April 28, 2010. Below is a compilation of results from both the public presentation on April 13, 2010 and the online survey. There were a total of 45 participants responding to the survey.

Survey Results

EXHIBIT 9.14: SEGMENT-1



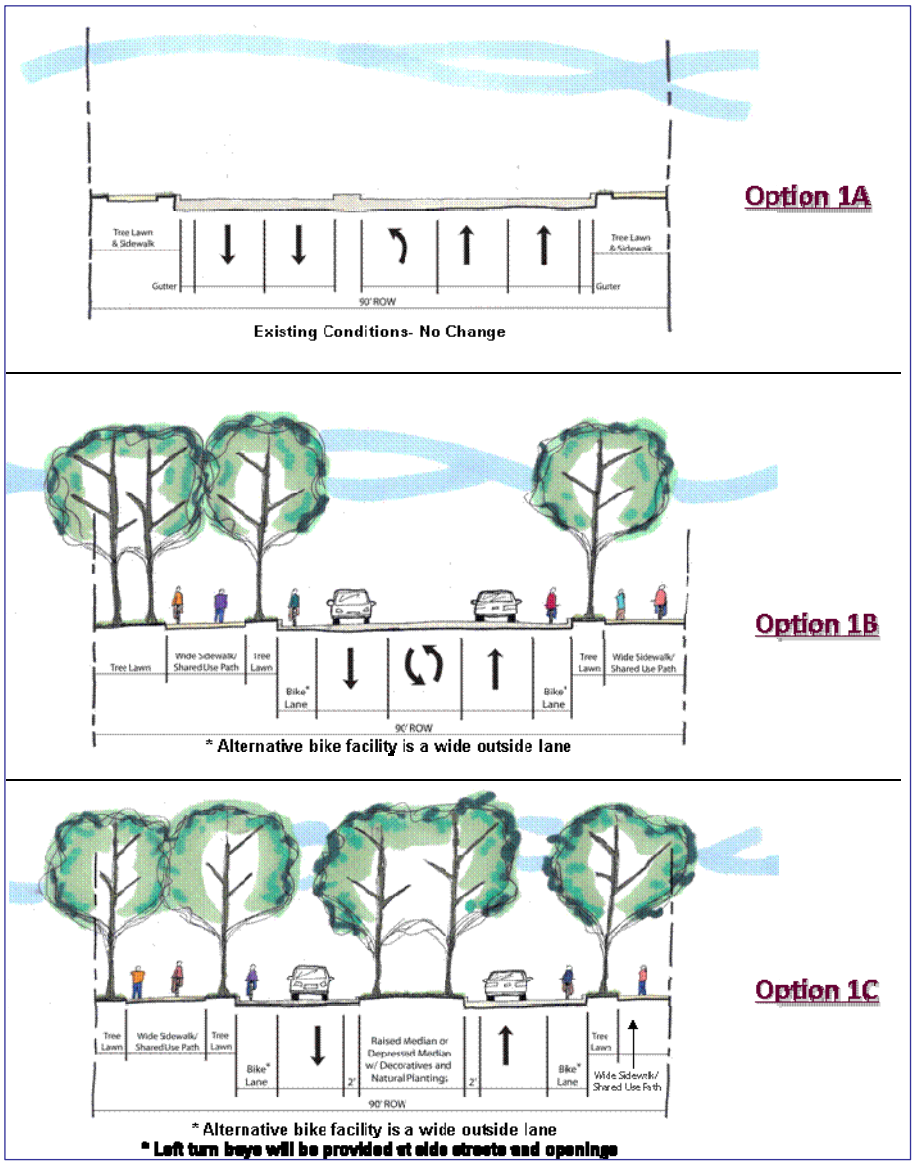
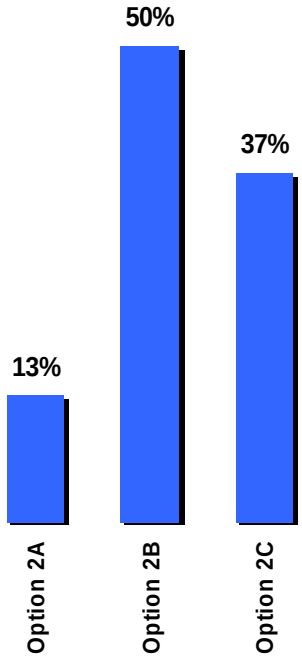


EXHIBIT 9.15: SEGMENT 2



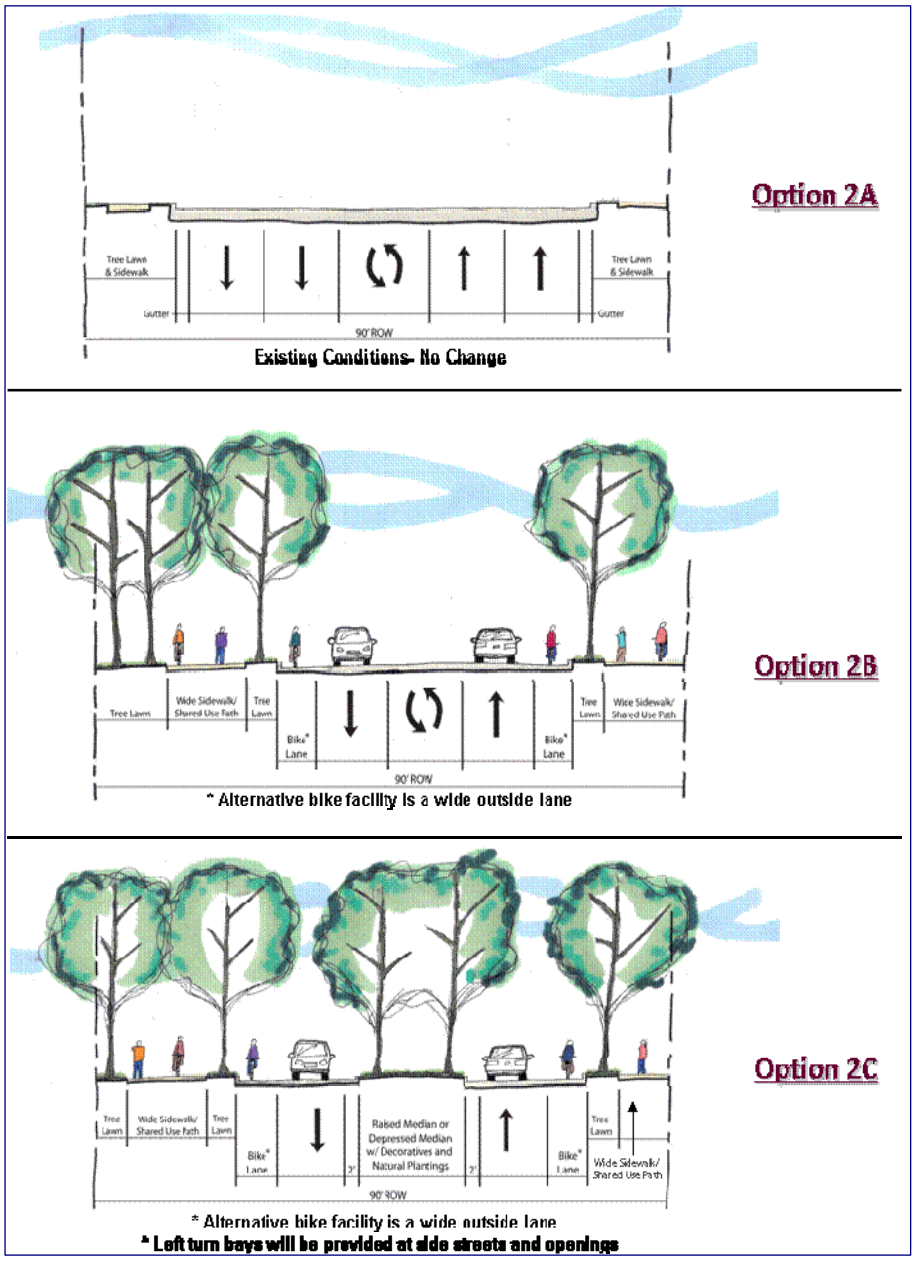
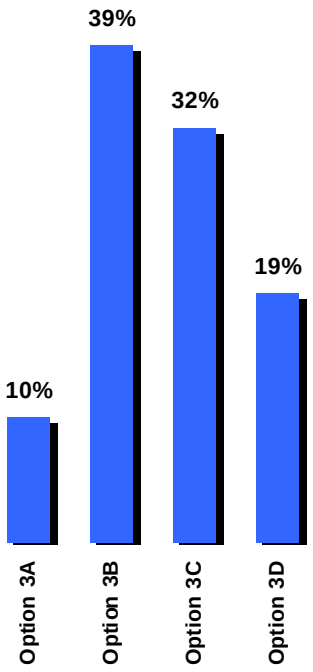


EXHIBIT 9.16: SEGMENT 3



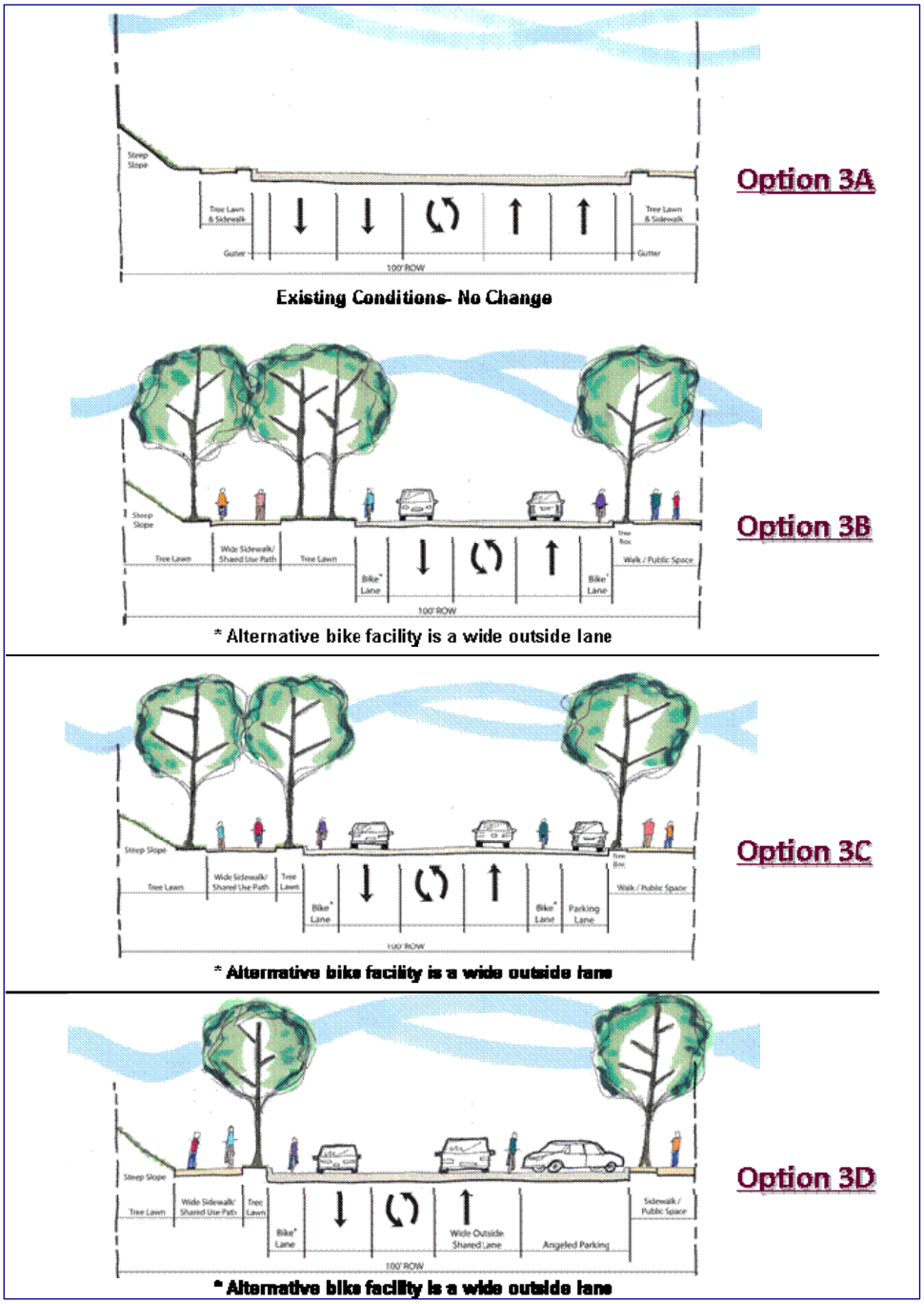


EXHIBIT 9.17: SEGMENT 4

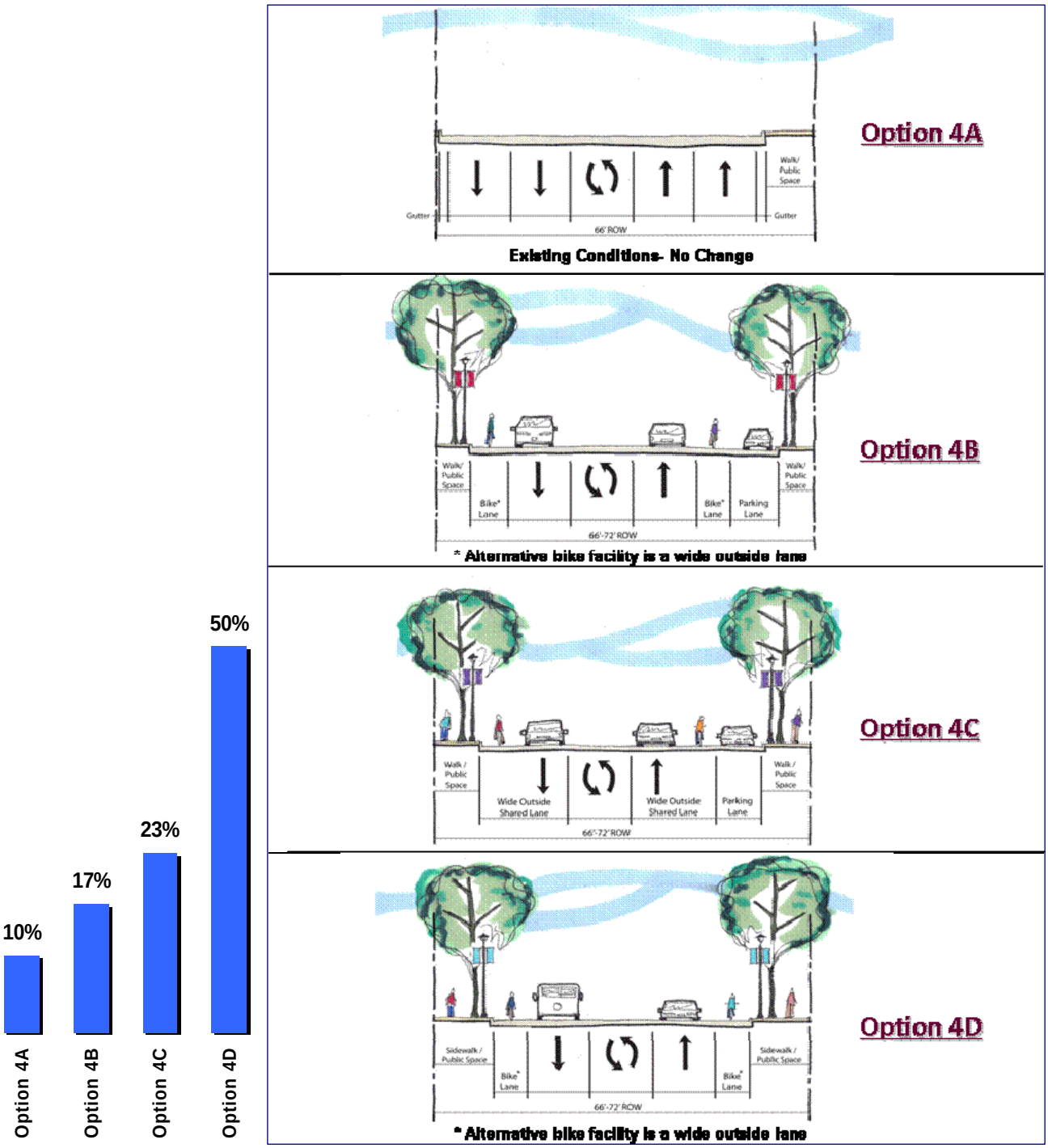
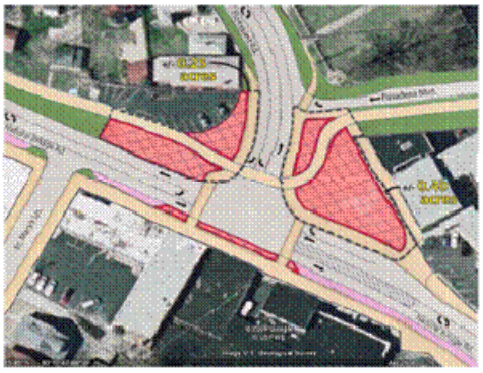


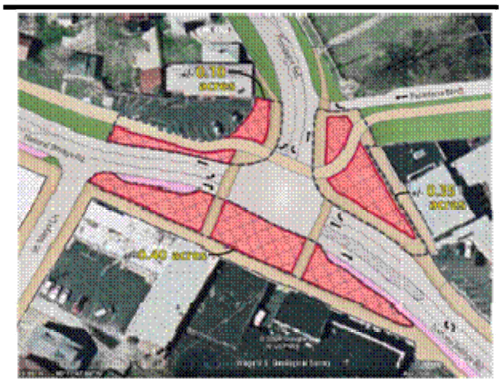
EXHIBIT 9.18: THE WEDGE

No Change



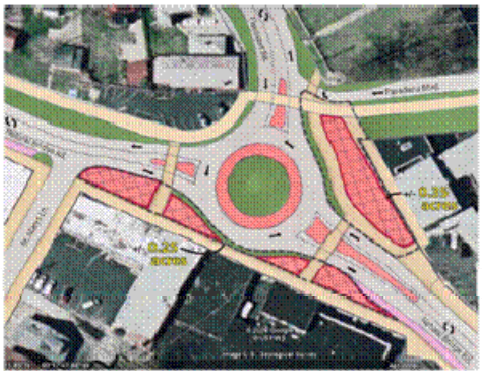
Basic

N

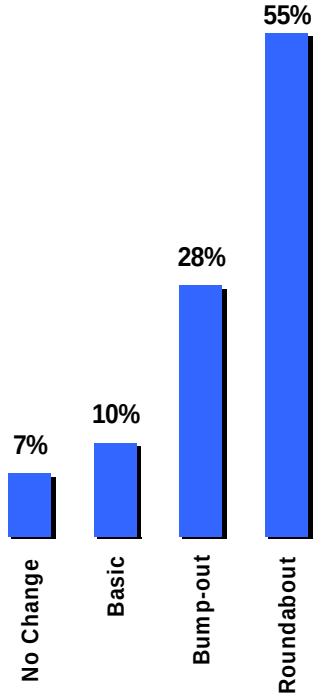


Roadway
Parking
Pedestrian Realm
Plaza/Public Space
Pervious Green Area
Land Gained in Pedestrian Realm

Bump-Out



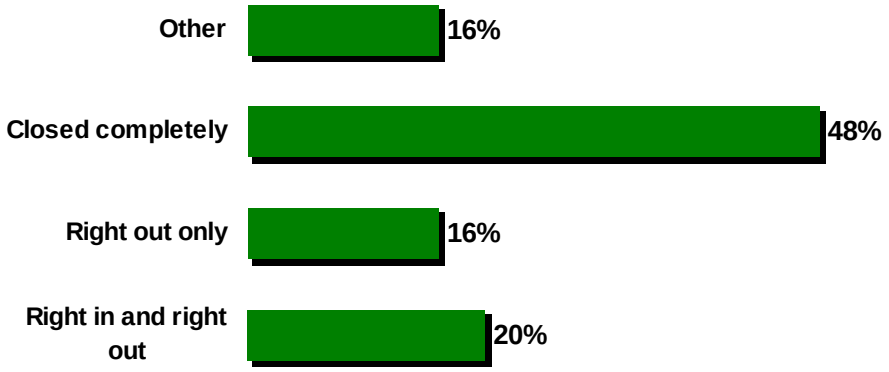
Roundabout



Pasadena Drive

Several questions related to the usage of Pasadena Drive. Currently it is a 110 foot right of way sparingly used by the public. In order to better utilize the right of way participant's thoughts related to the future use of the street was requested. The graph below summarizes the results on this preference survey: Results of the survey conclude that 48% of the respondents prefer to have Pasadena Drive closed completely.

