



04

PAGE AVENUE TODAY

The consultant team for the Page Avenue Great Streets Initiative was further charged to perform a series of assessments and reviews on the existing conditions of Page Avenue. These assessments range from an engineering evaluation of the existing traffic volumes and levels of service to a more observational public realm analysis and public life survey. The assessments were conducted to provide the team with (1) a clear record of the existing on-the-ground conditions of the street today, (2) an analytical understanding of how traffic and other circulation is occurring throughout the project area, (3) a general sense of the market realities surrounding future development of the corridor, and (4) a refined understanding of the opportunities along Page Avenue. This section of the report is dedicated to the documentation of that process, and its purpose is to formulate a set of opportunities and constraints by which the Detailed Street Plan would operate.



LOW ALTITUDE AERIAL PHOTOGRAPH OF PAGE AVENUE

FRAMING THE PROJECT AREA WITHIN A PLANNING CONTEXT

When asked “If you don’t walk on Page Avenue, then why don’t you?” community survey respondents said...

30.8% *said they drive a car*

9.7% *said they had safety concerns*

8.3% *said there were no sidewalks*

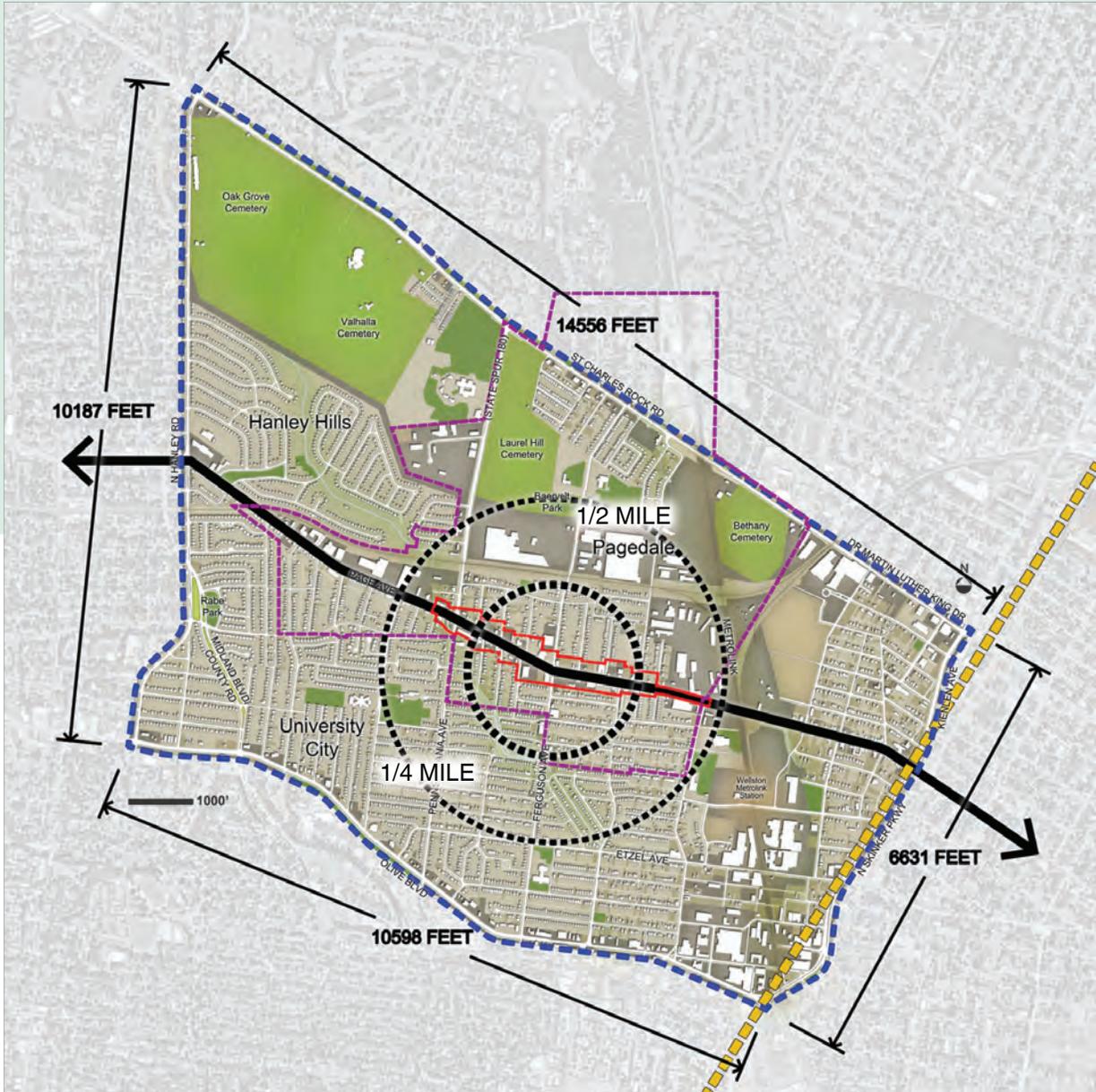
8.3% *said there was no reason to*

8.3% *said they did not live in the area*

0.7% *said there was too much traffic*

As our team began to analyze the existing conditions of the project area for the Great Streets Initiative, it became important for us to frame that area within a broader context. On the one hand, a detailed street-level analysis of every curb, trip hazard, and stormwater inlet will be critical to the final design of the project. However, on the other hand, understanding the role that Page Avenue assumes within this broader context will ensure the necessary cross-municipal relationships, regional connectivity, and strategic positioning necessary to ensure the success of the plan.

In one simple example of this planning approach, our transportation engineers conducted a detailed analysis of the traffic volumes, signalization, and capacity of the roadway for Page Avenue. This was conducted at every intersection from North Hanley Road to Skinker Parkway, extending significantly beyond the project area. This broader analysis of Page Avenue would provide the consultant team with a holistic understanding of how Page Avenue operates today within the regional transportation network, while also ensuring that decisions made at the smaller scale would not compromise that role. The following analysis is representative of this approach.



MAP OF THE CONTEXT AREA WITH ASSOCIATED BOUNDARIES

COLOR LEGEND

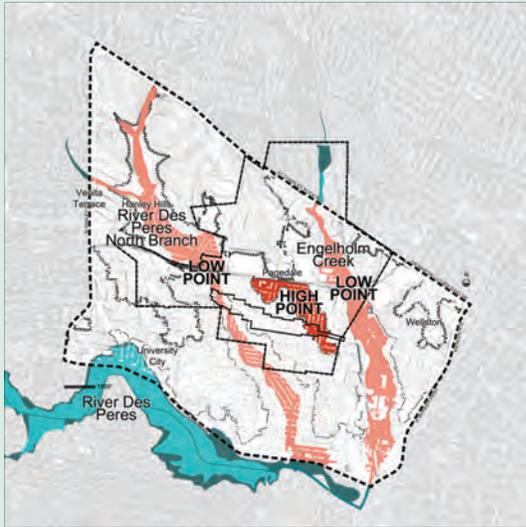
- Project Area Planning Boundary
- Context Area Planning Boundary
- City of Pagedale Municipal Boundary
- City of St. Louis Municipal Boundary

CONTEXT AREA BOUNDARY

The "Context Area" is defined as the area bound on the north by St. Charles Rock Road / Dr. Martin Luther King Jr Drive, on the east by North Skinker Parkway / Kienlen Avenue, on the south by Olive Boulevard, and by North Hanley Road on the west.

Basic Details:

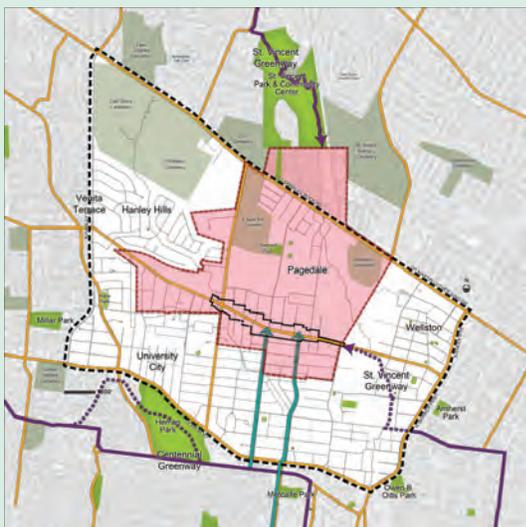
- Total Acreage of the Context Area = 2,261 square acres
- Total Perimeter of the Context Area = 8.11 Miles
- Length of Page Avenue within the Context Area = 2.5 Miles
- Total # of Intersections within the Context Area = 14



MAP OF TOPOGRAPHY & WATERSHED HIGHLIGHTS



MAP OF OPEN SPACE SERVICE AREAS



MAP OF REGIONAL BICYCLE CONNECTIVITY

Topography & Watersheds

When looking at the topography of the context area, it is important to note that the area is bisected by two creeks which end up feeding into the River Des Peres system. At the east end of the project area, the River Des Peres North Branch is daylighted and crosses Page Avenue; and on the west end near Ogden Avenue, the Engelholm Creek heads south and joins the same system. These creeks are the likely cause of the high water table and known drainage issues in the area; which for instance, have resulted in the need for residents living in the neighborhoods to utilize sump pumps. Furthermore, there is a high point in the natural topography which occurs near Gruner and Gregan Place. This would signify that the majority of natural water run-off would be heading west through the project area. This high point offers positive features such as a broad view shed for vehicles headed into the district, while also creating pedestrian conflict points due to limited visibility over the hill.

