Appendices

Lowry Avenue Corridor Study Interview Transcripts

CONTACT 1: DATE: 8-15-01

CONNECTION TO LOWRY:
Has always lived in Northeast Minneapolis. Had a retail shop at Lowry Avenue and Central Avenue from 1926-1992. In one of the last years he was open 20% of his mailing list moved out to suburbs like Coon Rapids.

STRENGTHS:
Lowry has no strengths.

PROBLEMS:
Scattered businesses. Should be no commercial along Lowry except for places like Little Jack's.

STRENGTHS/ELEMENTS TO CONTINUE:
Some residential properties are being revitalized and fixed up, but there are few to date.
Windom Park is nice, but difficult to repeat. Churches add to the environment, but some have not been able to survive.

WHAT WOULD YOU CHANGE:
To revitalize the area with shopping would require tearing down everything between 23rd and 27th Avenues, and constructing all new stores with parking.
Change the people who live there, because existing single-family households with no disposable income cannot invest in the revitalization of this area. People are disheartened by what's happening in the community- changes in the population mix and the lack of safety.
Widen the road to handle more traffic, which draws more people to the area.

TRAFFIC AND PARKING:
It is the last East-West route in the city, and it is so narrow. Parking is restricted, and terrible overall in the winter. When the streets are plowed the snow covers the sidewalks. When people shovel their sidewalks, the snow goes back on the street. The city should remove the snow or melt it. (The chemicals may get into the river, but it all gets processed at Pigs Eye anyway.)
Customers can't get to stores when the snow restricts driving and eliminates already limited parking.
Dairy Queen at Quincy needs more parking, and people have to run across the street to reach the store.

CURRENT PEDESTRIAN SITUATION:
Didn't know because he never walks Lowry Ave. Sees some people, and doesn't think there is a real sense of danger for pedestrians.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
City should remove snow from sidewalks so people can use them year round.
More police patrol along Lowry would add to the safety of the environment.

THINGS THAT DON'T BELONG:
Some services aren't viable anymore- ex. Knife Sharpening service, Florists. The customer base isn't there.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Streetscapes don't help to get to the problem. It made no difference for the business owners on Central Avenue.
Instead, get rid of the drunks and bums. Central Ave., for example, isn't safe after 4 pm.
Have police scare away kids in gangs. Those will increase the safety of the corridor.

CONTACT 2: DATE: 8-15-01

CONNECTION TO LOWRY:
Neighborhood user. Formerly active with the Central Avenue revitalization project

STRENGTHS:
It runs the length of the city. Decent housing exists, especially from Stinson to Johnson. Towards the Northside the mix of business and residential looks better.
It is an effective truck route. The road was resurfaced recently.

PROBLEMS:
Boarded up commercial and residential properties. Garages facing the street. The uses from the river to the middle of the North side are a hodge podge. Commercial areas are never very big. Corner stores converted to residential properties look odd. She expects to see higher density residential and commercial on a corridor with this much volume.

STRENGTHS/ELEMENTS TO CONTINUE:
Tear down the eyesores.

WHAT WOULD YOU CHANGE:
Widening the street. Commercial is already overbuilt, so there should be no more.
Apartment/multi-family housing is needed and fits well along this high traffic volume corridor.

TRAFFIC AND PARKING:
Not much experience with it. Finds it safer to park on side streets, especially with the high speed of the traffic. People like to park on Lowry at Emerson/Fremont.

CURRENT PEDESTRIAN SITUATION:
Not many people cross Lowry. There is more foot traffic on the North side than on the Northeast side. The corridor is not a real magnet for people at this point.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Back the sidewalk off the street. Beautify the space.

THINGS THAT DON'T BELONG:
Dilapidated housing and commercial.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Car traffic puts strain on the corridor, but need to make it feel and look like people care and maintain the space. The aesthetics of the space make a big difference. Removing weeds makes it look much cleaner. Boulevards well maintained.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
If plans include keeping commercial nodes then they need to be tidied up first.
Then bring up consistency of other neighborhoods. Do it block by block. If you take out a house, fill in the lot. Add apartments.

CONTACT 3: DATE: 8-15-01

CONNECTION TO LOWRY:
Long time resident

STRENGTHS:
Restaurants like Little Jack's

PROBLEMS:
Deteriorating from Central Avenue to the River. (?) East side is okay, but could be improved.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Central and Lowry Avenue intersection has congestion.
There is too much of one type of people owning businesses, like the Iranians, and thereby controlling the corridor. There needs to be more of a mix, with commercial spread out. It's like Lake Street now with too much of one nationality. Diversify so you appreciate being on the corridor.