EXHIBIT 9.19: PASADENA DRIVE



Conclusion

The vision statement for Natural Bridge was expressed as:

> *"Natural Bridge Road is transformed into a vibrant destination that provides an inviting location for pedestrians, bicyclists and motorists alike. The new facility will enhance existing and promote new commercial, residential and entertainment uses and create an improved tax base. The corridor has a distinct look and feel that is consistent with the rich history of the communities that surround it."*

For respondents, a "vibrant destination" is one that supports business growth and economic development with a variety of neighborhood oriented, retail and commercial establishments, especially restaurants. Although, respondents view parking availability and accessibility as important aspects of economic development, they prefer a centralized, off-street facility as compared to on-street parking.

Pedestrian safety and aesthetical enhancements are viewed as two major components that would transform Natural Bridge Road into an inviting place for pedestrians and cyclists. Pedestrian safety includes adequate lighting and safer crosswalks. Aesthetically, respondents would like to see more landscaping and greenery along the corridor.

Overall the residents in the area wanted to see changes in the corridor. Economic development, pedestrian safety and better quality of life along with an aesthetically pleasing corridor that can comfortably move traffic were the main reasons given.

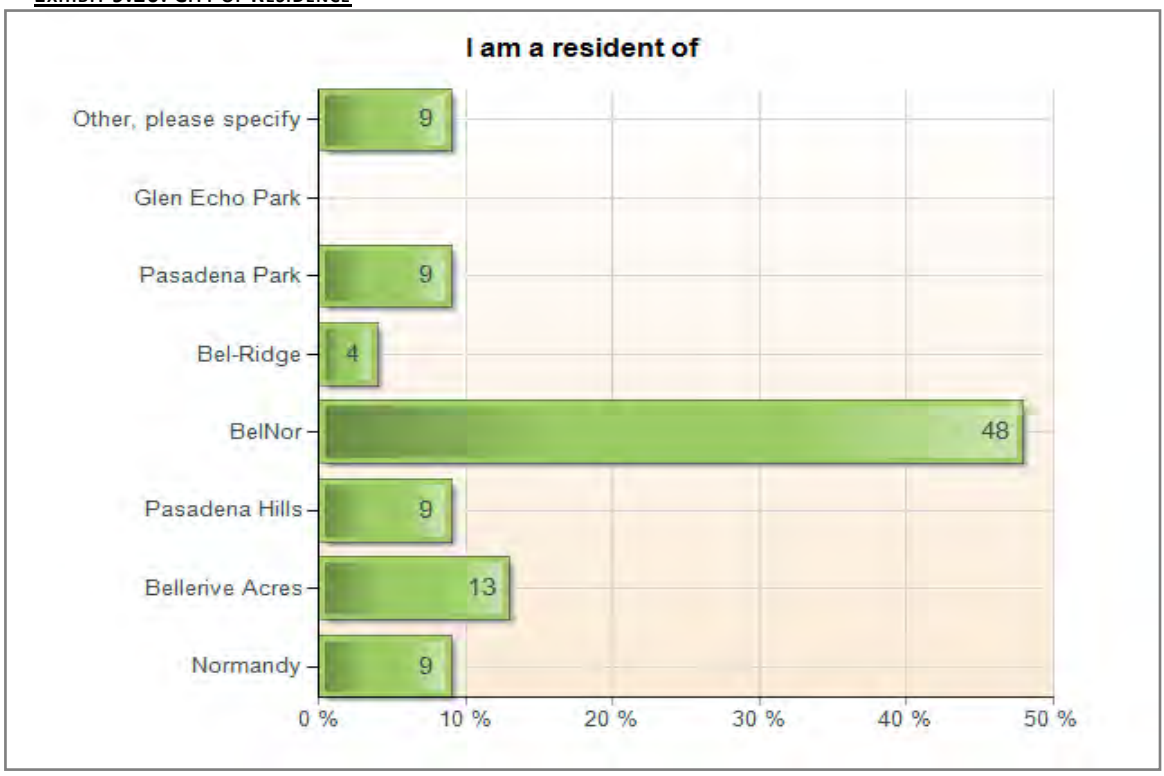
Public Viewing

July 26, 2010 to August 26, 2010

Respondent Demographics

A public viewing of the preliminary concept plan was held at the library on Natural Bridge Road. The participants were given a chance to fill out a brief comment form based on the exhibits that were displayed at the library. The exhibits as well as the comment form were also available online in same time period. A total of 24 respondents completed the comment form (4 from library and 20 online), with maximum participation of 12 (48%) from Bel-Nor. Exhibit 9.20 details the respondents' responses and municipality of residence.

EXHIBIT 9.20: CITY OF RESIDENCE



Source: Zoomerang Surveys

Regarding corridor usage and familiarity, approximately 95% of the respondents are residents of the area; 59% use Natural Bridge Road to commute; 18% own a business or property along the corridor, 5% work for a business establishment along the corridor, and 5% attend UMSL.

Positive and Negative Aspects of the Plan

The participants were asked to state 3 positive and 3 negative aspects of the plan. The overall response to the plan was overwhelmingly positive. One participant expressed his opinion as follows:

"First comes the Vision. Then the development will follow. People want to live amongst beauty. More people more development."

Most participants felt that the changes to the roadway will begin to revitalize the corridor, attract more businesses, encourage people to walk and give it a community/neighborhood feel rather than commuter corridor. Others, though supportive, thought that in midst of economic downturn investing tax payers' dollars in an effort such as this is not justifiable. They were also worried about the increase in the taxes. Below are direct quotes, positive and negative, from the comment forms.

Positive aspects	Negative aspects
"More emphasis on area as a neighborhood/ community rather than as a thoroughfare." "Encourage neighborhood activities- access to destinations." "Pedestrian friendly well lit sidewalks." "More appealing for businesses."	"We are in very bad economic downturn. This is a bad time to burden local/ state tax coffers." "When highway 70 closes from time to time (accidents etc) the overflow on Natural Bridge is horrendous in the present configuration." "Additional security and public safety issues will rise."

Future Land Use Plan & Roadway Concepts

The participants were asked if they thought the future land use plan provides for commercial, retail, dining, and entertainment choices that are expected from economic development in the corridor. They were also asked whether they thought roadway improvements along Natural Bridge Road will result in additional private or public/private investment in the corridor. The overall response to both the questions was positive. Below are some comments from the survey:

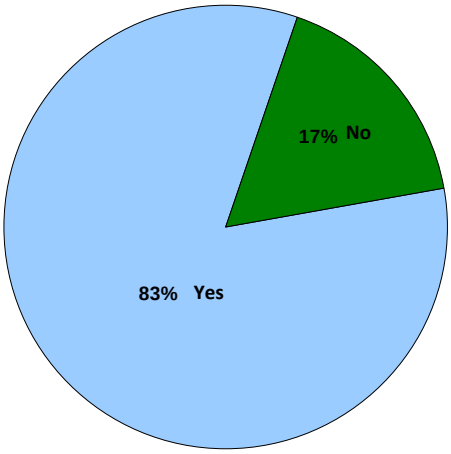
- "Mixed use with additional housing such as apartments & condos will increase population providing for more stable base for investment opportunities."
- "I think the proposed roadway changes will bring life back to the area. Currently, its challenging to shop or walk along the road because of the speed of the traffic"
- "I believe the changes will greatly improve the entertainment and retail options for Normandy, Bel Nor, and Bellerive Acres but Bel-Ridge seem to be getting the short end of the stick, especially if the shopping center isn't greatly improved. I saw no mention of what changes will come as far as the shopping center and the elementary school in Bel Ridge. I can't see paying more taxes in Bel-Ridge only to improve areas outside of Bel-Ridge."
- "Consider creating pedestrian link from the Wedge to Pasadena Blvd to Roland Avenue. There is large amount of right of way that could be more of a park area."
- "Please when considering lighting, minimize light pollution and glare."
- "Hopefully, we attract businesses who have realistic dreams and goals based on the economic status of our area. And, they don't close at 5:00 pm but work with the hours the community needs. Working 'folks' need later hours."

- "What about a schedule of events like a Wednesday evening farmers' market or concerts or street party."

Areas of Redevelopment and Mixed Use

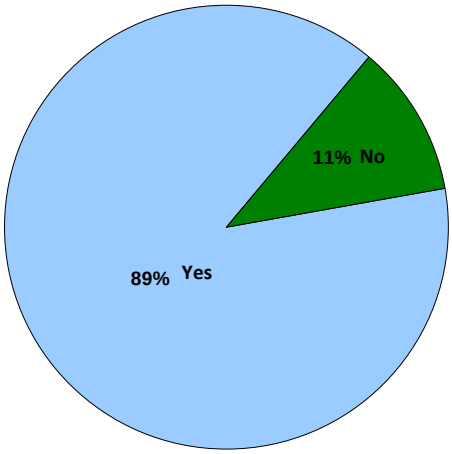
The participants were asked if the plan covered the areas they thought are in need of redevelopment along Natural Bridge Road within project limits. 83% responded positive (see Exhibit 9.21). The participants were also asked if they supported mixed use development including the additional of apartments, condominiums, senior housing and student housing in commercial areas.

Exhibit 9.21: Areas in need of redevelopment covered by the plan



Source: Zoomerang Surveys

Exhibit 9.22: Support for mixed use development



Source: Zoomerang Surveys

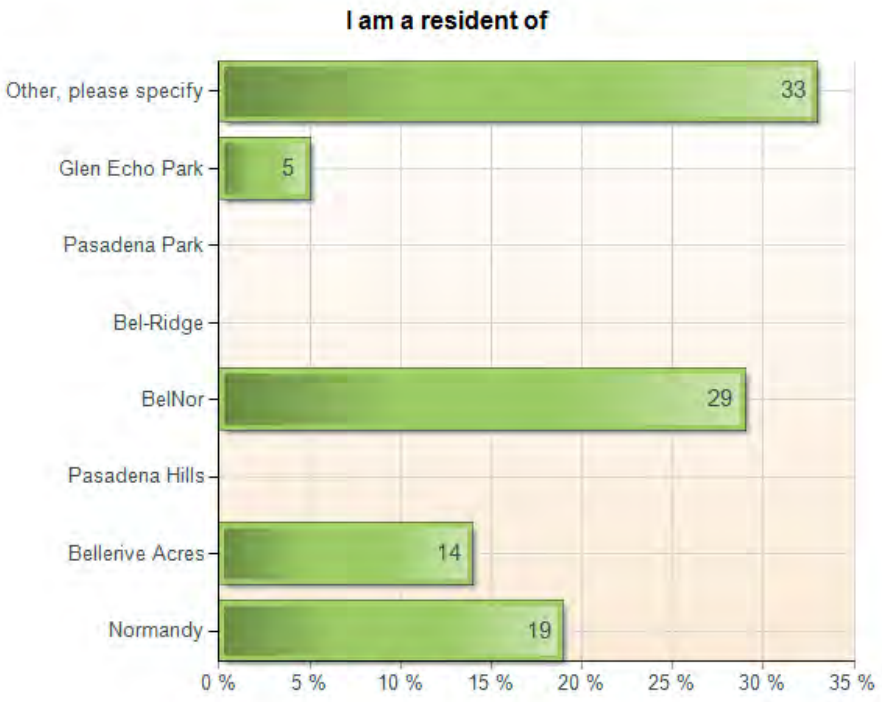
Final Plans Open House

Detailed design plans were available for the community to review at final open house meetings held on September 29, 2011 at UMSL and repeated on November 15, 2011 at Normandy City Hall. These plans reflected the comments provided by the community at the open house meetings and workshops that have been held over the past two years. Both open house meetings included a presentation providing an overview of the project and next steps in delivering the Great Street. Advisory Committee members, designers, and staff were available to discuss the project and answer questions about the design plans. The participants were asked to provide comments via a survey that was available at the meeting. The survey and meeting materials were also available after the meeting online at www.ewgateway.org.

The September 29, 2011 open house was attended by 13 participants and of these 5 participants filled out the comment form. The November 15, 2011 openhouse was attended by 47 participants and of these 15 participants filled out the comment form.

Of the total 20 participant who filled out the comment form (5 during first open house and 15 during second open house), 33% did not belong to the immediate area 29% were from Bel Nor and 19% from Normandy. Exhibit 9.23 details the respondents' responses and municipality of residence.

EXHIBIT 9.23: CITY OF RESIDENCE



Source: Zoomerang Surveys

The participants were asked about their connection to the corridor and the way they use it. They were asked to select multiple answers if applicable. Approximately 67% of the respondents are residents of the area; 38% use Natural Bridge Road to commute; 29% work for a business

establishment along the corridor, 10% own a business or property along the corridor, and 14% attend UMSL.

Most of the participants were positive in their feedback and appreciated the efforts of the municipalities, East West Gateway and the consultants to convert this area into a more livable and vibrant community. However, some raised concerns similar those during the presentation and did not think investing in the area was a good idea. Some selected comments (positive and negative) are listed below.

"Great idea I lived in an apartment (25 years) and there aren't any balconies or porches. It would be nice to walk and have some place to shop, rest, and refresh oneself. Hopefully, this will happen soon."

"I appreciate inclusion of stormwater practices."

"I'm very opposed to changing Natural Bridge from a 4-lane to 2-lane road. This is a public safety hazard in terms of traffic congestion, ambulance service. If new businesses move to area in numbers that you are hoping for, how will a two lane road handle the increase in traffic?"

"I look forward to this plan accomplished. I look forward to riding my bicycle and seeing children and families enjoying this environment."

Several questions were asked during the presentation on both occasions. These questions and responses given during presentation are listed below

Q Who is paying for the project?

A East-West Gateway Council of Governments (EWGCOG) received an AARA grant to do four pilot projects in the region. The Natural Bridge project is on of the four selected projects. So far the community has not spent anything for this project. It is estimated that the total cost of the project will be $13 Million. Of this $9.1 Million has already been secured for the first phase of the project.

Q What will be the first phase of the project?

A The first phase will include completing the roundabout area as shown in the plans. This includes plantings, plaza area, street furnishings and lighting in the roundabout area. On the rest of the roadway from West Drive to Lucas and Hunt lane makings will be done from curb to curb.

Q What is the validity of the project during these difficult economic times?

A This is one of the best times to invest in the infrastructure project for the area while economy is slow. When everything picks up the area will be ready for investment by developers. These improvements will put the development sites along the corridor at top of the list for the developers when comparisons are made with other areas.

Q You propose to reduce traffic lanes from 4 to 2. How are you planning to deal with traffic when accidents occur on I-70?

A The Natural Bridge Road was not designed for the purpose of carrying traffic in the event I-70 closes down. The cost of maintaining the pavement on 5 lanes compared to a 3 lanes far exceeds the impact of once in a while close down of I-70 due to accidents.

Q Will the new roadway support the future land uses proposed in the plan.

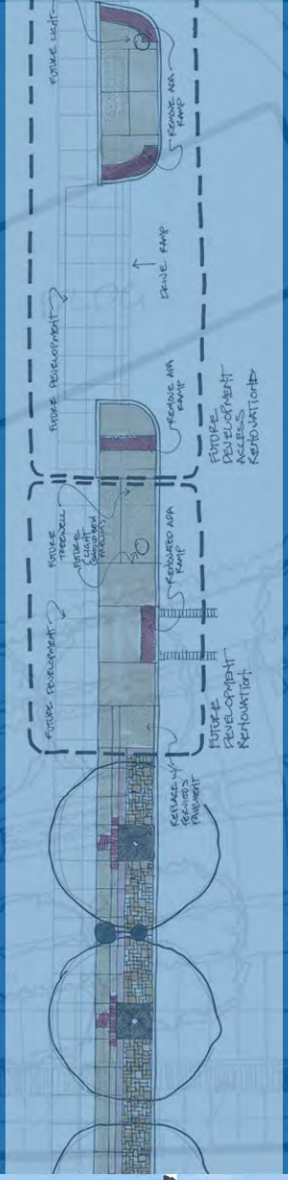
A The Average Daily Traffic (ADT) numbers have been reducing historically. Even with the proposed new development, the numbers are projected to be between 12,000 and 17,000 ADT. In order to consider a four lane travel way the ADT typically has to be between 21,000 and 25,000.

Q Who will maintain the roadway?

A MoDOT will maintain the roadway from curb to curb. University of Missouri, North County Incorporated and the five municipalities (Normandy, Pasadena hills, Bellerive Acres, Bel Nor & Bel-Ridge) are in the process of signing a Memorandum of Understanding to maintain the public spaces and landscaping once it is built.

Q Why did this project not include Pine Lawns and area east of Lucas and Hunt Road?

A EWGCOG asked communities to submit proposals and this project was selected from those proposals. It has been seen elsewhere in the region and around the nation that once an area develops it acts as a catalyst for development of nearby communities and it is hoped that the same will be true for Natural Bridge Road.



Natural Bridge Road is transformed into a vibrant destination that provides an inviting location for pedestrians, bicyclists and motorists alike. The new facility will enhance existing and promote new commercial, residential and entertainment uses and create an improved tax base. The corridor has a distinct look and feel that is consistent with the rich history of the communities that surround it

EAST-WEST GATEWAY
Council of Governments

Saint Louis
Great Streets
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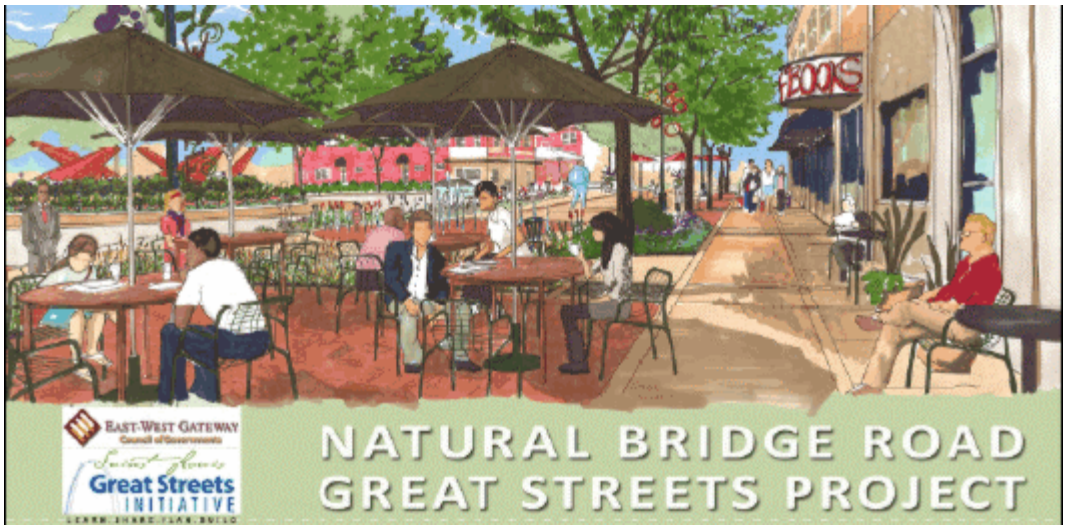
NATURAL BRIDGE ROAD GREAT STREETS PROJECT



Acknowledgements

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Chapter 2: Existing Conditions

Chapter 3: Existing Conditions Influencing Future Land Use

Chapter 4: Future Infrastructure and Amenities

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Chapter 6: Implementation Planning and Finance Strategy

Chapter 7: Performance Measures and Evaluation of Alternatives

Chapter 8: Design Guidelines – Public Realm, Land Use & Signage

Chapter 9: Public Engagement

Executive Summary

ACKNOWLEDGEMENTS

The Natural Bridge Great Street Initiative planning document is the result of a cooperative effort between multiple stakeholders. The East-West Gateway Council of Governments, through the American Recovery and Reinvestment Act (ARRA), provided funding for development of the Plan and played a key role in coordinating and reviewing the development of the document.