Parks & Open Space

When looking at open space coverage within the context area, it is important to note that the project area falls within a fairly underserved area. Firstly, when applying national standards for walkable park service areas (1/4 mile for pocket parks and playgrounds and 1/2 mile for neighborhood parks); it is clear that the project area lacks access to these types and scales of spaces. With respect to larger parks and open spaces, the area falls within the service area (3.5 mile driving radii not shown) of two major community parks, St. Vincent and Heman Parks; however, these parks are not walkable and fall far beyond the distances in which a resident would likely walk. Secondly, many streets are disconnected within the neighborhoods due to the creeks, which increases walking distances and isolates the project area even more. Thus, within the project area there is a great opportunity to include small neighborhood or pocket scale parks in the form of a town square, green, or plazas.

Greenways & Trails

When looking at connectivity and recreational opportunities for bicycles within the area, it is important to note that the City of Pagedale falls within a fairly significant gap in the regional network. In particular, to the north of the area much of the St. Vincent Greenway has been constructed in and around the UMSL campus. To the south, portions of the same greenway have been completed along Etzel Avenue and through Porter Park onto Debalivere, where the greenway will eventually connect to Forest Park. Additionally, the Gateway Bike Plan (completed in 2011) calls for wide outside lanes on Page Avenue as a minimum operating condition; and bike lanes on Ferguson Avenue and Kingsland Avenue included in the University City Bicycle & Pedestrian Master Plan are still pending adoption which leaves implementation uncertain at best. Thus, within this project, there is a great opportunity to fill in one of the gaps in this regional connectivity and enhance and expand the existing network of on-street bicycle facilities.



MAP OF EXISTING METROLINK & METROBUS COVERAGE



MAP OF MUNICIPAL BOUNDARIES & ZONING DISTRICTS



MAP OF EXISTING STREET NETWORK & KEY INTERSECTIONS

Metrolink & Metrobus

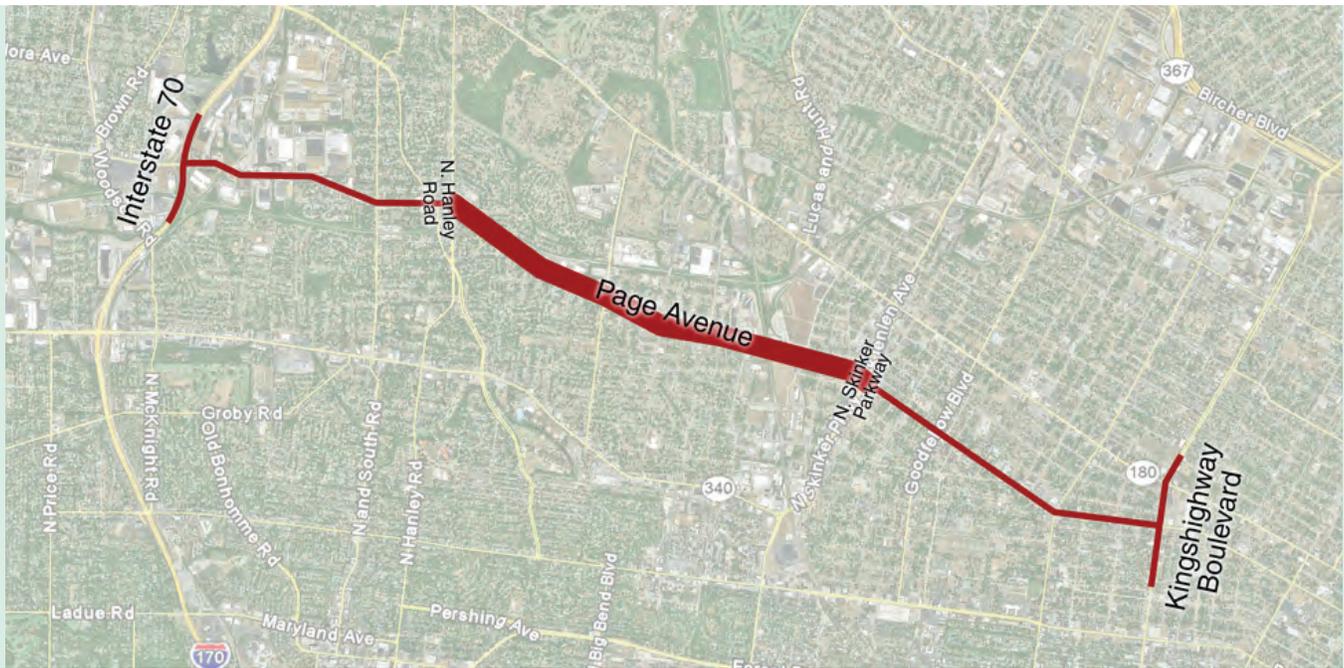
When looking at the transit connections within the context area, it is important to note that both Metrobus coverage and access to Metrolink are incredibly good for the project area. The area is located within one (1) mile of both the St. Charles Rock Road and Wellston stations, providing great access to Metrolink. The #94 bus provides east-west service along Page Avenue throughout the entirety of the project area, and the #2 bus (not shown) provides north-south service along Ferguson Avenue. Furthermore, the #94 bus provides a direct connection to the downtown Amtrak Station and the Westport Plaza employment center and although headways on the #94 are a little higher than typical routes (22-40 minutes), it is considered a high-priority route for METRO and offers great inter-modal connectivity with the Wellston Metrolink station. Thus, transit coverage and access to transit from the project area are, overall, quite good, which provides opportunity for transit-oriented development.

Zoning & Municipalities

When looking at the jurisdictional characteristics within the context area, it is important to note that the entirety of the project area is located within the City of Pagedale. At the very east end of the Project Area, the street transitions into the City of Wellston and eventually into the City of St. Louis. To the west, the majority of the area remains within the City of Pagedale, where near North Hanley, portions are located within the City of Hanley Hills and Venita Terrace. This condition has little impact on the project itself. However, from a transportation planning level, decisions within the project area may cause “upstream” effects into these municipalities. Described later in this section in greater detail, all private property would be subject to the municipal code Chapter 405: Zoning Regulations, which have limitations on building height, use, and form along Page Avenue. Thus, the City of Pagedale will be the primary regulating entity for the land along the project area.

Street Network & Intersections

When looking at the continuity of the street network within the context area, it is important to note that Page Avenue is the primary regional connector between St. Charles County and the City of St. Louis. Page Avenue (MO Route D) is owned and maintained by the Missouri Department of Transportation (MODOT). Within the regional street classification system for Missouri roads, there are four functional systems for urbanized areas including (1) principal arterials, (2) minor arterial streets, (3) collector streets, and (4) local streets. Page Avenue is considered a principal arterial, along with other streets like St. Charles Rock Road and Olive Boulevard. Thus, it will be necessary to understand the role of Page Avenue as a principal arterial and critical to ensure that its role is not compromised within this broader network. The following section on the next page of this report documents the greater analysis of Page Avenue’s role in that network done by our transportation engineers.



MAP OF THE PLANNING ASSESSMENT & TRAFFIC STUDY AREA

A GREATER LOOK AT PAGE AVENUE IN THE REGIONAL NETWORK

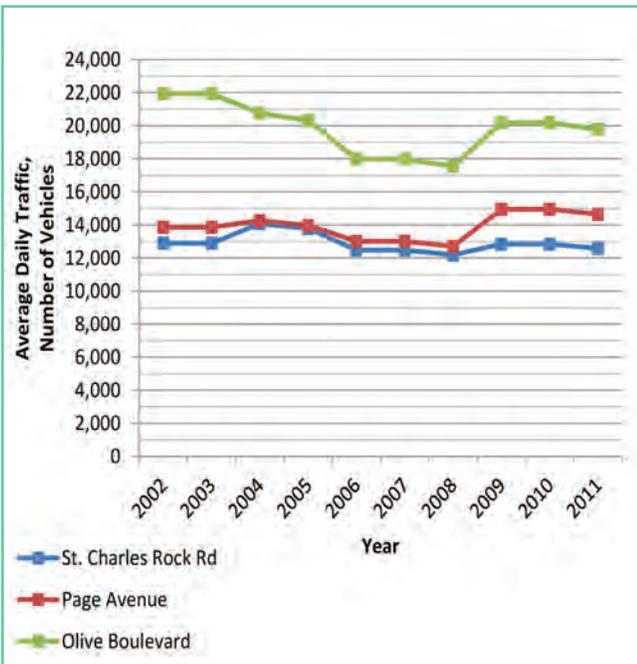
Before developing the vision plan for Page Avenue, it was necessary to establish the existing traffic conditions within the context area. The Great Streets Initiative project area extends from Pennsylvania to Sutter Avenues. However, in order to better understand the function of this roadway within the greater context of the region, a planning-level traffic assessment was prepared in addition to a traffic study. The area-wide traffic assessment summarizes the existing and anticipated future function of Page Avenue between I-170 and the City of St. Louis. This assessment included a review of traffic demands and characteristics within this corridor as well as complementary parallel facilities including St. Charles Rock Road and Olive Boulevard.