The agencies and organizations listed below comprised the Advisory Committee. Working in partnership with this committees; the Core Stakeholder Group in the corridor, North County Incorporated, City of Normandy and University of Missouri St. Louis, provided guidance and support for the development of the Plan and the programs and policies that are instrumental for successful implementation of the Natural Bridge Great Street Initiative Plan.

Natural Bridge Great Street Initiative Advisory

Ann Knapp, **Village of Bellerive Acres**

Betty Van Um, **University of Missouri St. Louis**

Don Morice, Village **of Bellerive Acres**

Jennifer Ash, **Metro**

Jim McLaughlin, **City of Pasadena Hills**

Kevin Buchek, **Village of Bel Nor**

Larry Welty, **Missouri Department of Transportation**

Leon Fisher, **Normandy School District**

Maggie Hales, **East West Gateway**

Mark Phillips, **Metro**

Patrick Green, **City of Normandy**

Rebecca Zoll, **North County Incorporated**

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CH2MHILL

LAWRENCE GROUP

LEWISITES LANDSCAPE ARCHITECTURE

ARCTURIS Planning Architecture Interiors

hellmuth + bicknese architects

ABNA

VECTOR COMMUNICATIONS

Meeting Space

Thank you to the following for providing meeting space to engage the community throughout the project.

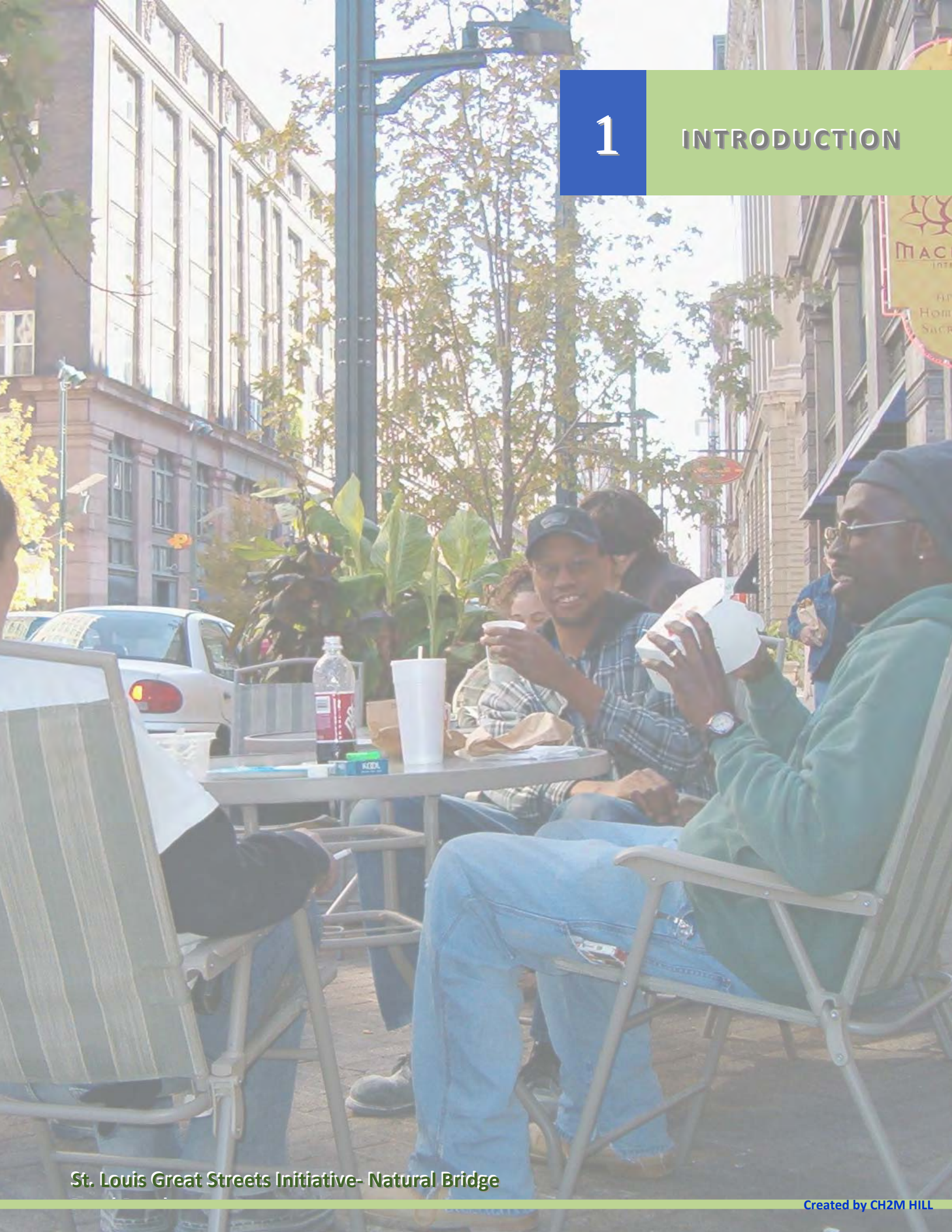
City of Normandy

University of Missouri-St. Louis

Oscar's

St. Louis County Library -Normandy Branch

1 INTRODUCTION



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CHAPTER-1: INTRODUCTION

Purpose of the Study

The East West Gateway Council of Governments initiated the concept of making our streets and communities better called the Great Streets Initiative. In order to go beyond just making streets like Natural Bridge look better, there are several elements key to the Great Streets Initiative:

Great Streets are representative of their places. A Great Street reflects the neighborhood through which it passes and has a scale and design appropriate to the character of the abutting properties and land uses.

Great Streets allow people to walk comfortably and safely. The pedestrian environment on, along and near the street is well-designed and well-furnished. The relationship between the street and its adjacent buildings is organic, conducive to walking, and inviting to people.

Great Streets contribute to the economic vitality of the area. Great Streets facilitate the interaction of people and the promotion of commerce. They serve as destinations, not just transportation channels. They are good commercial addresses and provide location value to businesses that power the local economy.

Great Streets are functionally complete. Great Streets support balanced mobility with appropriate provision for safe and convenient travel by all of the ground transportation modes: transit, walking, bicycling, personal motor vehicles and freight movement.

Great Streets provide mobility. Great Streets strike an appropriate balance among the three elements of modern mobility: through travel, local circulation and access. The right balance varies with the function of the street and the character of its neighborhoods and abutting properties.

Great Streets facilitate placemaking. Great Streets incorporate within them places that are memorable and interesting. These may include plazas, pocket parks, attractive intersections and corners, or simply wide sidewalks fostering an active street life.

Great Streets are green. Great Streets provide an attractive and refreshing environment by working with natural systems. They incorporate environmentally sensitive design standards and green development techniques, including generous provision of street trees and other plantings and application of modern storm water management practices.

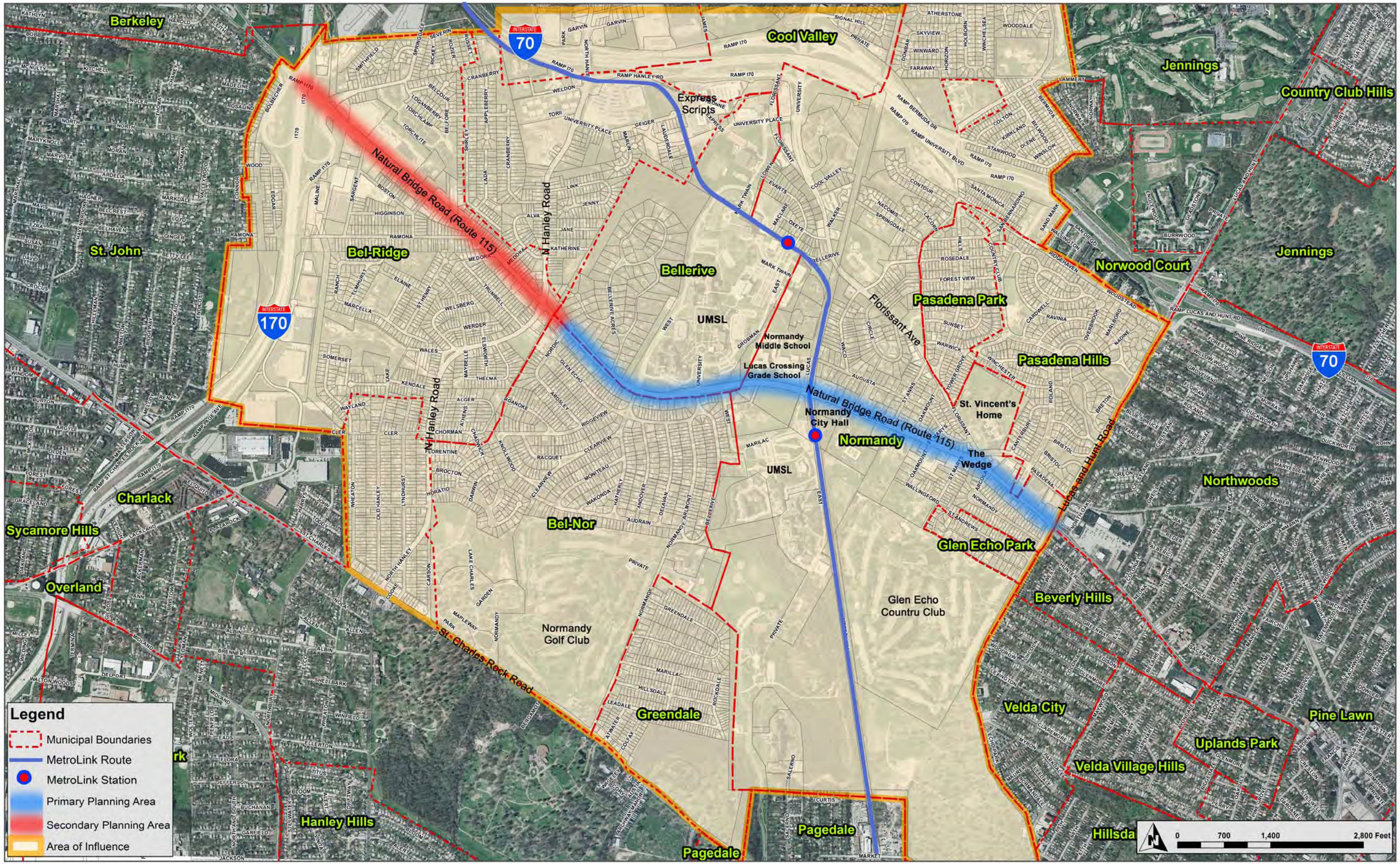
The goal of the Great Streets is to change the way the St. Louis Region plans and designs community streets. The past practice of merely dressing up a roadway with typical enhancements projects that include landscaping, brick banding, sidewalks, crosswalks, public street furnishings and lighting improvements, a streetscape project does not necessarily bring the economic development. The Great Street is envisioned to be supported by infrastructure improvements, but goes beyond just infrastructure. By linking of land-use with transportation, as well as defining land use relationship to the street, the street will meet the needs of the adjacent land use and support the connections that will provide the catalyst for bringing economic revitalization, growth and sustainability.

The initial pilot project for Natural Bridge was chosen from several inner ring suburb corridors to demonstrate concepts included in the Great Streets Initiative web guide (http://www.greatstreetsstlouis.net/), hosted by the East West Gateway Council of Governments. The core partnership of the East West Gateway Council of Governments, North County Incorporated, the City of Normandy, and the University of St. Louis and MoDOT provides the core partners that make Natural Bridge Road a great place to use the concepts in the web guide. This pilot project provided the initial corridor concepts that generated the support of the North County area for the project, leading to the further planning and design that will transform Natural Bridge in St. Louis County from Lucas and Hunt Road to I-170 into a vibrant community that embraces the past and sustains social and economic health into the future.

The segment of Natural Bridge that is the subject of the Great Street Initiative project was defined as being between Lucas and Hunt Road and Hanley, which was eventually refined to just west of the Clearview Drive/West Drive intersection. This segment is identified as the "primary study area". This segment will provide a focused area for the initiative that will lead to improvements embraced and initiated by adjacent communities. This primary study area is indicated by the blue line on Map1.1.

In order to effectively initiate change in the corridor, a "secondary study area" was also discussed by the core partners and is included in the initial land-use planning process; however, it would not include the street design that was planned in the primary study area. This decision was made in order to concentrate design efforts and offer a manageable project that can be implemented in a reasonable timeframe. This secondary study area is shown in red on Map 1.1 that extends from west of the Clearview/West Drive intersection to I-170. While not the primary focus of the Natural Bridge Great Street Initiative, this secondary sturdy area is very important to the entire corridor in providing the gateway into the primary study area from the west. Throughout the planning document for Natural Bridge, the secondary study area will be discussed at the end of each element of the plan in order to maintain its' connection to the corridor.

In this planning document for the Natural Bridge Great Street Initiative, the East West Gateway Council of Governments and its community partners will provide the land-use plan for the primary and secondary study area, plus alternative analysis and design guidelines for infrastructure improvements in the primary study area that facilitate economic development strategies along Natural Bridge Road.



MAP1-1: STUDY AREA EXTENTS

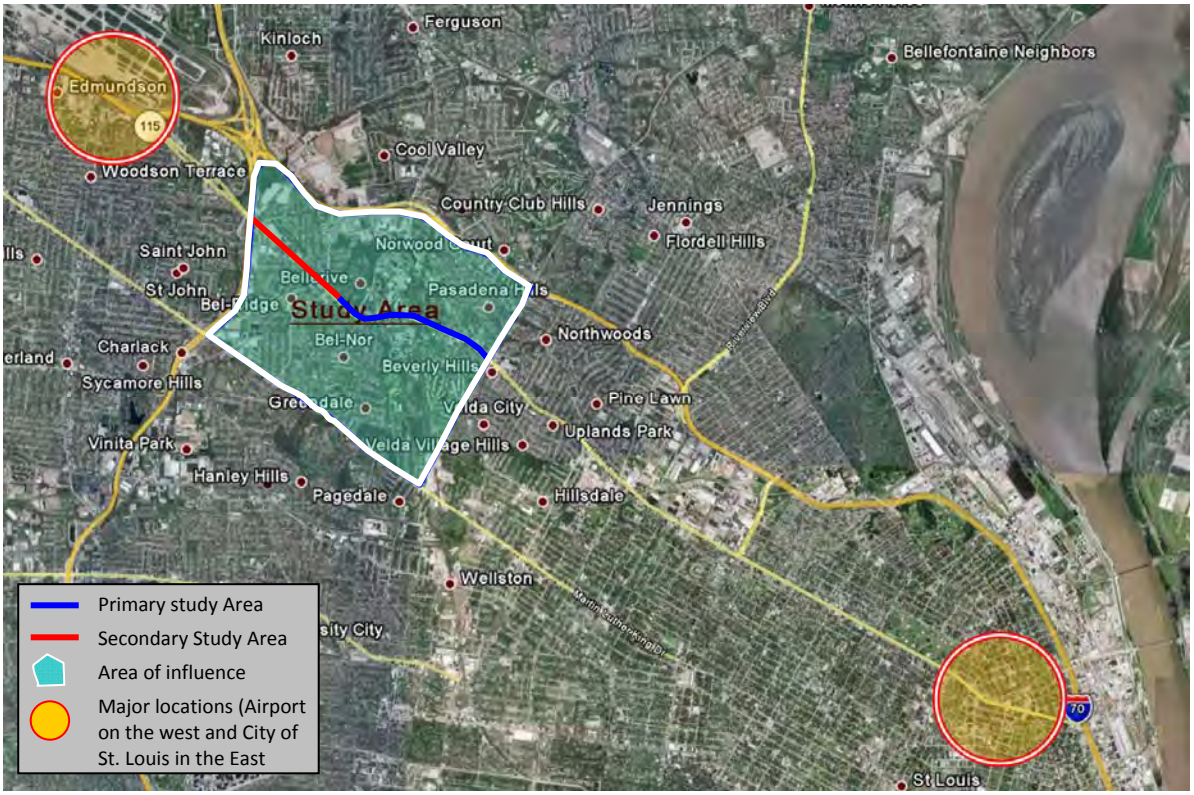
CH2MHILL

Framing The Natural Bridge Study Area

The Natural Bridge Road corridor is a principle arterial roadway running in a general east/west direction through St. Louis County and the City of St. Louis, just south of I-70. The route is identified as State Route 115 (See Exhibit 1.1).

The overall characteristics in the study area of the corridor range from dense, pre- World War II housing and subdivisions, to commercial, industrial, and institutional land-uses. The area has

Exhibit 1.1: Location of Study Area in Regional Context



Source: Google Earth

historically included an economically diverse population. The primary study area from the western limits to Lucas & Hunt Road was initially populated by an upper-middle class community including major metropolitan business owners and professionals. The presence of several, once exclusive, golf clubs, major private institutions, and upscale housing are legacies of the area. The population in the secondary study area was primarily working class families and housing. This diverse economic mix of families attended the same schools, either parochial or public, and creating a sense of the overall "Normandy" community, a socially healthy and prosperous community.

The overall area that is influenced by the Natural Bridge Great Street Initiative project, has ranged from a state of maintaining residential appeal in some areas, to decline in others for many years. Due to its "built-out" condition coupled with suburban sprawl and movement of residential and commercial populations to the west, the effective reuse of some of these areas has not seen revitalization. The area is in need of new investment and thoughtful implementation.

As mentioned previously, the area impacted by this Great Streets Initiative project extends along Natural Bridge Road from Lucas and Hunt Road to west of the Clearview/West Drive intersection referenced as the "primary study area", while the area from west of the Clearview/West Drive intersection to I-170 is known as the "secondary study area".

The "primary study area" was selected as the major area of focus due to numerous potential redevelopment options and the number of stakeholders continually reinforcing the area's economic stability via financial, social, and cultural contributions. The "secondary study area" is critical for its' economic potential related to its' gateway from I-170 status, land-use impacts for the success of the primary study area, as well as a wide range of future development options. Characteristics of each study area are described in more detail below.

Primary Study Area:

Natural Bridge Road between Lucas and Hunt Road and West Drive (See Map 1-1 Study Area Extents)

The primary study area has seen considerable investment over the past decade through both infrastructure improvements north of the campus and within the UMSL campus (the interior campus circulation system) as well as small commercial investments that have bolstered and improved the general market area. The recent relocation of Express Scripts International Corporate Headquarters onto the UMSL campus provides a strong addition of an anticipated 3500 new employees to the daytime population's economic capacity. The continued development of North Park just north of I-70 should also contribute to increased commercial viability in the corridor.

The condition of institutional property is excellent and well maintained. Commercial property, substantially brick one to three story buildings facing Natural Bridge Road are, for the most part in fair to good condition.

Parking is not adequate around the multi-story brick structures while newer retail development of box stores clustered around the Lucas and Hunt Road and Natural Bridge Road intersection has ample parking space to serve under-utilized commercial developments. Unmanaged parking co-mingled with poor access management along the corridor causes traffic flow issues.

At a time when institutional and commercial development has continued to positively alter the economics of the primary study area, residential values have continued a steady decline and in some cases, homes are showing the strain of these economic conditions physically as well. Also, residential structures facing the Natural Bridge Road corridor have experienced a conversion from residential to commercial land uses with modifications to the property in many instances that include the addition of small paved parking areas and other commercial amenities such as lighting and signage as part of the conversion process. The process of converting residential to commercial property is an indicator of changing economic patterns along Natural Bridge Road and the slow and steady decline of traditionally residential property. It is possible that this conversion is also a sign of demand for small commercial office space that is not being satisfied.

This study will rely on prior studies for background and information pertaining to the history and development thought process over time. New material will be created associated with infrastructure; market driven economic development options; and possibilities for financing of future infrastructure development.

Secondary Study Area:

Natural Bridge Road between West Drive to I-170 (See Map 1-1 Study Area Extents)

The secondary study area includes Natural Bridge Road between West Drive on the east and I-170 on the west as mentioned above. This section of the Natural Bridge Road corridor is fronted by older residential homes and some retail and commercial areas at Hanley Road and at I-170 on the north east quadrant. For the most part, this stretch of Natural Bridge Road is in decline and although some commercial investment, such as the Housing and Urban Development (HUD) offices for St. Louis County has located here, for the most part, little investment has taken place for several years.

The composition of the adjacent community consists of multiple land uses including residential homes and multi-family units immediately adjacent to commercial and retail development, that are conflicting in the their existing orientation. The following is a description of the land uses beginning at the intersection of Natural Bridge and Hanley Roads and moving westward to I-170. The following descriptions include a brief overview of access issues and topographic conditions:

- Small commercial property with parking facing Natural Bridge Road – access to these properties creates convoluted access to both Natural Bridge Road and Hanley Road at these locations
- There is a vacant box store at or near 8638 Natural Bridge Road on the south side of the street
- Auto repair and small chain restaurants each with separate access points onto Natural Bridge Road aligning with internal circulation on each site
- Residences immediately adjacent to commercial uses
- Housing stock is a combination of brick homes, primarily on the south side of the street and frame construction primarily on the north side of the street
- All homes have driveway access to Natural Bridge Road and utilize the shoulder for on-street parking
- Multi-family residential units
- Auto repair and tire store interrupts residential patterns on the south side of the street
- The south side of Natural Bridge Road is terraced, with some homes constructed with long, exterior stairs leading from the street and sidewalk to the residences
- A depressed grass median begins around 8904 Natural Bridge Road in the area of the HUD office building and extends to the I-170 interchange at Springdale Avenue
- An aging and under-utilized retail strip center located on the northeast quadrant of Natural Bridge Road and I-170 including small shops, a Hood's store and a QT fuel and convenience store
- A new long term parking structure constructed on the southeast quadrant of Natural Bridge Road and I-170 serving airport parking needs

- High voltage lines running parallel to I-170 on a north/south axis

* The secondary study area terminates at the east side of I-170 and Natural Bridge Road. This report does not describe or take into consideration market conditions west of this location including quadrant development at this intersection.

Area of Influence

Neighboring Municipalities & Unincorporated St. Louis County (See Map 1-1 Study Area Extents)

In addition to the physical and market conditions impacting the study areas along the Natural Bridge Road corridor, there are municipal boundaries that play a role in the short and long term planning and implementation of economic changes possible in the area. Each municipality has the power to participate or decline to participate in the planning process and may either adopt or reject planning recommendations to proposed infrastructure and economic enhancements discussed in this document. The number of municipalities influencing this area and their interest in the long term planning is a critical factor in facilitating change in the corridor.

An area map of the primary and secondary study areas illustrates the number of communities the Natural Bridge Road corridor serves. Within the primary study area the following communities are impacted:

- Village of Bellerive Acres
- Village of Bel Nor
- City of Normandy
- City of Pasadena Hills

In addition to the immediate impact communities, there are near by areas that, although not physically touching the corridor, are impacted by the roadway and are served directly by Natural Bridge Road. These areas include:

- Several areas within Unincorporated St. Louis County
- Village of Pasadena Park
- City of Greendale
- Village of Glen Echo Park

Within the secondary study area, the following communities are served by the Natural Bridge Road corridor:

- Village of Bel Ridge
- Unincorporated St. Louis County (Carsonville)

Summary of Past Studies

Normandy Center (The Wedge) Revitalization Study:

Sasaki, 2002

The City of Normandy and the University Missouri-St. Louis have common goals for the Normandy Center a.k.a. "The Wedge" (located at the intersection of Natural Bridge and Florissant Roads). The City of Normandy would like to generate new tax revenues, promote economic revitalization and preserve existing residential neighborhoods. The University of Missouri-St. Louis would like to create a service, restaurant, and entertainment destination near the campus, provide more student housing, ensure the long-term quality of adjacent uses, and enhance the image of the campus edges.

In order to make these goals a reality, "The Wedge" must be revitalized. This will also stabilize the city. New commercial development is needed to stimulate further investment in the core, without undermining the existing businesses. Existing institutional uses on Natural Bridge Road need to contribute to the community. A coordinated effort between businesses, local governments, and stakeholders can make this a reality.

Existing conditions reflect economic decline. This is seen from the marginal businesses and abandoned properties, inhospitable pedestrian environments, large surface parking lots along Natural Bridge Road, inconsistent building setbacks from the road with little connectivity between them, and wide pavement widths. The existing conditions also possess many assets. There are architecturally interesting buildings and structures, re-usable buildings with adjacent open space, stable residential areas, and the UMSL transient market population. UMSL also plays a large role in "The Wedge" development. Inside the UMSL "Master Plan" there is encouragement to develop a "college town" near "The Wedge". The campus also plans to construct a 1500 bed student housing facility, which would attract more people in the area. The university may be interested in participating with the city to establish the quality and character for new development in the area if given the opportunity.

Revitalization Strategy

The overall vision for "The Wedge" is for a pedestrian-oriented mixed-use town center that serves the needs of the community and the University. Successful revitalization means concentrating on new commercial development, key stakeholder coordination, allowing viable institutions to remain, encouraging second floor office uses, developing housing around the MetroLink station, accommodating the mix of new uses, enhancing pedestrian connections, providing on-and-off street parking to support new development, and preserving existing structures.

Urban Character

The character of "The Wedge" will be a reflection of existing elements such as buildings size, scale and density. Streets, land uses, imagery, and parking may also emulate the existing and future uses and scale of buildings. Additionally, any new development at this location will be the result of market driven demand and the ability to finance new development within the existing stakeholder market place.

EXHIBIT 1.2: PROPOSED PLAN FOR "THE WEDGE"

Source: Normandy Center "The Wedge" Revitalization Study, Sasaki Associates

Regional Transportation Plan 2040 (East West Gateway Council of Governments):

The East-West Gateway Council of Government's (EWGCOG's) *Regional Transportation Plan 2040* is a long-range vision for development of the region and surface transportation system within the seven-county St. Louis region over the next 25 years. In 2009 the Council conducted an initiative called Renewing the Region (RTR). This initiative assessed the economic and social health of the region and explored ways to enhance planning and facilitate action. The result of the initiative was the development of 10 principles that would be used to guide long-range transportation planning. The challenge was to think beyond just transportation and to make the connection between transportation and the broader society. The RTP 2040 was be approved by the Council in June 2011.

- Preserve and Maintain the Existing System
- Support Public Transportation
- Support Neighborhoods and Communities Through the Region
- Foster a Vibrant Downtown
- Provide More Transportation Choices
- Promote Safety and Security
- Support Quality Job Development

- Strengthen Intermodal Connections
- Support a Diverse Economy Through the Region
- Link Transportation Planning to Housing, Environment, Education and Energy

A major component of RTP 2040 is the planning, design, and development of the region's transportation system in relation to land use, with the goal of improving mobility and safety while increasing travel choices. Similarly, the RTP calls for a Complete Streets approach by making routine accommodations for other modes when developing or designing a transportation project in order to allow for a safe, convenient, and efficient transportation system accessible to all users.

St. Louis Regional Bicycling and Walking Transportation Plan (East West Gateway Council of Governments):

EWGCOG's *St. Louis Regional Bicycling and Walking Transportation Plan* was developed in 2005 as a result of the region's transportation plan, Legacy 2030. It departs from conventional master plans, which often focus on the development of priority corridors for bicycling and walking improvements, and instead places emphasis on defining the nature of bicycling and walking environments and providing guidance on the elements common to model bicycling and walking facilities. Rather than specify where facilities should be located, the plan serves as a "how-to and when-to" resource document for communities and agencies developing facilities. The Plan provides more specificity in terms of improving existing bicycle facilities, designing, prioritizing, and placing new facilities, and addressing opportunities and constraints within the greater St. Louis region.

Natural Bridge Road: A New Life in North County, Pilot Project

CH2M HILL, 2008

The East-West Gateway Council of Governments helps communities in the St. Louis region to focus on the importance of streets as centers of community life. Great Streets can be defined as making our public spaces and streets more attractive, sustainable, and "friendly" for all users. This pilot study emulates the Great Streets concept planning for Natural Bridge Road between Lucas and Hunt Road and University Lane at University of Missouri, St. Louis (UMSL).

In working closely with the city leaders, local businesses and residents, the study team gathered information and identified the following problems for the corridor:

- Excess Capacity
- Wide, Pedestrian-Unfriendly "Wedge"
- Pedestrian Realm Lacks Definition and Character
- Poor Connectivity Across the Corridor
- Existing Land Uses are "Tired"
- North Residential Area May Limit Uses

After identifying the key problem elements, the project team set out to develop concepts to achieve the aspirations for future growth and health along the corridor.

- Concept One: Parking and Bicycle Lane (Exhibit 1-4)

The least "invasive" concept requires the re-striping of the roadway from five lanes to three lanes, by adding parallel parking and bicycle lanes.

- Concept Two: The Parkway (Exhibit 1-5)

EXHIBIT 1.5: PROPOSED THE PARKWAY CONCEPT

Source: Natural Bridge Road: A New Life in North County, Pilot Project, CH2M HILL

Narrows the existing five driving lanes to three lanes providing parallel parking and a bicycle lane only on one side of Natural Bridge Road, and it creates a "pedestrian parkway" on one side of the

EXHIBIT 1.4: PROPOSED PARKING AND BICYCLE LANE CONCEPT

Source: Natural Bridge Road: A New Life in North County, Pilot Project, CH2M HILL

existing street

- Concept Three: The Multi-way (Exhibit 1-6)

EXHIBIT 1.6: PROPOSED THE MULTI-WAY CONCEPT

Source: Natural Bridge Road: A New Life in North County, Pilot Project, CH2M HILL

This concept reduces Natural Bridge Road from five driving lanes to two lanes, eliminating a center turn lane. However, it creates a separate outside lane on one side of the street, which separates vehicular traffic moving through the corridor from vehicles accessing the businesses along the corridor. The access lane would be separated from the thoroughfare by a narrow planted median. Vehicles enter and exit the access lane via median openings at strategically spaced locations.

On May 15, 2008, the project team conducted a stakeholder workshop to present the concepts and to discuss reactions to those concepts. The Parkway concept appeared to be the clear favorite and preferred concept.

With the City of Normandy and University Missouri, St. Louis working together with North County Inc., as local champions to organize and mobilize the local stakeholder group, there are two key factors for future success:

- Flexibility in planning and design
- Long-term partnerships.

It was determined that both of these key factors will lead to successful design and sustained project implementation.

University of Missouri – St. Louis Master Plan Update, 2009

Sasaki Associates, 2009

Founded in 1963 on the grounds of a former country club, University of Missouri-St. Louis (UMSL) today is spread across 350 acres in the Village of Bellerive Acres and City of Normandy. The student population of UMSL for the year 2009 was 15,800. A few years ago UMSL initiated a strategic plan called "Gateway for Greatness". Of the five strategic priorities that were identified in the plan, one focused on redevelopment of the region.

Strategic Priority: Enhance civic engagement for economic and social benefit of the region.

> "We are a University committed to being unsurpassed in all our community engagement activities. We are well known for our engagement in the region, the nation and internationally. We intend to work collaboratively with our partners to develop programs which are sustainable and benefit society. "

As a subsequent step to the "Gateway for Greatness" plan, a campus master plan was created by Sasaki Associates. Below are the highlights of the plan that can impact the Natural Bridge Great Streets Project

Land Use Strategy

The master Plan organizes the campus into several districts. The districts closer to Natural Bridge Road are the Academic Core District, Student Life Center and Beffa Special Use District in the North and Professional Schools District in the South. Several new buildings and renovations are planned in the future and their architecture and use will have a direct impact on the Natural Bridge Road. Below is a list of proposed buildings and the districts to which they belong.

EXHIBIT 1.7: UMSL - CAMPUS PLANNING DISTRICTS

District	Building	A/R/N	Cost	Year
Academic Core District	Benton Stadler: Phase A	Addition/Renovation	$28,500,000	2010
	Benton Stadler: Phase B&C	Renovation	$24,253,000	2012
	Research Building	Renovation	$28,278,000	2015
	JC Penney/Student Center	Renovation	$20,930,000	2013
	Thomas Jefferson / Mercantile Library	Addition	$24,744,000	2013
	Social Sciences and Business Building	Renovation	$27,318,000	2016
	College of Business Administration	New	$32,354,000	2012
Student Life District	Wellness Center	New	$28,267,000	TBD
Professional Schools District	Optometry and Nursing Complex	New	$78,872,000	2011
	Wellness Center	New	$28,267,000	TBD
	Athletics Field	New	$6,786,000	TBD

Source: University of Missouri – St. Louis Master Plan Update, 2009, Sasaki Associates

Regional Trail System

The regional trail system throughout UMSL currently links the campus to a broader regional greenway system (exhibit 1-9). Funded by Great Rivers Greenway (GRG), the trails connect the north and south campus. The master plan shows two proposed GRG additions to the existing trail system;

- St. Vincent Greenway extension on the north to connect to North Hanley Road
- A cross campus trail extension linking the Ted Jones North County Bike Trail to Ferguson

EXHIBIT 1.8: CAMPUS MASTER PLAN- OLD AND NEW

EXHIBIT 1.9: CAMPUS MASTER PLAN- TRAIL SYSTEM

Source: University of Missouri – St. Louis Master Plan Update, 2009 , Sasaki Associates

Future Development

The Master Plan identifies areas to consolidate landholdings (Mansion Hill Condos, Normandy Apartments, and Vacant Metro Lots) and outlines potential areas of interest (Residential Area, MoDOT Property, Normandy Golf Course and Glen Echo Country Club)

Sustainability Goals

One of the goals listed in the UMSL sustainability goals is to promote transportation options. This would be directly related to the Great Streets Program.

Campus Planning Districts

UMSL has eight campus planning districts which provide direction for land uses, building placement, and place making. Two of these districts are of interest to the Great Streets Program due to their close proximity to Natural Bridge Road. The Science complex, located on the north side of Natural Bridge Road in the far southwest corner of the north campus, will be an issue due to possible increase in student activity. Also, the College of Optometry and the College of Nursing are planned as new structures south of Natural Bridge Road adjacent to the existing MetroLink station. Development of these structures will increase pedestrian activity, and provide an additional 200 car parking lot.

Transportation

UMSL is planning a future realignment and extension of Grobman Drive, which crosses Natural Bridge Road. The project aims to reconfigure the North campus entrance on Natural Bridge Road to align with Grobman Drive. This will allow UMSL to better link the north and south campuses.

MetroLink Stations

Metro has two station stops that directly serve the UMSL campus. The stop to the south of Natural Bridge Road has the greatest impact on the planning of enhancements and future planning along Natural Bridge Road.

Summary

This plan document will identify economic and infrastructure related issues that impact market conditions using the original, proposed changes to Natural Bridge as a guide to future investment for the area. The Great Streets Program is defining new attitudes toward the relationship between infrastructure, land-use and economic development, is ideally suited for the Natural Bridge Road corridor. The pilot project, conducted by CH2M HILL has laid the foundation for critical relationships within the area and among stakeholders, as well as the identification of roadway design issues that addresses the environment, travel in and through the area and safety.

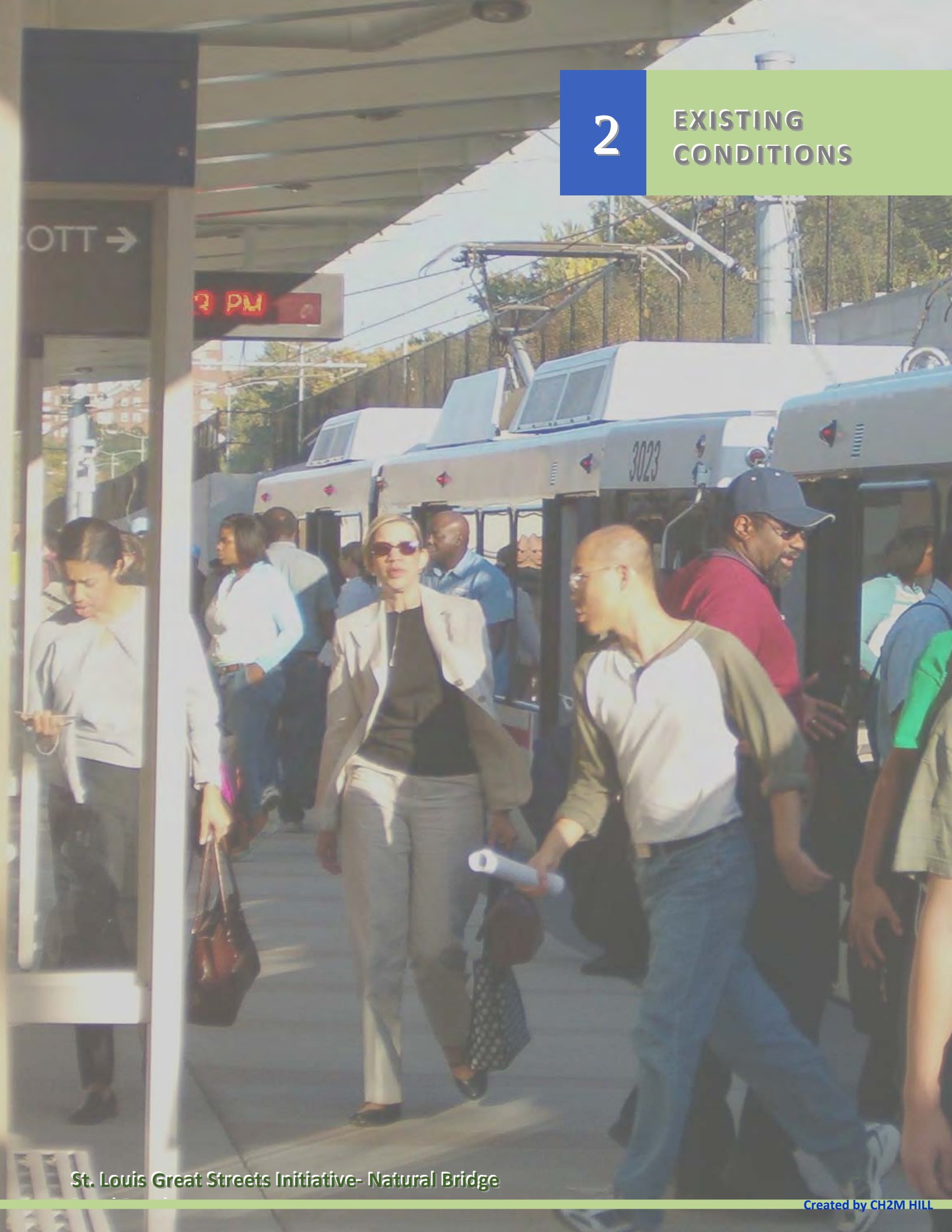
With the background, definition of study areas, and the history of phase one activities defined in order to understand fully the results of this report, the following chapters will assess critical planning elements of the physical, market, and land related aspects of the corridor. This will support the mission of the Great Streets Initiative on Natural Bridge Road and to establish an implementation plan and finance strategy to facilitate development in the area.