Existing Roadways

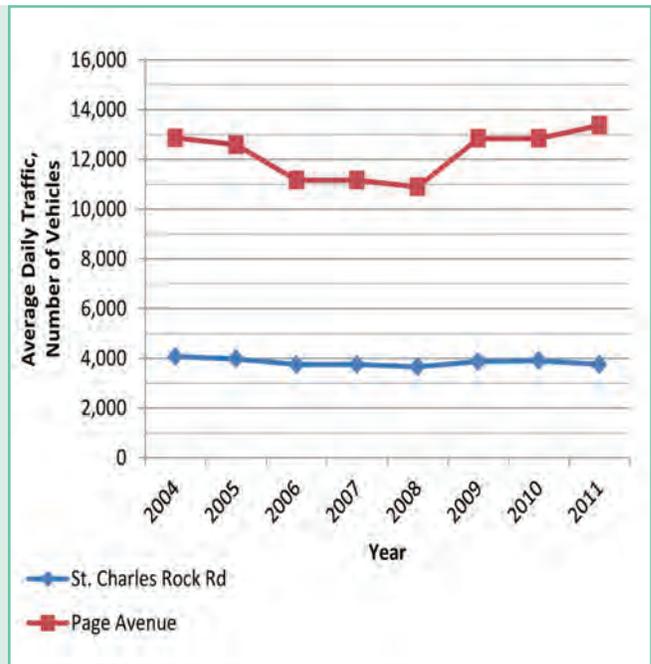
Page Avenue serves as an east-west corridor that currently runs from Mid Rivers Mall Drive in St. Peters to Dr. Martin Luther King Drive in the City of St. Louis. It carries Missouri Route 364 to the west of I-270 and Missouri Route D between I-270 and Kingshighway. In St. Louis County, Page Avenue is located approximately midway between Interstate 70 to the north and Interstate 64 to the south.

Page Avenue is classified by the East-West Gateway Council of Governments as a principal arterial from east of Lindbergh Boulevard into the City of St. Louis. The roadway generally consists of a four-lane cross section, with several segments within the study area providing a fifth center lane to serve left turns. It is under the jurisdiction of the Missouri Department of Transportation.

Page Avenue serves multiple purposes in the area. The roadway is heavily used by local traffic to access the residential streets and commercial land uses adjacent to and within close proximity of the corridor. Numerous businesses in the study area have open-curb access, and parking is provided on the shoulder in many areas. It also serves as a commuter route for east-west travelers and an alternate to I-70 and I-64, particularly during times of construction or incidents when it is utilized by MoDOT as a diversion route. Page Avenue is a favorable option for I-270 and I-170 travelers due to its direct access to these interstates and its direct path into the City. In addition, Page now extends into St. Charles County as Missouri Route 364, offering an additional Missouri River crossing and an eight- to ten-lane freeway.



GRAPH OF AVERAGE DAILY TRAFFIC VOLUMES NEAR PAGE AVENUE



GRAPH OF AVERAGE DAILY TRAFFIC VOLUMES EAST OF KINGSHIGHWAY

Historical Traffic Patterns

Historical traffic counts for Page Avenue, St. Charles Rock Road, and Olive Boulevard were obtained to provide insight on average daily traffic levels and to estimate the amount of growth the City of Pagedale could expect in the near future. Shown above for reference, Olive Boulevard historically carries the highest volumes with approximately 17,000 to 22,000 vehicles per day, while Page Avenue and St. Charles Rock Road each historically carry around 12,000 to 15,000 vehicles per day.

While most pronounced on Olive Boulevard, all three routes exhibited a downward trend in traffic volumes between 2002 and 2008. However, in 2009 all three routes experienced an increase in average daily traffic (ADT). This jump is likely attributable to the I-64 reconstruction project, as the interstate was closed to the east of I-170 in 2009, diverting traffic to alternate routes. Many motorists continued to use the arterial routes after the closure, which resulted in lower volumes on I-64 after its reconstruction than pre-closure.

Based upon these historical traffic counts, it is reasonable to assume that daily traffic volumes on Page Avenue within the study area are likely

to remain steady or decrease slightly for the foreseeable future. Without significant changes in adjacent land use or major constraints on parallel arterial routes, the demands for through traffic on Page Avenue appear to be decreasing slightly over time.

Historical traffic volumes were also obtained for St. Charles Rock Road (which becomes Dr. Martin Luther King Boulevard) and Page Avenue to the east of Kingshighway Boulevard to gain knowledge about traffic volumes on these routes within the City of St. Louis. These traffic volumes are shown above for reference.

While the two arterials carried similar daily traffic volumes near the Great Streets study area, the graph indicates that Page Avenue maintains volumes above 10,000 and typically around 12,000 to 13,000 vehicles per day to the east of Kingshighway, while St. Charles Rock Road (known as Dr. Martin Luther King Drive within this area) carries only approximately 4,000 vehicles per day. These two routes are located very close to each other in this area, which indicates that Page Avenue is the preferred route further to the east within the City.



PHOTOGRAPH OF PAGE AVENUE AT COLBY AVENUE

When asked “Which of the following is most important to have on Page Avenue?” community survey respondents said...

69.3% said they would like wide sidewalks for people to walk on!

23.9% said they would like new lanes for bicycles to ride in!

6.7% said they would like more lanes for cars to travel in!

Traffic Study Parameters

The traffic study evaluated conditions along Page Avenue during the typical morning and afternoon peak periods of weekday commuter traffic. These times represent the critical periods for traffic flow in the study area. It may be reasoned that if traffic can be accommodated during these peaks, then sufficient capacity should be available throughout the remainder of the week. All signalized intersections from Hanley Road to Skinker Parkway were included in the operational analysis, as they encompass the core area and provide a broader context of traffic conditions on each end of the corridor. Including all signalized intersections within the study also facilitated the evaluation of signal operations and traffic progression.

Existing Roadway Conditions

The roadway network was inventoried with respect to existing roadway configurations (the number and type of lanes as well as the length of turn bays), access locations, and traffic control. As stated previously, Page Avenue is owned by the Missouri Department of Transportation and is classified by the East-West Gateway Council of Governments as a principal arterial. Within the context area, Page Avenue is generally a five-lane roadway with two through lanes and a center two-way left-turn lane (TWLTL). There are two segments in which Page Avenue has a four-lane cross section with no center left-turn lane: between Hanley Road and Pennsylvania Avenue and between Sutter Avenue and Ogden Avenue. It has a posted speed limit of 35 miles per hour.

Page Avenue provides access to residential streets as well as both defined driveways and open-curb access to commercial uses throughout the study corridor. There are several segments in which parking is accommodated on the roadway shoulder. Hanley Road and Skinker Parkway are heavily travelled north-south corridors and are classified as principal arterials. The intermediate intersections of Pennsylvania Avenue, Ferguson Avenue, and Ogden Avenue are classified as urban collectors; Sutter Avenue is classified as a local road. All unsignalized intersections along the study corridor are also classified as local roads with the exception of Kingsland Avenue, which is an urban collector. Operational parameters for traffic signals (phas-



PHOTOGRAPH OF PAGE AVENUE AT INTERSTATE 170

ing and timings) were noted since Page Avenue operates as a coordinated signal system. According to the Missouri Department of Transportation (MODOT), these signals will have new timings installed in the near future, though the date of implementation is unknown.

In general, most intersections operate with protected-permissive left-turn phasing (green arrow followed by a green ball indication) with exceptions at Hanley Road and Skinker Parkway. At Hanley Road, Page Avenue operates with protected-only left-turns due to its angled alignment at the intersection. At Skinker Parkway, Page Avenue operates with leading eastbound left turns due to constraints created by the existing signal equipment. It is our understanding that this signal is to be reconfigured in the spring/summer of 2013 to allow concurrent left-turns.

Existing Traffic Volumes

Existing turning movement counts were collected at the six signalized intersections within the study area from 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. on a typical weekday in January 2013 to capture the morning and evening commuter peak periods. The count data was summarized, and peak hours were established for the study area based on the heaviest four consecutive, 15-minute increments. It was determined that the existing morning and afternoon peak hours of traffic flow are 7:30-8:30 a.m. and 4:30-5:30 p.m. While traffic counts were not performed at the unsignalized intersections, it could be assumed that they carry minimal traffic during the peak hours.

Traffic volumes on Page Avenue are generally bi-directional during both peak hours. Page Avenue carries approximately 700-850 vehicles during the morning peak hour and approximately 1,050-1,200 vehicles during the afternoon peak hour. Trucks and buses make up approximately 5% of peak hour traffic volumes on Page Avenue with the composition varying slightly at individual locations. Specifically, trucks accounted for approximately 1.8-3.0% of peak hour traffic, while buses represented 1.8-4.3% of recorded traffic flows.

Intersection / Approach	AM Peak Hour		PM Peak Hour	
	LOS	Delay(s)	LOS	Delay(s)
Page Avenue & Hanley Road (Signalized)				
Eastbound Page	B	18.9	C	33.1
Westbound Page	B	17.9	C	29.2
Northbound Hanley	E	61.2	E	71.8
Southbound Hanley	D	51.6	E	68.5
Intersection Overall	C	33.2	D	49.4
Page Avenue & Pennsylvania Avenue (Signalized)				
Eastbound Page	C	29.2	C	32.8
Westbound Page	B	14.8	B	14.2
Northbound Pennsylvania	D	49.5	D	51.7
Southbound Pennsylvania	D	39.3	D	42.2
Intersection Overall	C	28.6	C	28.7
Page Avenue & Milford Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.2
Southbound Milford	B	10.2	B	10.9
Page Avenue & Griefield Place (Side-Street Stop Controlled)				
Westbound Page, Left Turn	A	0.2	A	0.2
Northbound Griefield	A	9.0	A	10.0
Page Avenue & Colby Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.1
Southbound Colby	B	10.3	B	12.0
Page Avenue & Purcell Avenue (Side-Street Stop Controlled)				
Westbound Page, Left Turn	A	0.1	A	0.3
Northbound Purcell	A	9.2	B	10.1
Page Avenue & Buckner Avenue (Side-Street Stop Controlled)				
Westbound Page, Left Turn	A	0.0	A	0.2
Northbound Buckner	A	9.9	B	11.1
Page Avenue & Leroy Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.2
Southbound Leroy	B	10.6	B	12.2
Page Avenue & Ferguson Avenue (Signalized)				
Eastbound Page	B	16.0	B	17.2
Westbound Page	B	17.1	B	19.6
Northbound Ferguson	C	31.6	D	37.0
Southbound Ferguson	C	31.8	C	24.0
Intersection Overall	B	18.6	C	20.1
Page Avenue & Belrue Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.2
Southbound Belrue	B	10.3	B	11.9
Page Avenue & Woodruff Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.1
Southbound Woodruff	B	10.4	B	11.8
Page Avenue & Kingsland Avenue (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.1	A	0.1
Southbound Kingsland	B	10.5	B	11.2
Page Ave. & Kingsland Ave. Gruner Place (Side-Street Stop Controlled)				
Eastbound Page, Left Turn	A	0.0	A	0.1
Westbound Page, Left Turn	A	0.0	A	0.1
Northbound Gruner Place	B	11.7	B	13.0
Southbound Kingsland Avenue	B	11.4	B	13.3
Page Avenue & Sutter Avenue (Signalized)				
Eastbound Page	A	6.9	A	2.1
Westbound Page	A	1.5	A	1.9
Northbound Sutter	D	47.3	D	43.3
Intersection Overall	A	6.5	A	5.4
Page Avenue & Ogden Avenue (Signalized)				
Eastbound Page	A	2.7	A	2.8
Westbound Page	A	4.2	A	6.5
Northbound Ogden	A	0.0	A	0.0
Southbound Ogden	B	19.5	B	17.3
Intersection Overall	A	4.4	A	5.2
Page Avenue & Skinker Parkway (Signalized)				
Eastbound Page	C	33.2	D	42.1
Westbound Page	C	29.6	D	36.6
Eastbound Skinker	C	27.1	C	21.7
Westbound Skinker	C	34.3	C	26.6
Intersection Overall	C	31.5	C	31.6

CHART OF EXISTING OPERATING CONDITIONS

Existing Operating Conditions

Capacity analyses were performed to quantify existing operating conditions at each of the study intersections. The capacity of an intersection is quantified by Levels of Service (LOS), which are measures that reflect the average delay that motorists encounter at each intersection. Standards dictate that there are six levels of service, ranging from LOS A (“free flow”) to LOS F (“over-saturated”). LOS C, which is commonly used for design purposes, represents a roadway with volumes utilizing approximately 70 to 80 percent of its capacity; whereas LOS D is widely considered an acceptable standard for peak period conditions in urban and suburban areas.

As can be seen on the chart on this page, all of the intersections throughout the context area have acceptable overall operating conditions during the morning and afternoon peak periods (LOS D or better). The northbound and southbound approaches of Hanley Road experience LOS E conditions during the peak hours due to relatively heavy north-south through volumes and the fact that priority is given to the east-west progression on Page Avenue. Within the project area, the signalized intersections of Page with Ferguson and Sutter Avenues operate favorably. In fact, conditions are LOS B or better overall during both peak periods. In addition, all of the unsignalized intersections within the core area also operate at LOS B or better during the morning and afternoon peak periods.

This evaluation of the existing operational conditions along Page Avenue indicates that there is ample capacity for the existing traffic volumes and to some extent a great deal more capacity on the roadway than is currently necessary. In fact, the existing roadway could in many locations serve up to two (2) or three (3) times as much traffic with little or no affect on the service levels throughout the area. In effect, this means that there is an opportunity to reduce the number of travel lanes along Page Avenue and utilize that additional space for place-making. This additional space can be used for beautification measures like landscaped medians, conveniences such as on-street parking, widening of sidewalks, or the addition of transportation modes like bicycles. This place-making component of the roadway is the essence of the Great Streets Initiative.



PHOTOGRAPH OF EXISTING RESIDENTIAL USES ALONG PAGE AVENUE

A GREATER LOOK AT THE ECONOMICS OF THE CONTEXT AREA

The challenges of realizing an economically thriving and revitalized Page Avenue corridor are numerous, but demand for quality, affordable housing is not among them. Rather, it is the economic barrier of delivering housing of the quality and permanence necessary to catalyze economic prosperity—at prices and rents that Pagedale residents can afford—that underlies the greatest challenge to realizing a physical transformation of one of the community’s most visible and prominent streets. This points to the need for subsidies, in some form, to underwrite quality building development that residents can afford. Yet the problems that hinder the economic performance of Page Avenue and Pagedale are more complex and cannot be resolved with physical improvements alone. The poor physical appearance of Page Avenue is symptomatic of unfavorable policies and socioeconomic challenges facing Pagedale residents. It is the physical manifestation of a community with the interrelated problems of low incomes, low educational attainment (on average), the cycle of household poverty, and high unemployment / lack of access to jobs. Fortunately, as previously noted, Pagedale is served well by Beyond Housing, an organization committed to engaging in a holistic set of best practice interventions that involve investments in buildings and people in an effort to set the table for greater future prosperity and economic performance for the community.

Opportunity and Place-Making

One of these interventions (and the subject of this study) involves taking advantage of changing demographics and preferences that make the transformation of Page Avenue—into a walkable, livable, human-scaled street with a strong sense of place—a more marketable, catalytic, and economically viable concept and strategy than it has been any time in at least a generation. Over the past decade, a measurable positive market response has been well-documented in areas with great character and a strong sense of place (i.e., main streets, town centers, walkable neighborhoods, traditional neighborhoods, historic districts, transit-oriented development) in the form of better property appreciation for property owners, greater retail traffic, greater desirability as a location for employers, and greater real estate revenues (which make quality development more economically viable).



PHOTOGRAPH OF EXISTING COMMERCIAL USES ALONG PAGE AVENUE

Economics and Policy: Empowerment without Displacement

These investments in place along Page Avenue can therefore be leveraged, as part of a broader effort, to help stimulate the economy of Pagedale. Sometimes, where placemaking efforts are truly transformative, concerns over gentrification or unaffordable property tax structures are warranted.

Yet, in Pagedale, where (1) median home values are estimated at \$67,000, (2) new construction homes (which cost \$175,000 to build) do not sell for more than \$100,000, and (3) rents are so depressed that developers cannot deliver quality replacement housing, avoidance of best-practice efforts at community building are certain to ensure continued economic stagnation and decline. After all, a property owner is not going to invest in a new \$20,000 roof if that roof presents one-third of their property value and they are unlikely to recoup that investment in the form of a higher resale value. Similarly, a rental landlord is not going to invest in the maintenance of their property if rents are not sufficiently high to cover payment of debt service and operations.

Gentrification is a real concern for many communities, but in Pagedale, continued disinvestment and deterioration represents a far greater, immediate, and real threat. What is needed is a two-pronged strategy: one that helps improve the physical appearance and desirability of the community (thus increasing property values) and one that empowers existing residents with the tools to get more education and earn greater incomes, to ensure they are a part of Pagedale's transformation as opposed to being displaced as a result.

A real estate development strategy can be woven into both efforts. Increased property values lead to households building home equity—the single greatest way middle class families build wealth. Further, as Beyond Housing makes long-term efforts in increasing economic opportunities for its residents (with efforts such as early childhood education), a broader diversity of housing and commerce will be necessary to keep Pagedale's upwardly mobile residents within the community instead of seeking desirable locations elsewhere (as their personal finances improve). In a very real way, improving the economy and desirability of Page Avenue can lead to Pagedale's self-empowerment in keeping its residents and prevent losing them through displacement as a result of gentrification.

Apartments: A Thread in the Tapestry

During the civic engagement process of the plan for Pagedale, a concern emerged around the addition of rental housing. Central among the thoughts expressed by residents were fears over increased crime brought on by renters and high density housing. Yet studies and research show that, when controlling for a number of social variables, rental housing is often unfairly stigmatized—that rental housing does not necessarily bring elevated levels of crime with it. In fact, quality property management—something that Beyond Housing is expert at—is cited as one of the biggest determinants to the degree to which rental housing is associated with criminal activity. After all, rental housing serves a diverse group of residents, the overwhelming majority of which are not criminal. In fact, most people rent at some point in their lives.