The chapters that follow include:

- Chapter 2 - Existing Conditions
- Chapter 3 - Existing Conditions Influencing Future Land Use
- Chapter 4 - Future Infrastructure and Amenities
- Chapter 5 - Future Land Use Plan
- Chapter 6 - Implementation Planning and Finance Strategies
- Chapter 7 - Performance Measures and Evaluation of Alternatives
- Chapter 8 - Design Guidelines
- Chapter 9 - Public Participation

The Chapters listed above and subsequent appendixes comprise the Plan and provide the tools and measures for the Natural Bridge Great Street Initiative and make the study area a great place to live and invest in the future.

2 EXISTING CONDITIONS



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CHAPTER-2: EXISTING CONDITIONS

Any planning process requires the review, analysis, and documentation of existing conditions in order to understand the real potential of a defined area. Therefore, documentation of existing physical, infrastructure, municipal, and market conditions that may impact future development are analyzed and taken into consideration when making final recommendations within this document. Understanding existing conditions facilitates planning for proposed revitalization; design and implementation strategies for new infrastructure; and sparks reinvestment strategies needed to realize real economic investment and revitalization within older sectors of the city.

Existing Social and Economic Conditions

Understanding socio-economic conditions are an important step in planning future development. The analysis of market trends help developers and business owners make decisions on the type of investments that will be most successful within various market conditions before investment takes place. The social and economic conditions documented in this section refer to the area that abuts Natural Bridge Road between Lucas and Hunt Road to I-170. This includes City of Normandy, Village of Bellerive Acres, the Village of Bel-Nor, the City of Pasadena Hills and the Village of Bel-Ridge. This area will be referred to as "immediate area of influence" in this section. The unincorporated St. Louis County area, the Village of Glen Echo Park, the Village of Pasadena Park, and the City of Greendale are not included in the study of social and economic conditions.

Demographics Profile

Based on Census 2000, 11,234 people lived in the area of influence (Normandy, Bel-Nor, Bel-Ridge, Bellerive Acres and Pasadena Hills) at that the time of the census. The estimated population for the year 2008 was 10,622 a decline in population of 5.8%. Exhibit 1.3 shows the breakdown of population by city. In comparison to the area of influence, the population of St. Louis County grew by 2.5 percent between 2000 to 2008, while growth in the State of Missouri was a 5.7 percent growth for the same time period.

Exhibit 2.1: Population Change (2000-2008)

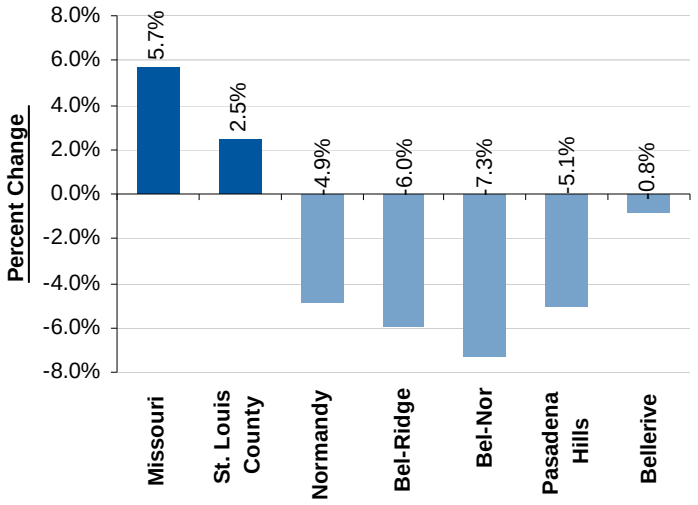
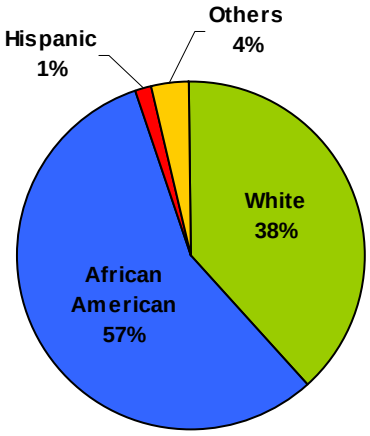


Exhibit 2.2: Racial Composition (2008)



Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

EXHIBIT 2.3 : POPULATION CHANGE (2000-2008)

Area	2000	2008	Percent Change
Missouri	5,595,211	5,911,605	5.7%
St. Louis County	991,830	1,016,315	2.5%
Normandy	5,153	4,902	-4.9%
Bel-Ridge	3,082	2,898	-6.0%
Bel-Nor	1,598	1,481	-7.3%
Pasadena Hills	1,147	1,089	-5.1%
Bellerive Acres	254	252	-0.8%

Source: http://www.city-data.com/, Accessed Dec 15, 2009

The population density and median age along with the total population paint a demographic profile of the area that can help communities and developers make preliminary decisions on the type of businesses and housing that can be successful for the area.

Population density in the immediate area of influence is greater than the St. Louis County (Refer Exhibit 2.4). While Pasadena Hills has the highest density of all the municipalities analyzed in this section, it also has a higher median resident age (Ref Exhibit 2.5) and less population compared to other communities in the area of influence. Normandy and Bel-Ridge on the other hand have higher population densities and lower median age groups resulting in this area being made up of a largely younger population. Assuming that most of the students attending to the university fall in 20-24 years age group it is likely that a good proportion of that population lives near the university thus lowering the median age of population in Normandy and Bel-Ridge. Bellerive Acres has the lowest population density of all the communities in the area of influence area due to large portions of land occupied by the University.

Exhibit 2.4: Population Density Per Square Mile (2008)

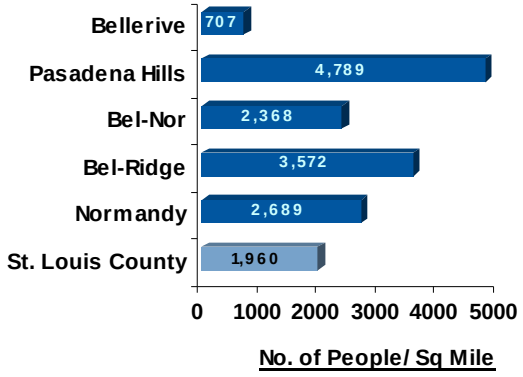
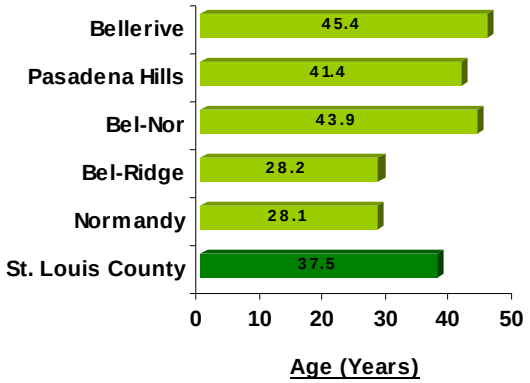


Exhibit 2.5: Median Resident Age- 2007



Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

Based on the Census 2000, the average household size in the area of influence ranges between 2.3 to 2.6 individuals while in comparison, the average Household size in Missouri and St. Louis County was 2.5 individuals.

Economic Profile:

The median household income in the area of influence varies vastly from one municipality to another as does the number of people living below the poverty level. One assumption that can be made for lower household income in the communities of Normandy and Bel-Ridge is a disproportionately large student population in these communities. There are around 15,000 students attending UMSL. Assuming that most of the students attending to the university fall in 20-24 years age group it is likely that a goodly proportion of that population lives near the university. This circumstance may skew the household income statistics in the area (Refer Exhibits 2.6 and 2.7).

Similarly, the poverty level in the area is vastly varied (Ref Exhibit 2.8). However, the cost of living index in the area is less than US average (100) ranging from 78 to 82 in range. (Refer Exhibit 2.9).

Exhibit 2.6: Median House Hold Income (2000-2007)

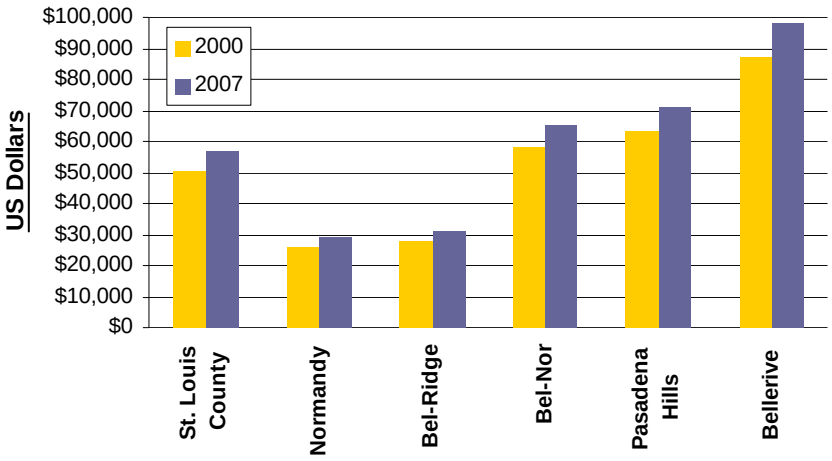
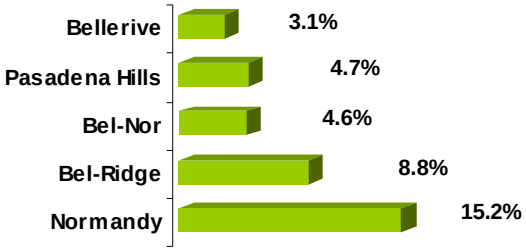


Exhibit 2.7: Population Distribution (20-24 year age group)



Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

Exhibit 2.8: Residents With Income Below Poverty Level (2007)

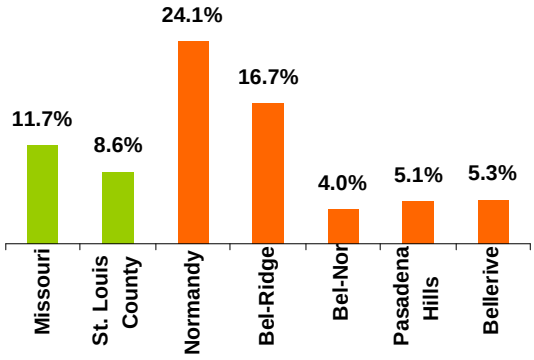
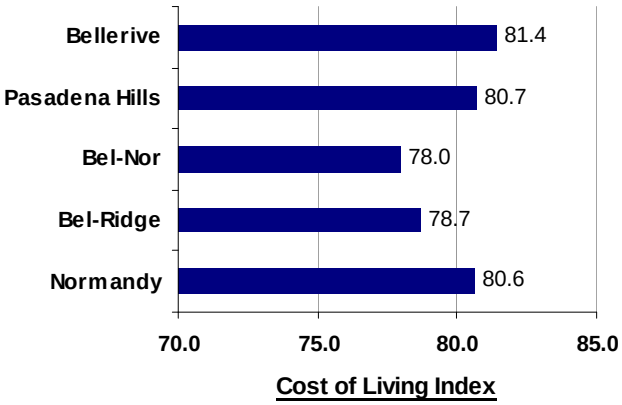


Exhibit 2.9: Cost of Living Index- 2008



Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

Some of the most common industries providing income to the subject population include:

- Educational services
- Construction
- Health care
- Accommodation and food services
- Material recording, scheduling, dispatching, and distributing workers
- Professional, scientific, and technical services
- Public administration

Most common occupations vary within the communities studied. Higher paying jobs are more common in Pasadena Hills, Bellerive Acres and Bel-Nor while the typical occupations in Normandy and Bel-Ridge are lower paying jobs. Appendix 2.1 gives a snapshot of common occupations by the community.

Housing Characteristics

There were 4,938 houses existing in the year 2000 in the five city area of influence. Of these, 2,663 were owner occupied and 1,963 were renter occupied. Around 312 units were vacant at that time. At that time, Bel-Nor had the highest percentage of owner occupied housing. Normandy was the only city in the five city area of influence that had more renter occupied housing compared to owner occupied housing. It can be assumed that this may be due to a large student population in Normandy. Map 2.1 shows the owner occupied housing versus the renter occupied housing in the area of influence.

The median value of houses and condominiums is shown in Exhibit 2.11. The exhibit shows the highest values were reported in the Village of Bellerive Acres ($288,220). Median Real-Estate Property Tax per 2000 data was 1.3% in Normandy, 1.4% in Bel-Ridge, Bellerive Acres and Pasadena Hill and 1.6% in Bel-Nor. Map 2.2 gives a snapshot of taxable versus non-taxable properties in the area of influence.

An analysis of building permit data reveals that this area hasn't seen any major construction activity since 2000. Exhibit 2.12 shows the building permits granted since the year 2000.

Exhibit 2.10: Housing Tenure 2000

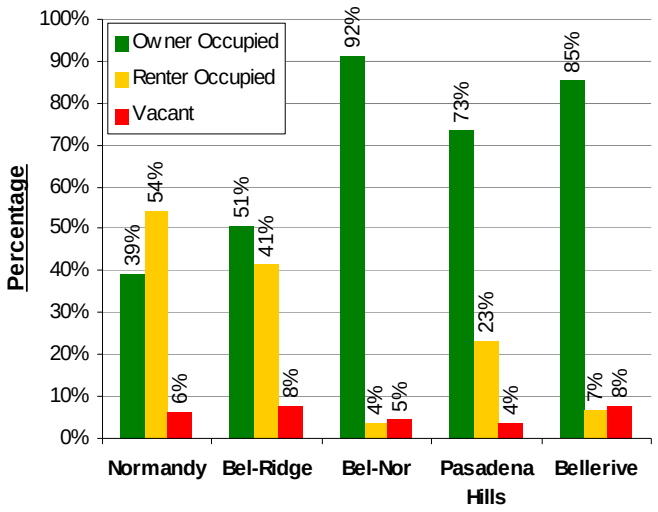
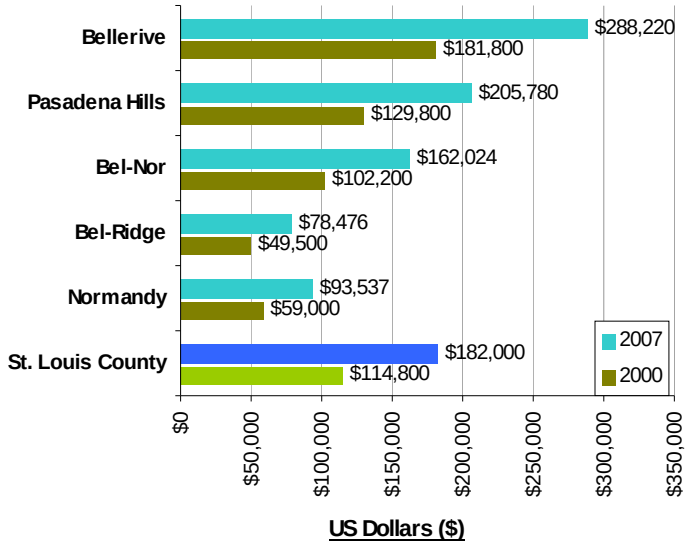
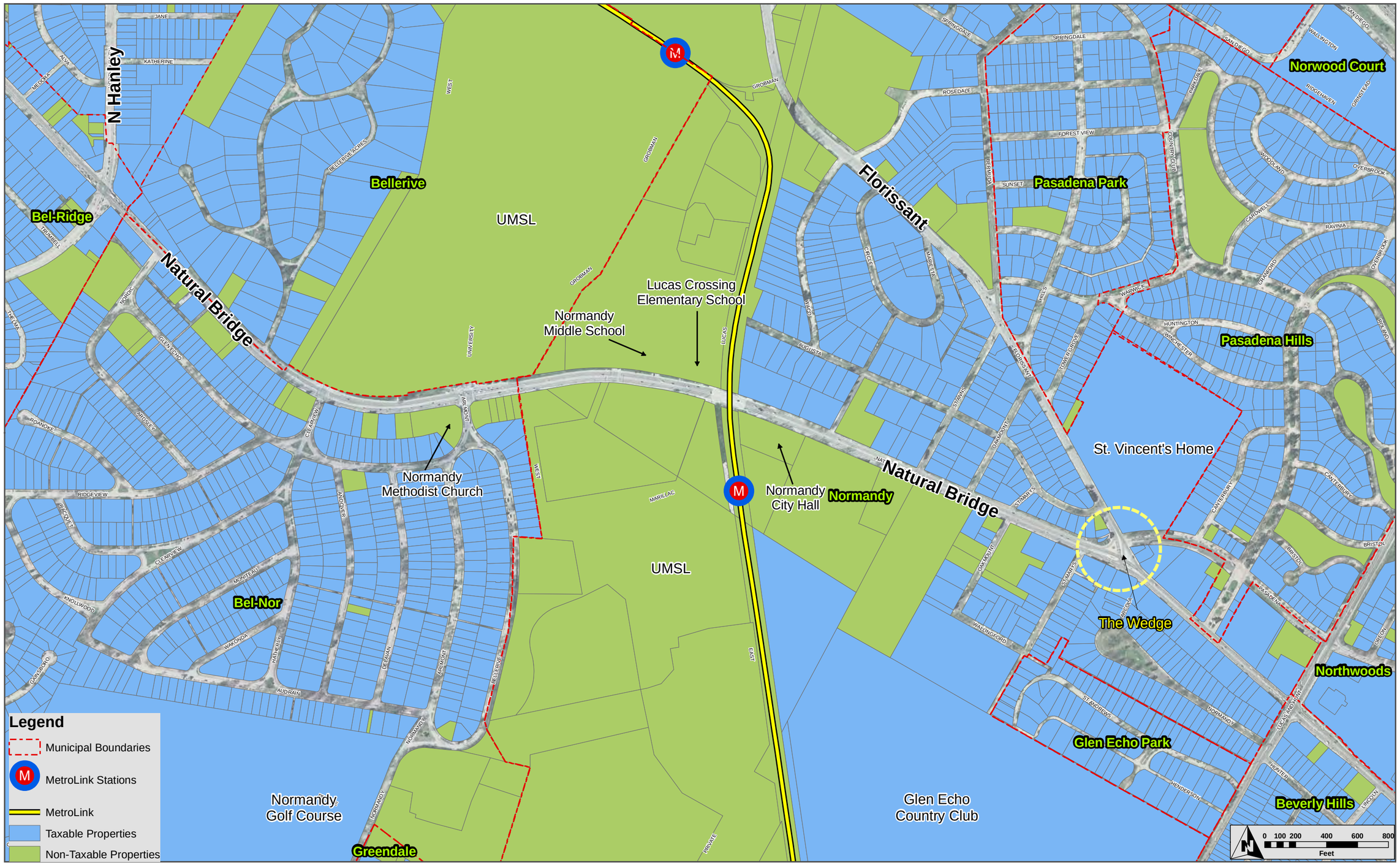


Exhibit 2.11: Median House or Condo Value (2000-2007)



Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

MAP 2.1: EXISTING RESIDENTIAL OWNERSHIP



MAP 2.2: EXISTING TAXATION

Saint Louis Great Streets INITIATIVE
LEARN · SHARE · PLAN · BUILD

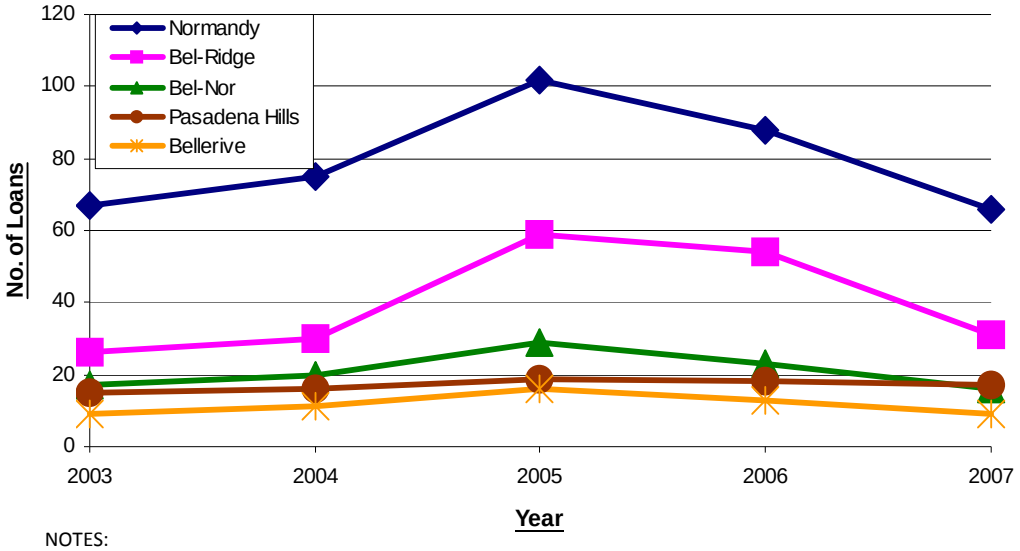
CH2MHILL

EXHIBIT 2.12 : BUILDING PERMITS

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008
Normandy	0	0	0	0	1	0	0	1	0
Bel-Ridge	0	0	0	0	0	0	0	0	0
Bel-Nor	0	0	1	0	0	0	0	0	NA
Pasadena Hills	NA	NA	NA	0	0	0	0	0	0
Bellerive	NA	NA	NA	0	0	0	0	0	0

Source: http://censtats.census.gov/bldg/bldgprmt.shtml Accessed Dec 20, 2009

Exhibit 2.13 : HMDA & PMIC Home Mortgage Loans (2003 - 2007)



NOTES:
The loans data is based on Census tracts and might not match exactly with municipal boundaries.
Normandy- Tract 2123, 2124, 2137; Bel-Ridge- Tract 2136; Bel-Nor Tract 2137; Pasadena Hills- Tract 2123, Bellerive- Tract 2137

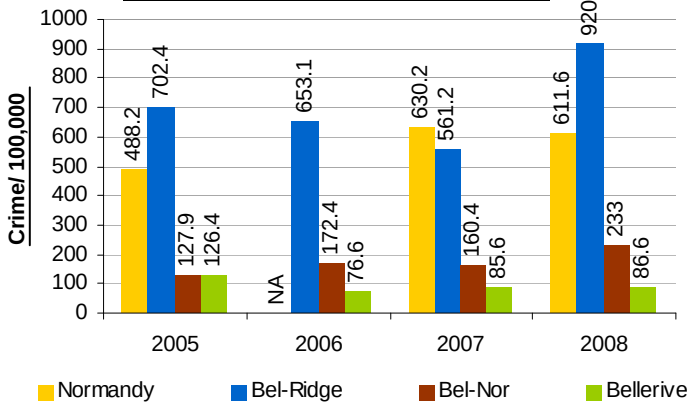
Source: http://www.city-data.com/ & http://www.census.gov/main/www/cen2000.html Accessed 20 Dec, 2009

However, home sales have been significant between 2003 and 2007. Home sales increased from 2003 to 2005, and then have declined thereafter. Exhibit 2.13 reveals that more homes have been purchased in Normandy and Bel-Ridge, compared to other communities in the area of influence.

Crime Statistics

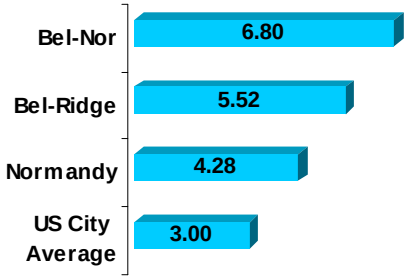
Exhibit 2.14 shows crime statistics in the area. Crime includes murders, rapes, robberies, assaults burglaries, thefts, auto thefts and arson. Crime statistics have been on the rise since 2005, but has marginally decreased in the City of Normandy from 2007 to 2008. Exhibit 2.15. is a 2006 indicator of law enforcement officers per 1000 residents compared to the U S Average. There are more law enforcement officers per 1000 residents than the national average.

Exhibit 2.14: Crime / 100,000 (2005- 2008)



2) U.S. average = 320.9, Higher means more crime
3) Crime includes Murders, Rapes, Robberies, Assaults, Burglaries, Thefts, Auto thefts and Arson

Exhibit 2.15: Full Time Law Enforcement Employees per 1,000 Residents (2006)

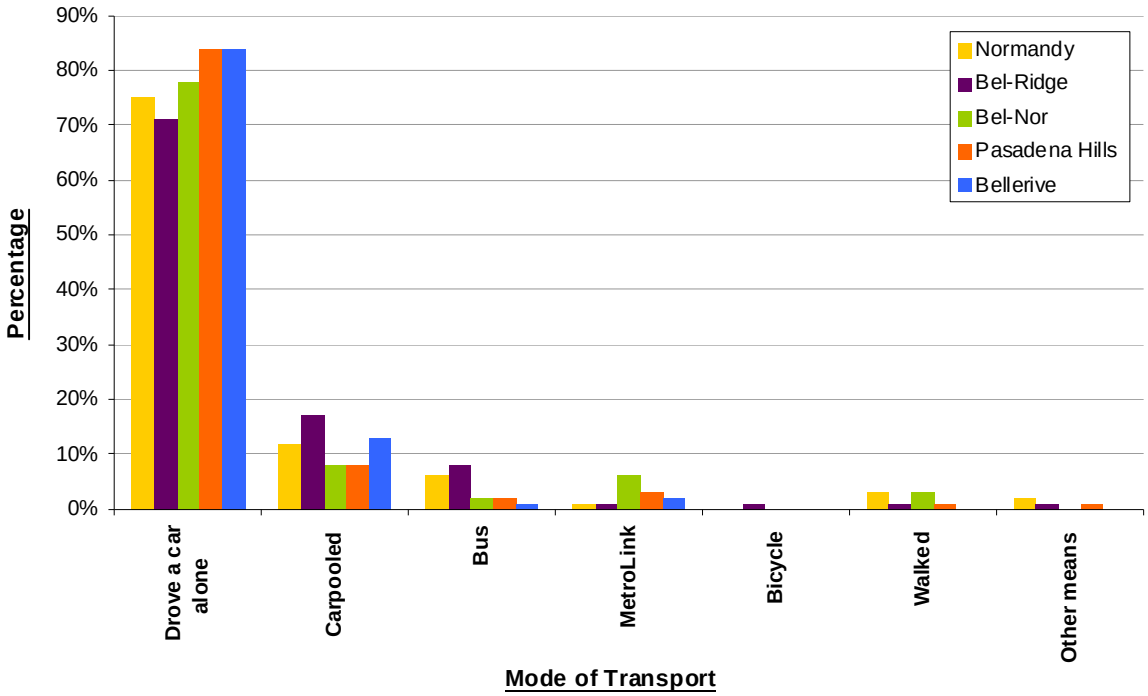


Notes:
1) Crime statistics are not available for Bellerive & Pasadena Hills

Transportation

Based on the 2000 Census most people drove cars to work followed by car pooling and then buses. Very few people used other modes of transportation such as MetroLink, bicycling and walking (See Exhibit 2.16).

Exhibit 2.16: Means of Transportation



Existing Zoning & Overlay Districts

Below is a snapshot description of each of the zoning districts that affect the primary and secondary study areas districts. Zoning plays an important role in deciding the land uses in the study area. Based on the recommendations for the future land uses in the area zoning changes might be recommended to be consistent with the land uses.

The Village of Bel-Ridge:

- A – Single Family 7,500 Sq Ft
  - No building shall exceed 2½ stories or 35 feet
  - Lot area of not less than 7,500 square feet*
- B – Single Family 6,000 Sq Ft
  - No building shall exceed 2½ stories or 35 feet
  - Lot area of not less than 6,000 square feet*
- C – Two Family
  - No building shall exceed 2½ stories or 35 feet
  - Lot area of not less than 3,750 square feet per family*
- D – Multiple Dwelling
  - No building shall exceed 3 stories or 45 feet
  - Lot area, regardless of use, of not less than 8,000 square feet provided that:
    - i) Lot area, containing a two-family dwelling, of not less than 4,000 square feet per family
    - ii) Lot area, containing a multiple dwelling, of not less than 2,000 square feet per dwelling unit
    - iii) No multiple dwelling shall cover more than 30% of the total lot area
- E – Local Business
  - No building shall exceed 2½ stories or 35 feet
  - No structure shall be erected within 30 feet of a street line
- F – Business
  - No building shall exceed 3 stories or 45 feet
  - No structure shall be erected within 30 feet of a street line
- G – Light Industrial
  - No building shall exceed 3 stories or 45 feet**
  - No structure shall be erected within 30 feet of a street line
  - Performance standards apply (see zoning code)

* Unless recorded on or before December 9, 1993

** Exceptions to height requirements see zoning code

City of Normandy:

- A – Single Family 10,000 Sq Ft
  - No building shall exceed 2½ stories or 35 feet
  - Lot area of not less than 10,000 square feet*
  - Lot width not less than 70 feet*
- B – Single Family 7,500 Sq Ft

- No building shall exceed 2½ stories or 35 feet
- Lot area of not less than 7,500 square feet*
- Lot width not less than 55 feet*

- C – Two Family
  - No building shall exceed 2½ stories or 35 feet
  - Lot area of not less than 8,000 square feet
  - Lot area of not less than 4,000 square feet per family
- D – Multiple Family
  - No building shall exceed 3 stories or 45 feet
  - Lot area not less than 12,000 square feet
  - Lot area, for single family dwelling, of not less than 7,500 square feet
  - Lot area, two family dwelling, of not less than 4,000 square feet per family
  - Lot area, multiple family dwelling, of not less than 3,000 square feet per family
  - Lot area, ranchette construction, of not less than 3,500 square feet per family
- E – Neighborhood Shopping
  - 1 parking space per 300 square feet of floor space (review zoning code for exceptions)
  - No building shall exceed 3 stories or 45 feet
- F – Commercial
  - 1 parking space per 300 square feet of floor space (review zoning code for exceptions)
  - No building shall exceed 3 stories or 45 feet
- G – Light Industrial
  - 1 parking space per 300 square feet of floor space (review zoning code for exceptions)
  - No building shall exceed 8 stories or 100 feet (review zoning code for exceptions)

* Unless recorded on or before February 10, 1969

Village of Bel-Nor:

- R-1 Single Family
  - No building is to exceed 2 stories or 30 feet
  - Minimum lot area of 7,500 square feet
  - Minimum floor area of 1,100 per dwelling unit
- R-2 Single Family
  - No building is to exceed 2 stories or 25 feet
  - Minimum lot area of 5,000 square feet
  - Minimum floor area of 1,100 per dwelling unit
- R-3 Non-Urban
  - No building is to exceed 2 stories or 30 feet
  - No building is to fall below 1½ stories
  - Minimum lot area of ½ acre
  - Minimum floor area of 1,900 square feet
- C-1 General Commercial District
  - No building is to exceed 40 feet in height
  - No building is to fall below 15 feet in height

  - Minimum lot area of 7,500 square feet
  - Minimum floor area of 1,300 square feet
- E-1 Institutional District
  - No building is to exceed 30 feet in height
  - No building is to fall below 15 feet in height
  - Minimum lot area of 7,500 square feet
  - Minimum floor area of 1,300 square feet for Residential
  - Minimum floor area shall not exceed 45% of ground coverage for other uses

Village of Bellerive Acres:

- R Residential
  - No building is to exceed 2 stories or 25 feet
  - No building is to fall below 1½ stories
  - Minimum lot area of 1/3 of an acre
  - Minimum floor area of 2,800 square feet for 1½-story dwelling
  - Minimum floor area of 3,000 square feet for 2-story dwelling
  - 4 off-street parking spaces for each dwelling unit
- C-1 Neighborhood Commercial District
  - No building is to exceed 25 feet
  - Minimum lot area of 7,500 square feet
  - 1 off-street parking space for every 300 square feet in area
  - 1 off-street parking for every 2 persons with regular occupancy.
- C-2 Business Commercial District
  - No building is to exceed 50 feet
  - Minimum lot area of 20,000 square feet
  - Telecommunications tower cannot exceed 90 feet in height
  - Parking same as C-1
- C-1 & C-2 Overlay – Mixed Use District

University of Missouri at St. Louis (UMSL)

UMSL, as a state entity, is not subject to municipal zoning for buildings built on property that the University owns.

Existing Land Uses

The Existing Land Use Map 2.3, for the area of influence, illustrates the general location of various land use categories within the study area. Land uses within the area of influence are complex, including conflicting commercial and industrial uses adjacent to residential development and there are several low density commercial developments on large, underutilized sites. Generally, land use in this area follows typical city patterns. For instance, commercial and industrial uses are located around highways and major secondary corridor frontage while residential development is situated near secondary and tertiary streets. These patterns enhance redevelopment opportunities without excessive disruption to existing land and street patterns due to existing parcel sizes and infrastructure serving various locations appropriate to the various uses mentioned.

The Existing Land Use Map 2.3 is intended to categorize all development within the area of influence into specific land use types. The existing land uses include:

- Single family
- Duplex
- Multi Family
- Commercial
- Institutional
- Parks
- Recreational
- Industrial
- Vacant/ Agricultural

Existing Land Uses in the Primary Study Area:

This section deals with the description of land uses in the primary study area that extends from Lucas and Hunt Road to Clearview Drive/West Drive, one parcel depth on north and south of Natural Bridge Road (Refer Map 2.3).

Residential Land Uses:

The primary study area portion of the Natural Bridge Road corridor is complex and the land uses diverse. In some cases the uses conflict and the positioning of structures on the sites impact access, function, and overall viability of the corridor as an urban connector.

The Natural Bridge Road corridor serves many residential areas ranging from planned urban communities to individual homes and vintage 1950's subdivisions. Due to these historic residential development patterns and the reuse of certain parcels of land along Natural Bridge road over time, many homes fronting on Natural Bridge Road are either incorporated into adjacent commercial and retail land uses or residences have been converted into office or commercial space.

MAP 2.3: EXISTING LAND USE

CH2MHILL

EXHIBIT 2.17: PICTURES OF RESIDENTIAL LAND USES IN PRIMARY STUDY AREA

Source: CH2M HILL

Residential property co-existing with changing market needs and complex market conditions become opportunities for expansion and conversion to commercial development due to the reduced value of the structures and opportunities associated with the assembly of multiple properties adjacent and developed in low density residential uses. The conversion from residential to commercial uses is reinforced by the fact that there are properties within this corridor that may have outlived their existing land use designation and may be more appropriately considered for acquisition and redevelopment. The continued decline in residential values and the influence UMSL and other institutions have had upon this economic market adds emphasis to the concept of effective reuse of property.

The property shown in example P2.2 illustrates of the evolutionary patterns occurring along Natural Bridge Road at this time. This former residence has been converted to office use with parking added at the rear of the structure to accommodate city parking and variance requirements. The property is located immediately adjacent to commercially zoned property and is a prime candidate for purchase, tear down, and conversion to commercial land use as the overall commercial market is revitalized. This conversion process is indicative of existing land use patterns responding to emerging and changing market demands.

The image P2.3 shows reuse of residential property by the University as an Alumni center. In the short term, the acquisition and renovation/upgrade of homes is a cost effective way to provide space for expansion As seen in the example P2.3, residential land converted to institutional use has physically improved the property including the addition of signage, parking, exterior lighting, and landscaping appropriate for the new.

Commercial Land Uses:

Commercial land uses along the Natural Bridge Road corridor in the primary study area are varied, and exemplifies emerging market shifts, including:

- Residential structures converted to commercial and institutional uses
- Small commercial structures developed for specific and free standing uses
- Small commercial structures that include multi-story architecture with mixed-use options (retail/commercial on the first floor and office/residential above)
- Small strip commercial structures with mixed-use tenancy
- Larger strip commercial structures with mixed-use tenancy
- Box store retail

EXHIBIT 2.18 EXAMPLES OF COMMERCIAL LAND USES

Source: Google Earth Pro

Small strip centers are located adjacent to the Natural Bridge Road and the Florissant Road intersection and are exemplary development patterns of commercial buildings ranging in age from the 1960's to the 1980's. These properties contain small, individual stores and in some cases office and medical spaces characteristics of strip center development adjacent to the larger stores. Parking is at the store fronts and extends to the street with little or no landscaping. There is some parking also available behind the businesses as well. Signage is varied and not consistent with the various sites or the streetscape. Access to Natural Bridge and Lucas and Hunt Roads is controlled through designated curb cuts and in many cases, visitors to the site are required to back into oncoming traffic in order to exit parking spaces.

Free standing, small box stores are located at the same intersection on the south side and extend eastward to the Natural Bridge and Lucas and Hunt Roads intersection. These stores are typical chain restaurants and small, single tenant stores each with buildings located at the rear of the parcel and include ratio based parking at the front and sides of the buildings. Access is controlled by

designated curb cuts resulting in multiple access points that add to congestion along Natural Bridge Road. Although many of these stores are contiguous, there has been no attempt to redesign parking and access points on a reciprocal or shared basis.

Larger box stores and free standing retail has developed on the north side of Natural Bridge and Lucas and Hunt Roads intersection. These are developed with loading dock areas facing the residential areas of Pasadena Hills. These retail locations are defined by larger buildings set back from the right of way with parking at the front and sides of the building. In general, these large box stores are not landscaped and have few public amenities. Each building has its own access onto major secondary roads with loading dock areas located at the rear of the buildings.

Institutional Land Uses:

Natural Bridge Road is home to many institutions, all in operation and all contributing transient market to the area by way of visitors, invitees, and staff working in support of the institutions. Those accessing the area each work day are an asset to the market and the supply of goods and services to accommodate this market group is essential to the long term sustainability of the area. Facilitating the growth of this market group is also essential to the long term sustainability of the area. Therefore, creating safe places, mobility, multi-modal access, and growth potential to support the institutions will be essential to any planning programs designed to enhance this area.

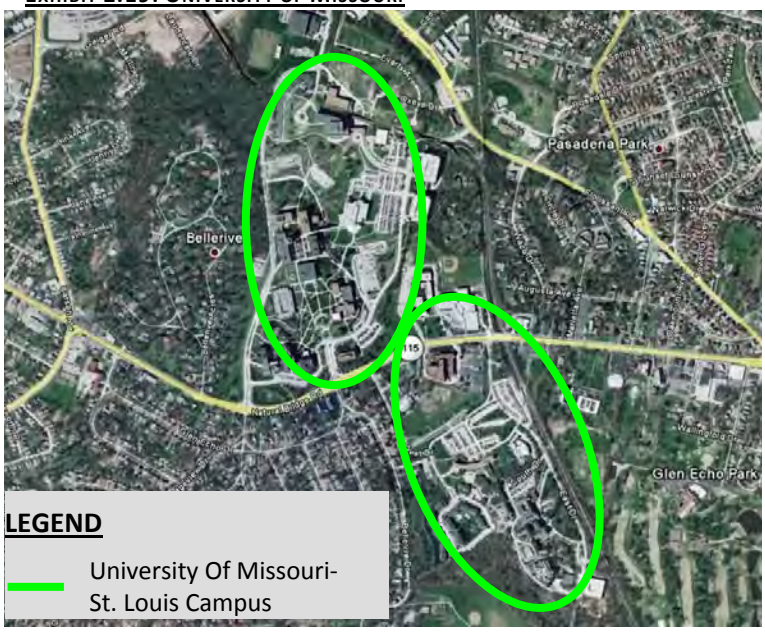
The following exhibits illustrate the general locations of the subject institutions:

University of Missouri

St. Louis Campus (UMSL)

Founded in 1963 at its present location and occupying 350 acres of land, this State of Missouri operated university campus serves 15,500 students, 1,200 of which live on campus. Students are served by 1,400 full and part time teaching and research faculty. The campus occupies a major part of the primary study area frontage and making the campus one of the most important land uses in the area.