Given the conclusion of this study—that rental housing has the deepest market and is, out of necessity, an important thread in the tapestry that is the strategy to revitalize Pagedale—it seems worthwhile for the community to keep an open mind regarding this potential land use.

Real Estate Market Analysis and Market Strategy

Market analysis conducted in 2013 concluded that demand for quality affordable housing in Pagedale and North St. Louis County is deep—almost unlimited. Affordable properties such as Arlington Grove and North Sarah lease-up quickly and often operate with waiting lists. Demand comes from a number of groups, including working families, which are present in unusually high numbers in Pagedale.

But other market segments exist, including seniors and young singles. These latter two groups are generally underserved in Pagedale, because 95 percent of its housing stock consists of single family homes. Smaller housing formats, such as apartments, would help Pagedale retain and attract these two groups.

Market rents for smaller units at these properties have sometimes reached one dollar per square foot—a figure that was perhaps unthinkable at



PHOTOGRAPH OF EXISTING APARTMENTS ALONG PAGE AVENUE

those locations before quality development was provided. The greatest challenge is therefore not market-based, but economically based. Pagedale must compete for a finite amount of tax credits and other incentives to help underwrite the development of housing that is consistent with the quality of housing necessary to project permanence and serve as the catalyst the community needs.

Quality for-sale housing is also in high demand. Yet, recent projects such as Glenechort homes have not performed well, both in terms of sale price and absorption, due to tightened lending standards. This makes the delivery of large amounts of new for-sale housing along Pagedale particularly challenging. Further, subsidies for for-sale housing (primarily through HOME funds) are so scarce that it makes it unlikely that more than five for-sale homes can be delivered to the market in any given year.

Commercial development opportunities have improved considerably with the addition of the new Save-A-Lot store that can serve as an anchor for other retailers and service-oriented stores and vendors. Retail opportunities can be further enhanced with efforts to increase on-street park-



PHOTOGRAPH OF REAL ESTATE FOR SALE ALONG PAGE AVENUE

ing, widen sidewalks and slow traffic speeds, to create an inviting pedestrian realm, as well as improve quality of place, with new, street-oriented buildings and a better sense of enclosure.

Retail tenanting opportunities consist largely of casual (but not fast food) restaurants, coffee and ice cream shops, and a limited number of apparel shops and community services (such as bank branches and a Laundromat).

An opportunity also exists for a health clinic—either along Page Avenue or at Rock Road Metro-link station. Currently, there is a lack of such facilities in the vicinity of Pagedale, and the new Affordable Health Care for America Act (AHCAA) promises to provide health insurance to those who previously lacked it. As a result, communities such as Pagedale will likely represent a growth opportunity for health care providers in the future.

Real Estate Program and Strategy

A real estate program is impacted not only by market demand, but economics. This study concludes that demand for quality affordable housing is almost unlimited. A quality two-bedroom unit with 850 square foot would find many prospective renters in Pagedale if priced at \$650 per month but few if it were priced at \$1,050 per month. Further, a wood-frame construction, three-story walk-up apartment building costs less to build, on a per square foot basis, than a five-story elevator property with concrete frame construction. Therefore, the availability of subsidies and the realities of economics play very strong roles in determining the shape, type, quality, and amount of real estate development possible along Page Avenue. Based on these considerations, it can be determined that the following development program be reasonable over a period of 10 to 12 years.

- **300 to 400 units** of mixed income (and largely rental) housing, generally at a scale of two to four stories
- **20,000 to 30,000 square feet** of inline retail to complement the Save-A-Lot grocery store
- Up to **40,000 square feet** of medically-related space, either on Page Avenue or at Rock Road Station

Market Conclusions

In order to fully transform Page Avenue and convert existing vacant and underutilized properties (including outside storage uses and blighted shopping centers) into higher and better uses, new development must meet and satisfy both market and economic principles. 20,000 to 30,000 square feet of new retail would be transformative in that such development has not occurred in Pagedale for many decades. Effective use of New Markets Tax Credits (NMTC) and/or local programs such as tax increment financing (TIF) and community improvement districts (CID) can be leveraged to ensure that rents are reasonable in high quality commercial spaces.



EXAMPLE OF MIXED-INCOME HOUSING TYPOLOGY



EXAMPLE OF INLINE RETAIL TYPOLOGY



EXAMPLE OF MEDICAL OFFICE SPACES

Yet this commercial opportunity would require only a relatively small amount of land in the Page Avenue corridor. The same is true for a medical facility. Therefore, transforming Page Avenue in its entirety, a must in terms of improving the economic opportunities for the whole of the community, will require development of the use that is in greatest demand—housing.

Whether it is rental housing or for-sale housing, subsidies will be required to deliver a quality product to the market. While the Low Income Housing Tax Credit (LIHTC) program is fairly robust in the amount of money allocated statewide toward providing quality mixed-income housing, programs aimed at subsidizing for-sale housing are very limited. Therefore, while for-sale housing could be a small component of a real estate program for Pagedale, rental housing is an essential piece of a strategy to improve the appearance and functionality of Page Avenue. With good property management, resident concerns about rental housing can be addressed, and it can be an asset in improving the physical appearance and economic performance of the community.

There are several catalyst projects that should be undertaken in the short-term, in order to make other types of development more likely or more valuable in subsequent phases. They include:

- **Leisure Anchor/Leisure Uses:** an anchor, such as a cinema, would benefit a broader retail program by generating traffic. Restaurant uses would be complementary to the cinema, and represent one of the best market-based retail program opportunities. The cinema should be located within a few blocks of the intersection of Ferguson and Page.
- **Civic Square/Village Green:** in new town center developments, developers recognize the value of meaningful public space as a civic anchor, which helps increase traffic and benefit business and home values. This would, ideally, be located near Ferguson and Page.
- **Public Market:** a public market that provides traffic and customers for area entrepreneurs is a centerpiece of an economic enhancement strategy for Page Avenue and Pagedale. It, too, should be located near the civic square, leisure uses, and supermarket because each generates traffic in a complementary way.
- **Housing:** Housing is the biggest long-term opportunity for revitalizing the corridor because it is the land use with the deepest pool of demand. In the early going, a first phase of development should be included in the core, or center, of Page Avenue to integrate the public market, village green and other commercial businesses with the community.



PHOTOGRAPH OF PAGE AVENUE FROM NEAR BELRUE AVENUE

SUMMARY OF THE CONTEXT AREA ANALYSIS

In summary, the purpose of this contextual review is to provide the team with a working knowledge of the physical planning adjacencies, transportation relationships, and market realities surrounding both the project area and the City of Pagedale. Understanding and planning for these broader contextual relationships is an important aspect of the Great Streets Initiative. Furthermore, place-making within the project area is dependent upon ensuring that these connections and relationships are observed and leveraged.

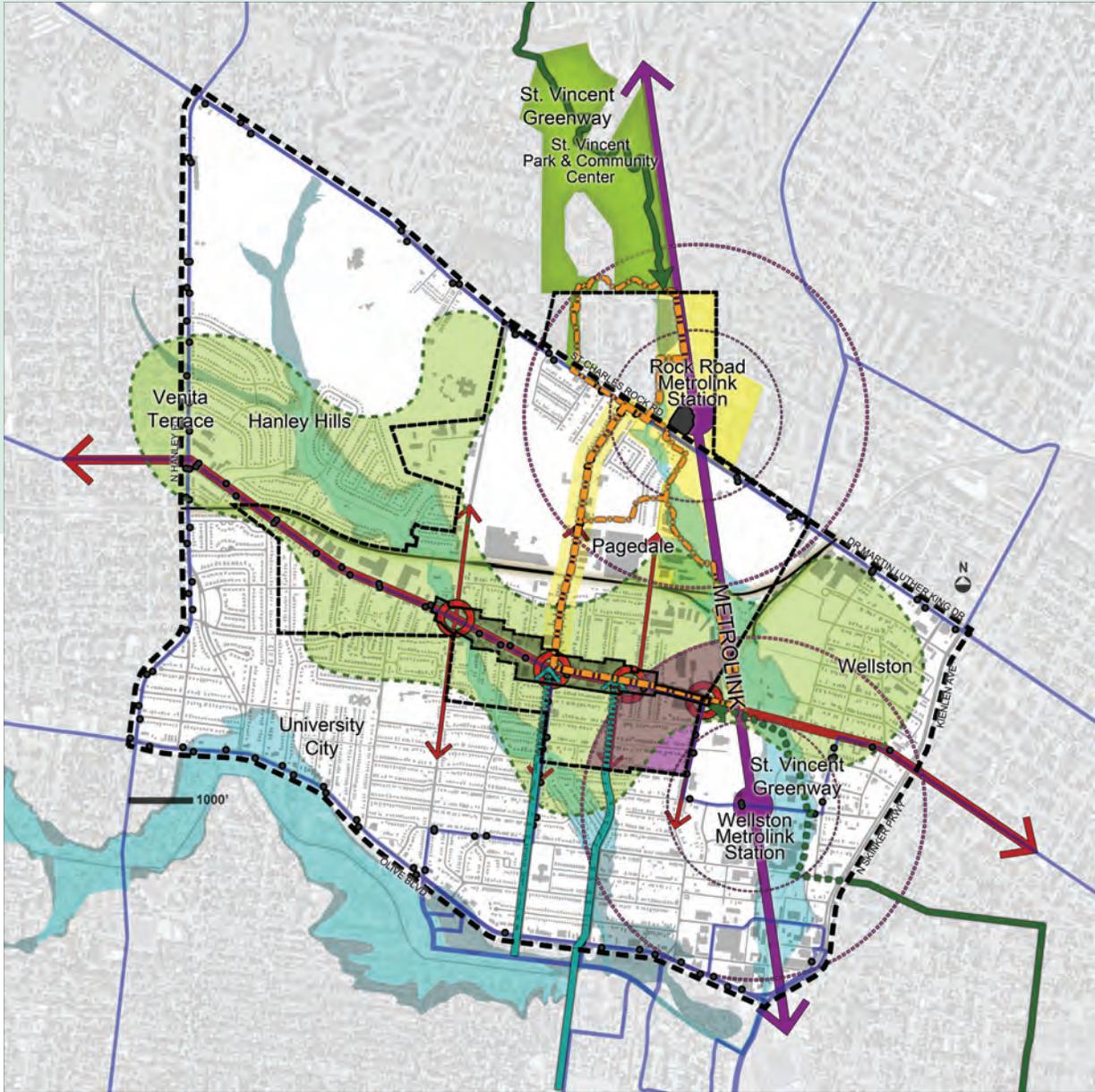
The following list of opportunities and constraints shown on this page was developed by the consultant team in order to summarize the contextual review of the project area and provide a framework for developing the Detailed Street Plan.

CONSTRAINTS

- Page Avenue serves an important regional function, so care must be given to ensure proper justification with a lane reduction.
- Traffic signal coordination will require the majority of the “green time” at intersections to be given to east-west through traffic.
- Trail connections to the north of Page Avenue may require the evaluation of alternate routes for the on-street bike connections.
- Bike connections should be established within the context of the regional network, including greenways and on-street facilities.
- Development program for the broader context area is limited; thus care must be given to the allocation of this throughout the entire area.

OPPORTUNITIES

- There is great opportunity for the project area to provide parks and open space to serve the broader context area.
- This street can increase the overall capacity for stormwater retention, providing some relief to the surrounding neighborhoods.
- Excess capacity at core intersection provides an opportunity to investigate lane reduction throughout the entire area.
- Defined parking areas can enhance business patronage and provide controlled access throughout the entire area.
- Great opportunity for multi-modal enhancements with the excess in the 100 R.O.W. which can connect into the broader transportation network.
- There is a great abundance and demand for quality housing in the context area.
- Metrobus service through the Pagedale area is quite good, and the project serves as an opportunity to increase ridership and upgrade and relocate the facilities accordingly.



SUMMARY MAP OF CONTEXT AREA OPPORTUNITIES & CONSTRAINTS

COLOR LEGEND

- Page Avenue Alignment
- Page Avenue Major Intersections
- Metrolink Line & Accessibility
- Metrobus Lines & Accessibility

- Floodways & Watersheds
- Parks & Open Space Insufficiency
- Greenways Planned & Constructed
- Potential Alternate Greenway Routes
- On-Going Planning Projects



A CLOSER LOOK AT THE PROJECT AREA

When asked “What type of general street improvements do you think are most needed along Page Avenue?” community survey respondents said...

21.1.3% *said they think sidewalk improvements and amenities*

15.6% *said they think new crosswalks and pedestrian ramps*

16.7% *said they think street and pedestrian lighting*

16.1% *said they think trees and landscaping elements*

Along with developing an analysis of the broader context area, it is also important for the consultant team to develop a detailed catalog of on-site conditions including information such as utility locations, conditions of sidewalks, pedestrian barriers, and roadway hazards. Over the course of a one month period, the team conducted a series of assessments of the existing conditions along Page Avenue. There were four (4) basic components to this project area analysis which include: an on-site right-of-way conditions survey, a utilities and infrastructure survey, an urban design analysis, and a public life survey.

Great Streets Urban Design Analysis

As part of this portion of the analysis, the team conducted and documented the visual assessments into a set of components. These components were combined into a comprehensive Great Streets Urban Design analysis which is exhibited here in summary. Greater details and full deliverables created for these components of the analysis are included in the appendices of this report for reference.



DISTRICT GATEWAYS & SYMBOLIC ENTRIES

Gateway entries are important to defining the entry points into a district or great street. They signify the arrival to a new type of destination or place (such as town center), and often involve a physical differentiation or transition in land uses. This diagram is a catalog of the key intersections, entry points into the area, and opportunities for creating gateways.



OPEN SPACE OPPORTUNITIES & EXISTING ACTIVE AREAS

Open and public spaces such as plazas or parks are a major component of great streets. Important to note, there are no public spaces existing in the area. Furthermore, in an area such as this, it is important to build on any existing activity sites. This diagram is a composite of active sites throughout the corridor and potential opportunity sites for public spaces.



GREEN INFRASTRUCTURE & NATURAL SYSTEMS

Green infrastructure is a part of all great streets, especially as environmental stewardship becomes increasingly more important to our social well-being. Important to note, almost 100% of the right-of-way for Page Avenue is impervious surfaces which do not allow for groundwater recharge. This diagram shows the lack of green systems in the project area.



BUILDING FORM & BUILT-OUT FRONTAGE

The existing build-out of the community is important to understand, as there is opportunity to leverage existing positive elements of the urban form such as zero lot line buildings. This diagram notes areas where there is existing positive urban build-out and other areas where there is opportunity to build frontage out and create a high-quality urban environment.



BUILDING ARTICULATION & BLOCK DIVERSITY

The block structure and cadence of building form along the street is an important part of the character of a great street. Larger lots with insensitive building facades can reduce the confidence of pedestrians and have negative effects on the perceptions of walkability. This diagram highlights diversity in lot sizes, building frontages, and opportunities for infill development.



ALTERNATIVE TRANSPORTATION & MULTI-MODAL ACCESS

Connections to multiple-modes of transportation, including bikes, buses, and trains, are a major component of great streets. Access to these systems will facilitate a vibrant pedestrian realm and increase economic activity in the areas. This diagram annotates major connections to the bike & trails network, adjacencies to the Metrolink, and access to Metrobus.



STREETSCAPE & UTILITIES INFRASTRUCTURE

Identifying the locations of existing infrastructure is important to great streets, as building on existing assets and improvements to the built environment will be key during project implementation. This diagram notes the location of all utilities within the project area including water, electricity, gas, sewer, fire hydrants, benches, streetlights, utility poles, mailboxes, and trees.



STREET WALKABILITY & SIDEWALK CONDITIONS

The existing conditions of sidewalks and pedestrian amenities is an important component of great streets. Good walking conditions, slopes, and connectivity will facilitate a life on the streets and encourage more walking. This diagram catalogs the conditions of the existing sidewalks including materiality, ADA accessibility, crosswalks, slope, condition, and enhancement opportunities.

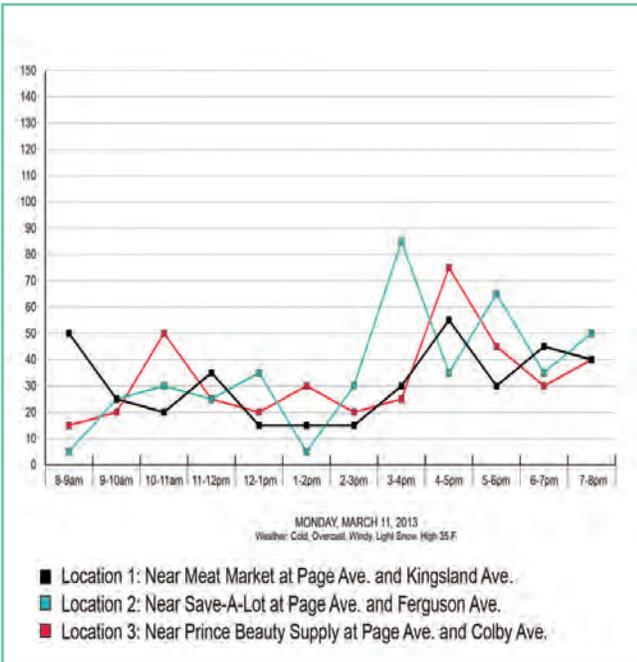


TABLE 1: SUMMARY OF MONDAY'S PEDESTRIAN COUNTS

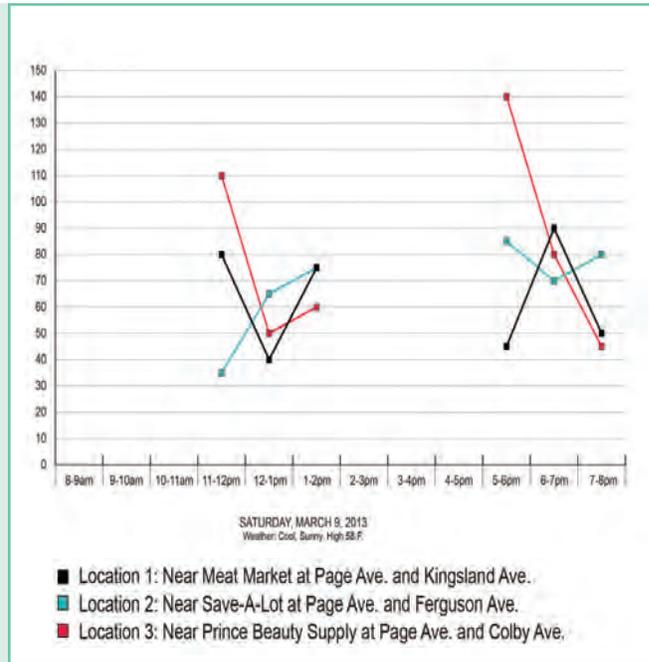


TABLE 2: SUMMARY OF SATURDAY'S PEDESTRIAN COUNTS

Public Life Survey Counts

In addition to the exhaustive catalog of existing conditions within the project area, the consultant team also conducted a more analytic assessment of the current non-motorized uses and movements along Page Avenue. The purpose of the Public Life Survey is to glean a detailed understanding of how pedestrians and cyclists are currently using Page Avenue. In order to achieve this, the consultant team gathered information on items including: How many people there are on the street at given times; pedestrian movement patterns throughout the project area; typical walking routes and common paths of travel; and active pedestrian destinations.