EXHIBIT 2.19: UNIVERSITY OF MISSOURI



Source: Google Earth Pro

Normandy City Hall

7700 Natural Bridge Road

The Normandy City Hall occupies a triangular land configuration immediately adjacent to the MetroLink tracks on the west side of the property and is bounded by an open tributary and greenway on the east side of the property. The City Hall structure faces Natural Bridge Road and is served by parking lots at the front of the building and on the west side of the building.

St. Ann Church and School

7530 Natural Bridge Road

Founded in 1855 the property has continually served the community to present day. In 1997 an early childhood center was established in the old convent building. This institution serves the educational and cultural needs of the community.

EXHIBIT 2.20: VARIOUS INSTITUTIONAL LAND

Source: Google Earth Pro

Normandy Middle School and Lucas Crossing Grade School

7855 Natural Bridge Road

The Normandy Middle School (formerly Normandy Junior High School) was constructed in the late 1940s. Originally this thirty-six room building was opened to seventh, eighth, and ninth graders for a potential enrollment of 1,260 students. In 1993, the junior high was renamed Normandy Middle School. Today Normandy Middle School houses approximately 700 seventh and eighth grader students. Lucas Crossing Grade School is a new structure including a kindergarten through sixth grade school with a student population of approximately 890 students.

Normandy School District

3855 Lucas and Hunt Road

The Normandy School District services several communities in the area including Normandy, and Pine Lawn. This building is used as an administrations facility serving the entire school district. The building is occupied by the school districts however, there are other tenants in the building as well.

St. Vincent Germanic Home

7401 Florissant Road

This home and school facility was founded in 1850 to service the community after a cholera epidemic that killed 4,000 citizens. Children left as orphans after this disaster found a home and education at this location. The facility has remained in operation to the present and continues to serve as a school and housing for children.

EXHIBIT 2.21: VARIOUS INSTITUTIONAL LAND USES

Source: Google Earth Pro

Normandy United Methodist Church

8000 Natural Bridge Road

Located at the intersection of Natural Bridge Road and Bellerive Drive, this stately stone church has been a landmark in the Normandy community for many years. Its towering steeple and landscaped grounds are distinction and the church provides cultural benefit to the community. The building is served by a parking lots around the building with pedestrian access off Natural Bridge Road and Bellerive Drive.

EXHIBIT 2.22: NORMANDY UNITED METHODIST

Source: Google Earth Pro

St. Louis County Library

7606 Natural Bridge Road

The Natural Bridge Road branch of the St. Louis County Library System opened at 6814 Natural Bridge Road as a full-service branch as well as Library headquarters. In 1960, this Library moved its headquarters to its present location at 1640 South Lindbergh Boulevard. The building was then used as the Natural Bridge Branch until 1992.

In May, 1992 construction began on a new building on property purchased from the Sisters of the Good Shepard. The building was designed by Manske Corporation and constructed by J.E. Novack. The new Natural Bridge Branch opened to the public on Monday, May 24, 1993.

The branch is 15,733 square feet with a glassed-in main room, and houses a 60,000 items owned by the library. Natural Bridge is a true neighborhood branch and community center. Residents check out materials, use computers and attend meetings in the library's facilities.

U.S. Post Office Facility

7450 Natural Bridge Road

This full service post office is located at the Natural Bridge Road and Oakmount Avenue intersection. The public is served by a parking lot on the west side of the structure.

Sisters of the Good Sheppard (Land owned by Oblate Sisters of the Providence)

7530 Natural Bridge Road

A significant brick structure with adjacent, smaller buildings including a convent, a 34-room retirement home for elderly sisters and a transitional house for chemically dependent women. The property is located immediately adjacent to the Normandy City Hall and is bounded by a open tributary and greenway on the west side of the property.

EXHIBIT 2.23: ST. LOUIS COUNTY

EXHIBIT 2.24: U.S. POST OFFICE FACILITY

EXHIBIT 2.25: SISTERS OF THE GOOD SHEPPARD

Source: Google Earth Pro

Existing Historic Properties:

Normandy, Missouri is an historical city with development roots reaching back to 1811. Since its founding many structures were built and remain today as a reminder of this rich history, not only of Normandy but of the entire St. Louis region. By 1885 most land had been developed in the city and due to expansion of the City of St. Louis, Normandy became one of the first suburbs of the city.

The St. Louis Streetcar Company served the City of Normandy for many years helping to sustain the cities shopping and residential areas. The city was officially incorporated in 1945 and in 1977 the city was designated as a third class city under State of Missouri Statutes.

Normandy has a long and productive history that is an integral part of the existing culture and adds to the desirability of the area and planning for the future. As new investment prompts revisions to existing land uses and infrastructure configurations, a respect for the history and cultural contributions made by the city over time is to be respected and appreciated.

The historic properties in the primary study area are documented below:

The Hunt House

7717 Natural Bridge Road

A 1904 Colonial Revival house built for Wilson Price Hunt, grandson of one of the founders of the City of Normandy. A property presently on the U.S. National Register*, the property is currently used as an office building for a real estate firm.

*The U.S. National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

St. Vincent Germanic Home

7401 Florissant Road

St. Vincent Home for Children was founded in 1850 following a cholera epidemic which left many St. Louis children orphaned. The Sisters of St. Joseph took charge of the home in 1851. In 1888, the Sisters of Christian Charity assumed the duties of the home.

EXHIBIT 2.26: THE HUNT HOUSE

EXHIBIT 2.27: ST. VINCENT GERMANIC HOME

City of Pasadena Hills Gateway

The entrance structure shown here is the official portal to the City of Pasadena Hills, MO a neighborhood that has been designated historic by the State of Missouri and the National Register. The community is a planned urban community with about fifteen acres of land devoted to green space and park areas and is one of the oldest and most established neighborhoods in St. Louis County. Any future planning that impacts this community must consider its total history designation and the restrictions imposed pursuant to the statutes of the State of Missouri.

Other historic properties in the Area of Influence and secondary study area includes

- Hardy House (415 Bermuda Road)
- Pasadena Hills Historic District
- Glen Echo Historic District

EXHIBIT 2.28: CITY OF PASADENA HILLS GATEWAY

Existing Infrastructure and Facilities

Study Area:

At the onset of this project, a field survey was performed by ABNA Engineering. The results of their observations and documentation of existing physical conditions were recorded as part of the walk through process. Photographs shown here were taken as part of the physical documentation of the area. These images provide a photographic record of the following elements of the existing corridor:

Alignment Conditions:

Alignment conditions from Lucas and Hunt Road to west of Hanley Road includes four lanes of traffic and one center turn lane. From east of Hanley Road to I-170 the roadway is comprised of four travel lanes, two in each direction of travel.

The Natural Bridge Road corridor throughout the study area experiences between 14,000 and 16,000 average annual cars per day for a majority of the corridor, to approximately 22,000 average annual cars per day at Natural Bridge Road at Florissant Road. The existing alignment is more than adequate to serve the amount of traffic and the vehicular transactions that occur within a twenty four hour time period.

This pavement is owned and maintained by the Missouri Department of Transportation (MoDOT) and is generally in good condition and well maintained. Natural Bridge Road does serve as an alternative route to I-70 when traffic incidents close lanes on I-70. During these incidents the traffic volumes increase above average volumes.

EXHIBIT 2.29: ALIGNMENT

EXHIBIT 2.30: PAVEMENT CONDITION

Source CH2M HILL

Alignment Amenities Features:

The traffic movement on Natural Bridge Road, for most part is unobstructed except at signalized intersections and median locations at specific locations within the corridor. The intersections at Lucas and Hunt Road and at Clearview Drive/West Drive are regulated with median structures that guide traffic movement into high traffic area turning motions. The median at Lucas and Hunt Road, a more dense commercial area, does restrict ingress and egress at certain retail locations.

Utility Corridors:

Above ground utility services is generally located on both sides of the Natural Bridge Road corridor and serve development from both the north and south sides of the alignment. These services create a visual impediment to the corridor generally and their physical presence obstructs visibility along the travel way. Placing these services underground would have a positive visual impact on the corridor and provide a safer environment for pedestrians and drivers. Utility locations in retail/commercial developed parcels around Florissant Road and the Lucas and Hunt Road area have utilities located at the rear of the buildings along Pasadena Boulevard as well.

Other utilities such as gas and water are located in the curb lane or along the curb lines of the existing travel way. The existing facilities are adequate for current development but will need to be assessed for ability to serve changes in land use.

Existing Natural Bridge Road MetroLink Station:

The University of Missouri is served by two MetroLink Stations within the campus boundaries, one on the east side of the north campus and the other located at Natural Bridge Road serving the south campus (See Exhibit 2.31). Campus parking lots are built adjacent to these two stations and except for this academic investment; no economic benefit is derived for MetroLink at this time. Bus service links the community to the station and serves the communities around the station and the campus. The south MetroLink station at Natural Bridge Road is a significant part of the existing transit infrastructure serving the Natural Bridge Road corridor. Normandy City Hall is located on the west side of the MetroLink station location and benefits from its adjacency to the station.

The MetroLink station located adjacent to the south campus is not landscaped and although the amenities look new and are in good condition, creating green space at this location will enhance rider experience and blend this station into the adjacent land uses. Presently, MetroLink riders wishing to access the station from the east cut through the City Hall parking lot demonstrating a need for pedestrian access at this location.

EXHIBIT 2.31: SOUTH METROLINK STATION LOCATION

Source Google Earth Pro

EXHIBIT 2.32: SOUTH METROLINK STATION

Source CH2M HILL

Existing Park and Conservation Areas:

There are no existing parks adjacent to the Natural Bridge Road corridor within the study area. There are however several locations of green space which offer an opportunity to develop "people places" or "gathering places" in association with proposed street improvements and amenity updates. These green areas are identified here:

Natural Bridge Road at Clearview Drive/West Drive:

Open land defines the entrance to the north campus of the University of Missouri site. Portions of this land are used for retention of water. The area south of the Science Complex has been planned by the University for major redevelopment. However, low impact development techniques can be applied in this area to effectively deal with storm water issues and may supply green space in the area. Review of land use in this area also allows for the creative reuse of land on adjacent parking lots and will improve pedestrian movement in the area.

EXHIBIT 2.33: NATURAL BRIDGE ROAD AT CLEARVIEW DRIVE

Source Google Earth Pro

Natural Greenway at Natural Bridge Road and MetroLink Station:

The Bellerive community established and manages an approximate 20 acre bird sanctuary. This natural area is comprised of a heavily wooded landscape and wildlife haven surrounding the northern part of the Bellerive community and extending southward through the neighborhood providing a beautiful landscaped and secure environment for both the property owners and the flora and fauna populating the sanctuary.

EXHIBIT 2.34: NATURAL GREENWAY AT NATURAL BRIDGE ROAD

Source Google Earth Pro

Natural Bridge Road at Florissant Road (the Wedge):

The existing wedge area is a typical concrete curb, pavement and median design without any consideration given to landscaping or aesthetics. This site is an excellent opportunity to add green

space to soften the surrounding structures and to provide a safe haven for pedestrians crossing at this location. If this location is designed as a roundabout location or as a "T" intersection; landscaping and public amenities can make this area more safe and pleasing to all.

EXHIBIT 2.35: NATURAL BRIDGE ROAD AT FLORISSANT ROAD

Source Google Earth Pro

Existing Access and Parking

Access Conditions:

Existing land uses conditions influence access and overall driving conditions along the corridor. It is common in this market for residential housing with driveways at the curb to be located immediately adjacent to commercial or institutional uses with heavier ingress and egress demands. These land use conditions influence the number of access points present along the corridor and influence traffic flow. In addition, each commercial property, although many are contiguous, have been developed with their own access points and no consideration has been given to reciprocal ingress and egress or the consolidation of access points along Natural Bridge Road. By cooperatively controlling ingress and egress internally on development sites it is possible to improve site circulation and reduce access points along Natural Bridge Road.

The Exhibits 2.36, 37 & 38 emphasizes the need for land use driven assessment and problem solving discussions related to existing access points and the impact new right of way conditions being proposed along the Natural Bridge Road corridor will have upon all market sectors in the area. Ingress and egress from multiple parcels of land will influence the effective reuse of land and optimize land usage and value along the corridor. Land that will result from reducing pavement width will need to address access as a critical element of the overall road functions in the area.

Natural Bridge Road existing access conditions from Lucas and Hunt Road to Clearview Drive/West Drive are complex and varied. Access to the roadway is unrestricted at this time resulting in numerous access points along the frontage of each parcel facing the corridor. Land uses dictate the amount of traffic generated at each property including retail, institutional, academic, and residential needs all requiring access.

Natural Bridge Road between Clearview Drive/West Drive and the MetroLink Tracks

This section of the study area is substantially developed with residential homes and institutional property including a few residential homes that have been converted to institutional uses. The former residential parcels have been purchased, updated, and for the most part the existing structures and land configuration remains the same including the location of access points that once served residential needs. This effective reuse of existing land uses; however, the result is different uses of the access points that what was originally intended along this section of the corridor.

Natural Bridge Road between the MetroLink Tracks and Florissant Road:

Development in this area consists of institutional and commercial access on the south side of Natural Bridge Road and a mix of commercial and residential access points located on the north side of the street, west of St. Ann's Lane. While there are a few clusters of access points that can be combined, the area for the most part has well controlled access.

Natural Bridge Road between Florissant Road and Lucas and Hunt Road:

Access in this area is primarily related to commercial needs including automobile and truck access onto Natural Bridge Road. In this area there are several commercial developments have parking in front of the property requiring access that impacts traffic flow on Natural Bridge Road. Larger, box

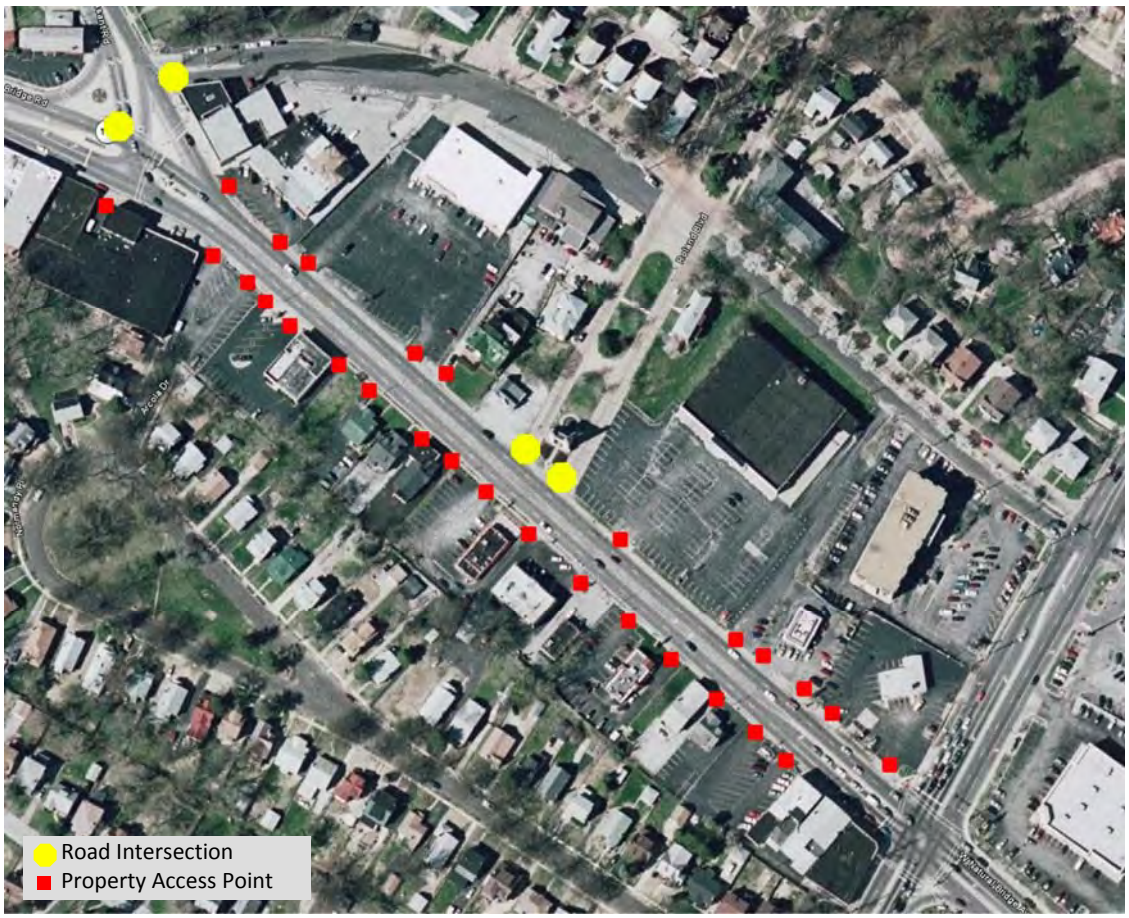
EXHIBIT 2.36: CLEARVIEW DRIVE/WEST DRIVE AND THE METROLINK TRACKS

Source Google Earth Pro

EXHIBIT 2.37: METROLINK TRACKS AND FLORISSANT ROAD

Source Google Earth Pro

EXHIBIT 2.38: FLORISSANT ROAD AND LUCAS AND HUNT ROAD



Source Google Earth Pro

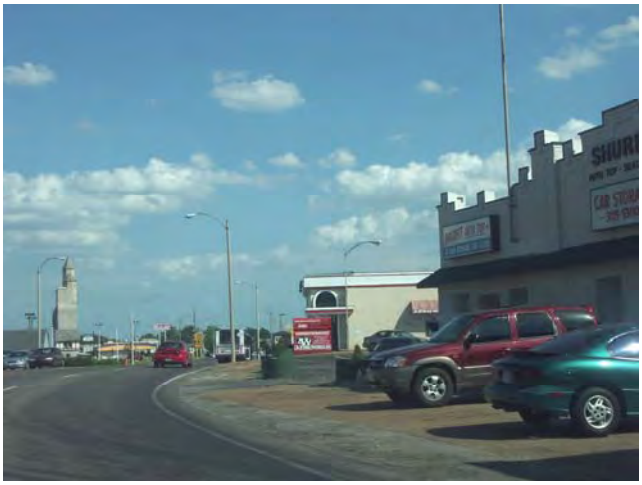
stores have developed on the north side of the road. There are several curb cuts that impact the road due to development occurring as separate parcels over time. Elevations in the area have also dictated where entrances were located toward Lucas and Hunt Road. Many of the access points are confusing. On the south side of natural bridge, the mixed of buildings and reuse of buildings has resulted in multiple access points that impact Natural Bridge traffic flow, as well as safe pedestrian movements.

Natural Bridge Road existing access conditions from Lucas and Hunt Road to Clearview Drive/West Drive are complex and varied. Access to the roadway is unrestricted at this time resulting in numerous access points along the frontage of each parcel facing the corridor. Land uses dictate the amount of traffic generated at each property including retail, institutional, academic, and residential needs all requiring access.

Commercial Access

All commercial uses have one or more access points making it difficult for ongoing traffic to flow smoothly and reducing pedestrian safety along the Natural Bridge Road. For instance, exhibit 2.39 shows the area south of the Florissant Road and Natural Bridge Road intersection illustrating a continuous access at retail locations complicating corridor traffic flow at the location of customer parking immediately adjacent to the traffic. Depending upon the amount of ingress and egress created by such retail location, the main traffic flow movements along the main corridor may be impacted.