The first portion of the public life survey took place on Saturday March 9th and Monday March 11, 2013. Three locations along Page Avenue were observed for twelve minutes each hour, and the pedestrian movements were mapped around the location. Saturday's measuring times were 11am to 2 pm; and 5 pm to 8 pm, which are essentially the typical peak hours for activity. Monday's measuring time was 8 am to 8 pm. A summary map of this is located on the following page and depicts pedestrian movements in and around the surveyed points.

Shown above, the resulting pedestrian counts are extrapolated to full hour estimates (based on multiplication of the observed pedestrians x 5). These counts provide an estimate of the volume and active hours of pedestrian activity in the project area. The following are the general observations about the pedestrian movements:

Monday: Table 1

- There is a peak in activity when children get out of school around 3 pm, and this higher level of activity continues through and into the evening.
- There is a lull in activity in the middle of the afternoon between 12 pm and 2 pm.

Saturday: Table 2

- Location 3 has a concentration of small local businesses and often has high foot traffic.
- All locations are generally more active in the evening rather than at midday.
- Location one has large variations in number of pedestrians.



SUMMARY DIAGRAM FOR THE PUBLIC LIFE SURVEY DEPICTING A COMPOSITE OF ALL MOVEMENT THROUGH THE PROJECT AREA & LOCATIONS OF CONCERN

Public Life Survey Observations

- The **SOUTH SIDE OF THE STREET HAS MORE PEDESTRIAN ACTIVITY** than the north side of the street.
- The most **ACTIVE DESTINATIONS ON PAGE AVENUE ARE: PAGEDALE MEAT MARKET, SAVE-A-LOT, P-X LIQUORS, PRINCE'S BEAUTY SUPPLY, AND FAMILY DOLLAR**
- **ALLEYS BETWEEN KINGSLAND AND SUTTER ARE OFTEN USED BY PEDESTRIANS TO ACCESS PAGE AVENUE** from the south because the streets are closed and the alleys are not.
- Pedestrians often **CUT THROUGH THE SAVE-A-LOT PARKING LOT TO GET INTO THE NEIGHBORHOOD** or to Ferguson Ave.
- More people use **KINGSLAND TO ACCESS NEIGHBORHOODS** to the south rather than on Ferguson Avenue.
- Sidewalks are well used, but the **LACK OF CROSSWALKS MAKES SAFELY CROSSING THE STREET DIFFICULT** and inconvenient.
- **PEDESTRIAN SIGNALS AT INTERSECTIONS ARE RARELY OBEYED.**
- Pedestrians often use the **TWO WAY CENTER TURN LANE AS A MID-STOPPING POINT TO CROSSING PAGE AVE.** when it's busy.
- Because of the topography Page Ave. in **CERTAIN AREAS IS DIFFICULT TO CROSS SAFELY BECAUSE OF LIMITED VISIBILITY.**
- Surveys indicate that **MANY PEOPLE THAT PATRONIZE THE SMALL BUSINESSES VISIT THE ESTABLISHMENTS DAILY.**
- In warmer weather, **SMALL PARKING LOTS OUTSIDE OF THE SMALL BUSINESSES ACT AS SOCIAL GATHERING SPACES** for regular customers.
- The **WEATHER HAS A MAJOR EFFECT ON HOW MANY PEDESTRIANS USE THE STREET.** With nice weather on Saturday, there were many more people walking on the street. With cold and dreary weather on Monday, there were much fewer people walking.
- **BUS STOPS LACK AMENITIES** and often you cannot tell if someone is loitering or waiting for the bus.
- **CYCLISTS WERE NOT AS COMMON AS COMMON AS PEDESTRIANS,** but a few were observed on Ferguson and on Page Avenue
- **NO SENIORS WERE SEEN WALKING TO OR FROM THE NEW ROSIE SHIELD'S MANOR**
- It's **VERY DARK IN THE EVENING AND NIGHT** and tall and dim light fixtures make it very difficult to see pedestrians and vehicles.



PHOTOGRAPH FROM THE COMMUNITY WALK & MOBILITY AUDIT

Community Walk & Mobility Audit Observations & Recommendations

Described here in brief, the Community Walk & Mobility Audit provided stakeholders of the planning process an opportunity to participate directly in plan development with the consultant team. The result of the audit was a list of critical observations (shown below) and set of recommendations (shown to the right) which was developed by the team to address the identified issues. The full report for this portion of the study is included as an appendices to this report.

- Crosswalk markings are missing at most intersections
- Due to the way the storm drainage is handled, there are no curbs, curb cuts or defined driveways
- Sidewalks and pavement is in fair to poor condition
- Storm drains are poorly placed and create tripping hazards (the one on Belvue Ave is an example)
- Street lacks street trees and other landscaping to provide shade and human scale
- Bus stops are signs only, no shelters or seating areas
- ADA compliance is minimal or completely lacking in some areas (island at the NW corner of Ferguson Ave is an example of this)
- There is very little litter for such an urban area, some properties had private trash cans for public use
- There are two school bus stops in this area (Woodruff / Ferguson), with no seating or shelter provided
- Lack of curbs makes it seem like the cars can pull up on the sidewalk in any location, which makes for less comfortable walking
- Parking is allowed in the paved terrace area, but this leads to some vehicles parking over the sidewalk

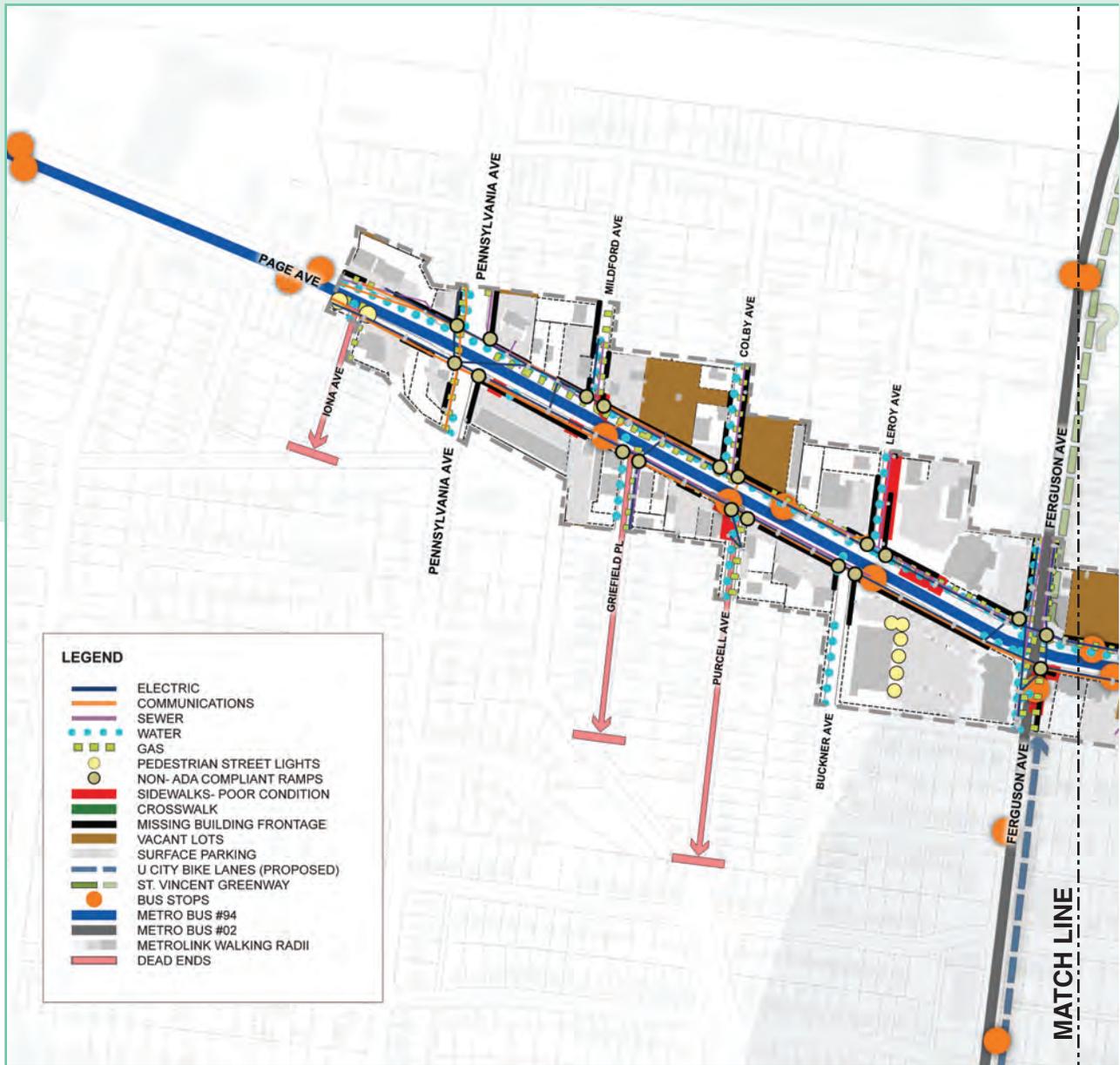
RECOMMENDATIONS

EARLY ACTION ITEMS:

- Crosswalks should be added to connect existing curb ramps at the signalized intersections of Page Avenue (All approaches of Pennsylvania and Ferguson, and the south approach to Sutter.)
- Signing should be added on the approaches to intersections with crosswalks added for vehicles to yield for pedestrians in crosswalks.
- Add signed and marked mid-block pedestrian crossings at Kingsland and Purcell including solar rapid flashing beacons.
- Add shared lane markings for bike accommodation on Page Avenue, centered on the right most through lane of travel.

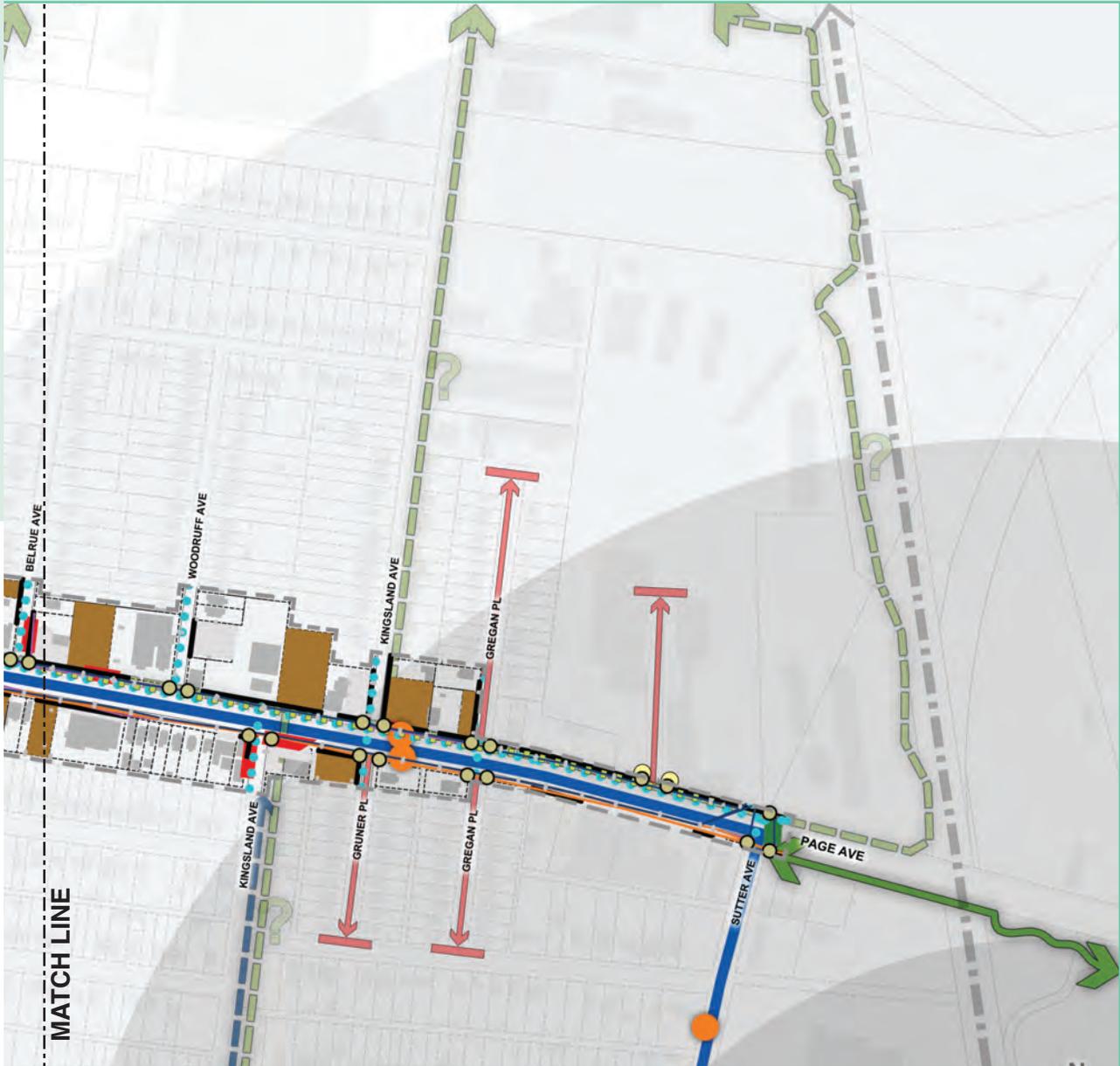
GENERAL ITEMS:

- Implement access management along the corridor defining entrances clearly from public right of way to private property and define pedestrian crossings clearly across driveways.
- Narrow travel lanes to no more than 11 feet.
- Included planted medians where access management or turning movements are not needed to calm traffic and maintain at 30-35 mph travel speed.
- Provide shared lane markings in the through lanes
- Provide greenway/shared use path in the corridor to accommodate the greenway connection from the south that will enter the corridor at Sutter, and connect to the future urban greenway along Ferguson Avenue.
- Provide separated and/or raised pedestrian facilities along page Avenue in the corridor.
- Provide distinct and protected approaches to minor streets along Page Avenue.
- Provide connections from pedestrian ways along Page Avenue to land uses in the corridor that eliminate the need to walk in driveways.
- Provide distinct parking areas for on street parking along Page Avenue that eliminate parked cars from impeding pedestrian travel.
- Provide mid-block crossings of Page Avenue, between signalized intersections.
- Include bus stop amenities such as benches, trash receptacles and covered stop areas
- Include street trees and greenspace along the corridor to address stormwater control and minimize intrusion of stormwater features in pedestrian ways or bikeways in the corridor.
- Include pedestrian scale lighting, in addition to roadway lighting in the corridor, and light side street intersections, as well as major intersections
- Include short term and long term bike parking at new businesses
- Provide trail crossing signage and markings for the future greenway at all side streets and crossing of Page Avenue.
- Provide wayfinding signage along the corridor
- Include design of bus stops in coordination with Metro to provide effective connections between the bus stops and sidewalks, and the bus stops with vehicle operations on the roadway.



SUMMARY OF THE PROJECT AREA ANALYSIS: KEY FINDINGS

- Throughout the length of the project area there are very few formalized curbs and sidewalk areas which makes walking very unsafe.
- There is opportunity to utilize various traffic calming techniques to create a safer environment
- Pedestrian facilities may include improvements such as additional signalized crossings, further adding to the safety of the street
- Many of the side streets which connect into the neighborhood have dead ends or are blocked at the ends, which prevents pedestrian and vehicular connectivity.
- In the project area, there are many pedestrian ramps which do not meet ADA requirements.
- There are many areas where sidewalks are non-existent or in very poor condition, especially connecting into the neighborhood.
- Access management and the realignment and/or consolidation of driveways provides an opportunity to enhance safety and capacity
- There are no landscape features with the public right-of-way for Page Avenue.
- The area is served well by two bus lines, one along Page Avenue connecting to Metrolink and the Amtrak Station downtown.
- There are a number of existing bus stops within the project area, consisting primarily of signage only and no amenities.
- Active transit along Page Avenue is an asset, but proper roadway facilities must be provided in the form of two through lanes & pullouts



THE VISION PLAN FOR PAGE AVENUE

- There are multiple utilities located underground along both the north and south.
- The endorsed Gateway Bike Plan calls for minimum bicycle facilities that connect to the regional network. Improvements to separated facilities such as greenways or bike lanes should be considered with roadway improvements.
- Bike routes have been planned for Ferguson Avenue and Kingsland Avenue from University City. However, this plan is not adopted and implementation is uncertain.
- The St. Vincent Greenway has been planned to reach Page Avenue on the south side of the street and will likely cross the bridge over Metrolink into the project area.
- Connections to trail network should utilize signaled crossings to provide safe connections
- There is uncertainty on the location where the St. Vincent Greenway will proceed north to the Rock Road Station.
- Much of the east side of the project area is located within 1/4 to 1/2 mile from the Wellston Metrolink Station, making this area ideal for transit-oriented development.
- There are many large, vacant lots spread throughout the project area, especially on the north side of the street.
- Much of the frontage along Page Avenue is not built out, and the zoning facilitates setback development and reduced walkability.
- The existing zoning code is cumulative in nature, encourages setback buildings, and does not allow for a mix of uses.