EXHIBIT 2.39: EXAMPLE OF COMMERCIAL ACCESS POINT



Source CH2M HILL

Residential Access

Residential neighborhoods are composed primarily of pre-World War II construction. Some neighborhoods are developed as planned communities with wide boulevard entrances and well landscaped corridors throughout the development. The overall layout of these subdivisions included cul-de-sac street design resulting in funneled ingress and egress to main corridors such as Natural Bridge Road. This interior subdivision road layout clearly impacts access points within the study area at residential location.

EXHIBIT 2.40: EXAMPLE OF RESIDENTIAL ACCESS POINT

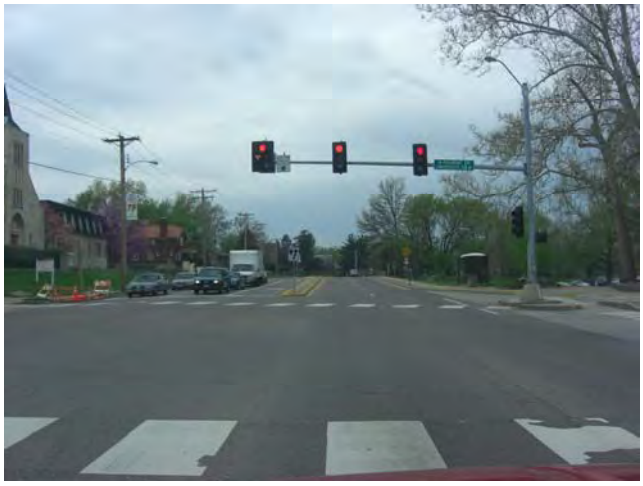
Source CH2M HILL

Institutional Access

Institutional development along Natural Bridge Road is significant and varied depending on the uses of the site and the population accessing the areas. Institutions included:

- St. Vincent's Germanic Home at Natural Bridge and Florissant Roads
- St. Ann's School and Church Grounds on the south side of Natural Bridge Road

EXHIBIT 2.41: EXAMPLE OF INSTITUTIONAL ACCESS POINT



Source CH2M HILL

- Normandy School on the north side of Natural Bridge Road
- University of Missouri located both north and south of Natural Bridge Road
- Normandy City Hall on the south side of Natural Bridge Road
- Post Office on the south side of Natural Bridge Road, east of Oakmont
- The St. Louis County Library Normandy Branch on the south side of Natural Bridge Road
- Sisters of the Good Shepherd complex on the South side of Natural Bridge Road
- United Methodist Church

Each of these institutions generates significant traffic and impact vehicular traffic movements in the corridor. At the main intersection to the UMSL campus on the north side of Natural Bridge Road merges with church and residential traffic on the south side of the corridor. Due to the complex land uses along Natural Bridge Road, such traffic combinations are typical.

Existing Right of Way Conditions

Within the existing corridor, between Lucas and Hunt Road and Clearview Drive/West Drive, right of way conditions on the north side of Natural Bridge tend to be terraced adjacent to the roadway alignment. At the intersection of Lucas and Hunt Road (northwest side) grade changes occur which have resulted in retaining wall structures and uneven access points between parcels of land. These grade differences continue from Lucas and Hunt westward to near the Florissant Road intersection, where the topography becomes less sloped.

Exhibit 2.42: Topography

Source CH2M HILL

Exhibit 2.42 shows the example of residential areas on the north side of Natural Bridge Road near Oakmount Avenue, are at a higher elevation than the area adjacent to Natural Bridge Road. Pedestrian access has been provided by concrete stairs that terminate at the top of the sloped area. These stairs make it convenient for pedestrians to move from street elevation to the residential neighborhood, however, these stair structures are not legally accessible pursuant to current design standards according to ADA. Clarification of maintenance will need to be defined and spelled out for these access points in the future.

Fences have been constructed in various residential locations along the corridor and appear to be on private property although survey of this area may indicate some encroachments which will need to be address during the redesign of Natural Bridge Road.

Elevations on the south side of Natural Bridge Road tend to be move level with few grade changes requiring retaining wall structures. This condition remains throughout the corridor for the most part. The only serious grade change on the south side of the street occurs at the Normandy City Hall site just east of the MetroLink station. The City Hall building and parking sit lower than the Natural Bridge Road elevation and appears to have been excavated during construction.

Existing Parking Conditions

Parking availability is limited primarily to private property. Each commercial and institutional site contains parking ratio spaces based on the square footage of the buildings pursuant to village, city or St. Louis County parking requirements. Many commercial buildings, especially located on the south side of Natural Bridge Road, are situated very close to the right of way and parking in front of these buildings cause unsafe ingress and egress issues as shown in the Exhibit 2.43. In this example, additional parking is provided at the rear of the building allowing for deliveries and employees to park in designated locations.

EXHIBIT 2.43: EXAMPLE OF COMMERCIAL PARKING

Source CH2M HILL

Existing Market Conditions

The Natural Bridge Road corridor within the stated study area and the general market area around the study area is changing in land use and values on a steady and continuous basis. These changes will impact the area in the future and will dominate public and private interest in investment. The market being discussed here is the "immediate" market locations that are within the general vicinity of the subject corridor.

The market composition with the immediate market locations include a complex array of land uses including:

Residential Neighborhoods

Residential Neighborhoods are composed primarily of pre-World War II construction. These residential neighborhoods range from planned suburban environments with tree lined streets, landscaped entrances, public art, and grand portal structures to small ranch homes. All residential property is aging and is subject to the downturn in residential property prevalent at this time. At the present time there is little vacancy although residential property facing Natural Bridge Road is subject to land use and zoning variances converting former residential property to office/commercial uses. UMSL too, has assembled some residential property along the frontage facing the north campus and those former residences are being used for office and administrative buildings. Due to the internal street design of most neighborhoods in this area, large tracts of housing have limited access points along Natural Bridge Road. When originally designed, the street layout was planned for privacy and security purposes, now these interior streets are subject to maintenance and upkeep costs that may not be easily achieved. In some instances, the maintenance of the infrastructure, landscaping, and other amenities created for planned communities will devalue land values if not property maintained.

Commercial Development

Commercial uses are composed primarily of small, clustered neighborhood shopping areas.These commercial areas are aging and in some locations are experiencing vacancies and high maintenance costs. In all cases the commercial shopping areas within the immediate market area are 1950 to 1970 vintage and in need of redevelopment and releasing. Overall, the decline in business is due to:

- Wide market demographic conditions
- Age of structures
- Distribution of traffic and easy access to older market areas
- Lack of tenant mix analyses and determination of what consumers want
- Perception of safety
- Alternative choices for shopping
- Inconvenient parking and access to commercial shopping area
- Lack of immediate highway access and visibility

Any of these conditions can impact consumer confidence in shopping locations in the immediate market area and all of these conditions apply to the available shopping in the area.

Institutional Development

Institutional development within the immediate study area includes UMSL, St. Ann's Church and School, St. Vincent Germanic Home, Post Office, St. Louis County Library, Sisters of the Good Shepherd and the City of Normandy. These institutions have a positive impact on the area and are significantly responsible for the stability in the area. Each institution is responsible for bringing transient markets to the area by attracting students, parishioners, and those supplying goods and services to the various locations. Each person accessing these institutions that does not live within the immediate market area is important to the long term sustainability of the area. Because these institutions are located midway between Lucas and Hunt Road and Clearview Drive/West Drive, the movement of consumers within the corridor is of great importance as well as parking, pedestrian and bike access, and safety.

Changing Market Dynamics:

There are four major market dynamics that have a great influence on the immediate market area and have generated the security and investment potential now taking place within the area. These forces include:

- **University of Missouri –** the investment and political influence of the university cannot be understated as this institution continues to grow and invest at this location, enhance facilities, and provide services to students and the community
- **MetroLink –** a major regional investment in infrastructure that remains an important market growth element providing linkage to the airport, downtown, and Clayton that otherwise would not be provided to the immediate market area. MetroLink provides transit market capacity to the immediate market area
- **New Investment –** the financial commitment of Express Scripts and other new and planned commercial development is an indication of land availability and access to I-70 and MetroLink as strong market indicators in the immediate market area. Planned and ongoing investment and development of commercial property strengthens the immediate market area and adds stability to the area
- **Availability of Land –** an essential element in any redevelopment area, large tracts of land such as the Express Script site are available due to the effective reuse of property such as the various country club grounds that are scattered within the immediate market area. These land assets provide strategic locations for reinvestment and market growth

As the University grows and new development continues to occur, the market will strengthen. The challenge will be the effective movement and direction of transient markets to the commercial and retail areas within the immediate market area that will benefit from and be sustained by the addition of people and expendable income. Providing a means to direct consumers to specific locations and the ability to provide the goods and services required by those peoples are the planning and implementation challenges for the area.

This challenge, as identified, is classical within emerging markets and the more creative the solutions, the more successful the redevelopment options. Those elements that make a difference in market penetration in the immediate market area include:

- MetroLink – capable of bringing people from the airport, downtown, Clayton, and South County

- Opportunity: create a dense area of shopping and dining that has unique characteristics and promotional merit that is oriented around the MetroLink Station south of Natural Bridge Road along the south side of Natural Bridge Road to Lucas and Hunt Road
- Great Streets Initiative – capable of creating a market driven major corridor environment that encourages alternative transportation choices and an environment that facilitates investment
- Opportunity: create a walkable community environment supported by safe and sufficient parking to support market resources that rely on highway and street access.

City support provides interaction with state and federal entities capable of funding additional infrastructure in the immediate market area. Cities in the area have the ability to enter into intergovernmental agreements that can master plan the area and coordinate redevelopment opportunities consistent with market demand and available funding resources across village and municipal boundaries.

Challenges and Opportunities

Challenges:

Based on existing conditions within the primary study area, there are many important features that can stimulate ongoing growth and market strengthening in this market area. In order to assess those opportunities it is important to understand challenges as well and to plan for certain conditions that may result in obstacles to be overcome. The following list of challenges is intended to prompt an understanding of their impact and potential for impeding progress as well as stimulate discussion about these issues that may be dealt with within an implementation plan:

- Global and national market conditions that impact the value of money in the world market and affect investment overall
- Availability of federal funds to support infrastructure and redevelopment
- Interest in enhanced infrastructure and economic development at a State of Missouri level
- Ability of various agencies, such as Metro, to attract funding for projects including station planning and TOD development opportunities
- Participation and cooperative planning of multiple communities and St. Louis County
- The ability of owners and stakeholders within the market place to come together in an overall plan for the area that includes infrastructure enhancement and development concepts that will facilitate new investment and improve economic conditions
- Buy in and cooperation among land owners to facilitate the redevelopment of land
- Stability of the housing market regionally

Opportunities:

To date, much as been accomplished to stabilize and sustain investment, within this market area. The accomplishments have include extensive effort by UMSL to not only plan but implement their land related plans based on the needs of the university and its long term investment in the community. These efforts alone have brought great stability to the market place and have extended beyond the campus boundaries to include private development opportunities such as the Express Scripts development.

Religious institutions have an historic presence in this market that remains strong and committed to this day. Reaching back to the early 1800's these institutions have remained involved in the community in many ways and their land holdings and social assets add value to the overall corridor environment.

The City of Normandy and other adjacent communities participating in this effort have remained involved and interested in improving the market area and has worked to that end through their efforts to attract and retain commercial development. The city's interest in new ideas and participation in future planning and implementation strategies for project such as the Great Streets Initiative will go a long way to preserve and sustain the best of the community. Specific opportunities that exist in the market place today include:

- Existing and ongoing investment by the University of Missouri

- Private developer interest in the area and committed financing in building and improving prioritized development sites
- Great Streets Initiative
- Availability of land
- A community desire to make things better
- Investment in enhancements of the public space and infrastructure by villages and municipalities

At the present time there is great opportunity in those conditions that exist today. Conditions that can negatively impact the market area, such as decreasing residential land value, can overall be solved without disrupting the entire basis for redevelopment.

Secondary Study Area Overview

The secondary study area extends along Natural Bridge Road between Hanley Road on the east and I-170 on the west (Refer Map 1.1 Study Area extents). This area is composed of a collection of land uses including residential; retail; commercial; and government buildings.

The purpose of this section is to provide an overview of the area described above due to its market relevance and immediate adjacency to the primary study area. The descriptions described below are based on site observations while driving Natural Bridge Road in this area, market research, and stakeholder interviews.

Existing Conditions

Observations:

Unlike the primary study area, this portion of Natural Bridge Road has several areas of significant grade change on the south side of the road impacting the overall development patterns and access in the area. The development patterns have further been impacted by the placement of a Tax Increment Finance (TIF) District at the west end of the corridor which has not resulted in the redevelopment of the area (during a stakeholder interview it was mentioned that this TIF district is approximately 10 years old which greatly diminishes the value of the TIF). Originally, this TIF district facilitated the acquisition and demolition of several structures which remain open and unimproved property at this time. Due to the age of the TIF, any redevelopment opportunities that may occur here will require revisiting the district boundaries and bond repayment periods.

Overall, predictable development patterns have occurred at the I-170 interchange including office warehouse, airport parking facilities, and an aging retail shopping center. Power lines and other utility structures are also located in this area running parallel to the I-170 corridor.

Pavement design along this portion of Natural Bridge Road varies with the intersection at Hanley Road being approximately 65 feet in width. The western sector of the road includes a median running for approximately 2,300 feet from Lada Avenue on the east to Springdale Avenue on the west. The median pavement width varies from approximately 62 feet at Lada Avenue to 95 feet at Springdale Avenue. The median structure, for the most part, is located along the retail shopping center frontage providing access management in this area as well as a grassed lawn between lanes. On-street signage in this area includes state and local traffic management and private property identification.

Market Research and Stakeholder Interviews:

Since the 2000 census there has been an approximate 6% decline in population in Bel-Ridge impacting quality of life for residential neighborhoods in the city. And, although some homes seem to be solid brick structures, the general appearance of the city is one of declining residential values. The population density in the city is 3,572 people per square mile indicating that the development of small homes clustered around narrow streetscapes typical of pre-World War II development dominates the residential land use patterns. The homes are not well maintained for the most part and the area appears to be in need of assistance to upgrade and maintain the structures.

Approximately half of the residences in Bel-Ridge are tenant occupied while one fourth of the structures are vacant consistent with the loss of population and overall decline in property maintenance in the area. Redevelopment of all or a portion of these neighborhoods would require extensive acquisition and relocation efforts in order for updated land use and for redevelopment to occur.

Commercial development within this study area is small and supported by access, parking and signage on each parcel of land. The development of retail along this corridor has been impacted to some extent by the shallow depths of property sites created by residential neighborhoods located on or very close to the Natural Bridge Road right of way. The placement of multiple commercial establishments close together but each located on separate parcels has created numerous access points along the corridor and adds to the cluttered look of the street overall.

A larger strip center is located on the northeast quadrant of the I-170 and Natural Bridge Road intersection (Exhibit 2.44). Due to grade changes this long narrow series of contiguous structures (Hood's is free standing and not physically connected to the strip center structures) sits partially below grade on the east end of the property. In view of the construction materials used, the property appears to be around 35-40 years old and is experiencing high vacancy at this time. The development is anchored on the west end by a free standing Hood's store and a service station. Multi-family housing has been located immediately to the north of the center buffering the single family housing around the shopping center. The center is in need of redevelopment and releasing activities in order to sustain its presence in the market place.

EXHIBIT 2.44: STRIP CENTER

Source Google Earth Pro

The St. Louis County Housing and Urban Development (HUD) offices are located on the north side of Natural Bridge just east of the shopping center. This multi-story office building is served by a surface parking lot facing Natural Bridge Road. Due to the nature of services provided at this location, a significant amount of traffic is generated on a daily basis.

Constraints and Opportunities

Constraints within the secondary study area include the following elements:

- Convoluted Land Use patterns
- Lack of master planning
- Residential areas close to the secondary corridor limiting commercial expansion without acquisition and relocation of residential property
- Declining market base
- Aging structures
- Grade changes that impact development (south side)
- High tenant occupied residences
- Numerous small residential and commercial parcels lacking upkeep and long term maintenance
- Design obsolete residential and commercial structures

Opportunities within the secondary study area include the following elements:

- Well maintained Natural Bridge corridor intersecting with I-170
- City interest in improving
- St. Louis County HUD office building located in the area
- Regional interest by adjacent municipalities and stakeholders to work together to improve the area

The possibilities for redevelopment of this area are complicated and will require years of strategic implementation planning. Investor markets are not ideal at this time and the added burden of assembling residential neighborhoods as well as old and potentially contaminated commercial properties in order to invest in the area makes this area questionable for immediate redevelopment. The assembly process is further complicated by the number of properties needed to assemble acreages due to the configuration, depth and size of lots, both residential and commercial.

The Bel-Ridge community does enjoy the benefit of a major highway interchange at I-170 and Natural Bridge Road. Additionally, the city and its neighboring municipalities are interested in improving the status and quality of life at this location and with thoughtful, marketing driven planning, it is possible to identify those areas within the Natural Bridge Road corridor that can be planned and advanced in the market place for redevelopment. This planning process provides an opportunity to fully understand market demand and to prioritize redevelopment sectors that will appeal to investors while creating future opportunities for additional redevelopment in Bel-Ridge.

Potential Redevelopment Areas

Primary and Secondary Study Areas

In preparing the existing conditions analyses, certain areas standout as potential redevelopment areas based on the relationship of residential, commercial, and institutional land uses in the area. These areas are identified here generally and do not assume to be more than indicators of potential investment areas as they sit within the market place today. This summary of potential redevelopment areas, as shown in Exhibit 2.45, do not anticipate acquisition issues, additional land, infrastructure needs, or any other development needs.

EXHIBIT 2.45: POTENTIAL REDEVELOPMENT AREAS

Source Google Earth Pro

Summary

Natural Bridge Road is a wide, under-utilized corridor serving a diverse mix of residential, commercial, and institutional traffic. Given its width and lane configuration the 10,000 to 20,000 cars per day traffic count exemplifies the roads over built condition. The street is also served by a MetroLink Station located approximately midway between Lucas and Hunt Road and Clearview Drive/West Drive, the study area for this report.

Generally, the study area has few parks and green spaces except for a bird sanctuary in the Bellerive neighborhood. Therefore, a review of possible green space along the Natural Bridge Road corridor suggests that as design is considered for this right of way, there are locations along the road that may allow for green spaces that will enhance the alignment's physical environment.

Access is an important issue for the Natural Bridge Road corridor and due to the complex markets being serviced by the road, access to residential, commercial, and institutional properties will need to be carefully assessed. The possibility of combining access points and providing for access agreements between two more commercial properties for instance, may be needed in order to maximize road function and increase commercial activity.

Parking is limited to private property due to the status of Natural Bridge Road which restricts street parking along the corridor. As with access, a review of the existing parking patterns analyzed along with market demand for parking will be required in order to understand creative ways through parking management to provide parking and enhance the overall market conditions.

Land use in this area is dominated by institutional purposes and their land uses will continue to grow and influence the market area. Any redesign of right of way characteristics will require an understanding of present as well as future institutional and commercial needs and function and the way these elements of the right of way impact design overall. Careful attention to the preservation of historic land uses and the need to e incorporate these structures into any design concepts for the corridor is essential.

Overall, market shifts in the area and the strong influence the university, commercial, and religious institutions have on the area cannot be over stated. Large portions of land in this area is projected to remain in present owner control on a protracted basis and except for any residential fluctuations that may occur related to value and availability of property, the Natural Bridge Road corridor will become a steadfast market place for public and private investment consideration.