TRAFFIC AND PARKING:
She has noticed congestion at certain times. She mostly drives through from St. Anthony Village now because of the crime. Avoids the area.

CURRENT PEDESTRIAN SITUATION:
No desire to walk it. Crime is getting bad.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Entire corridor.
Start with traffic control by widening Lowry Ave from Central Ave to the river at Marshall St.

CONTACT 4: DATE: 8-15-01

CONNECTION TO LOWRY:
Program Manager for the Central Avenue Main St project
Member of the NE Economic Development Council

STRENGTHS:
Great businesses. High traffic volume.

PROBLEMS:
Lack of other businesses that would fit in, such as restaurants and retail.
Garbage on the streets and a general lack of maintenance.

STRENGTHS/ELEMENTS TO CONTINUE:
Add more shops. Viable corridor.

WHAT WOULD YOU CHANGE:
Conduct a market analysis study of what businesses could survive in the corridor.
Improve the appearance of the corridor, especially by fixing up facades, cleaning, and other beautification methods.

TRAFFIC AND PARKING:
Parking is an issue, for example, there is none near the Windom office.
There are bus stops and short term parking along the edge of the street.
Traffic gets congested at Central Ave, and a stoplight with a turn arrow would help there.

CURRENT PEDESTRIAN SITUATION:

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Businesses make the corridor viable.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:

Since she's working on the Central Ave project, she thinks improvements should be focused near Central Ave first. Issues to be addressed: congestion, better lighting, and beautification through cleaning, plantings, and public art.

CONTACT 5: DATE: 8-15-01

CONNECTION TO LOWRY:
Housing Chair of BNA and staff member. Long time resident

STRENGTHS:

PROBLEMS:
Heavy traffic, traffic travels too fast along Lowry Ave. Seems dangerous for pedestrians. University and Lowry intersection is a bad corner as the intersection is not long enough to accommodate truck traffic. The City conducted a study of this problem in 1995.

STRENGTHS/ELEMENTS TO CONTINUE:
Shops are good to have. There are few existing at her end of the corridor. Little Jack's is a popular spot.

WHAT WOULD YOU CHANGE:
Add flowers, beautify, slow traffic, and add a bike path.

TRAFFIC AND PARKING:
As mentioned above, traffic moves too fast in large volumes. University and Lowry intersection is a bad corner as the intersection is not long enough to accommodate truck traffic. The City conducted a study of this problem in 1995.
There is some parking, but in many places it is not allowed during rush hour.

CURRENT PEDESTRIAN SITUATION:
Dangerous with the traffic speeding by so closely.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Add flowers, beautify, slow traffic, and add a bike path. Widen the boulevard to separate people from the traffic. Add flowers in hanging baskets and containers.

THINGS THAT DON'T BELONG:
Some blighted residential exists.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Mixed-use works for the corridor. She likes to shop in the neighborhood, but there needs to be parking added so people are not forced to try and park on Lowry.
Convenience of shopping in the neighborhood enriches the area. Shops should be clustered with parking provided.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Traffic calming is a priority, and everything stems from that.

CONTACT 6: DATE: 8-15-01

CONNECTION TO LOWRY:
Consultant working on a study of Central Avenue

STRENGTHS:

PROBLEMS:

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Crime prevention through environmental design (CPTED) puts eyes on the street, bringing safety and security back to the public realm. This is the technique they are using for Central Avenue.

TRAFFIC AND PARKING:

CURRENT PEDESTRIAN SITUATION:

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
CPTED especially helps the pedestrian environment.
CPTED websites recommend:
- Lighting to illuminate high vulnerability areas more than regular traffic zones to create even brightness without shadows. Lighting can influence individual's feelings about their environment, which is important for developing pride and ownership of a neighborhood.
- Visual surveillance corridors should be maintained with low shrubbery

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:

CONTACT 7: DATE: 8-14-01

CONNECTION TO LOWRY:
Executive Director of the Northeast Business Association, Representative on the Lowry Avenue Citizen Task Force

STRENGTHS:
Lowry is a well-known and well-traveled corridor. There is a good mix of residential and commercial, but it could be better. It is the second major corridor in Northeast Minneapolis.

PROBLEMS:
Traffic, congestion, the mix of residential and commercial, the lack of green space, lack of maneuverability, and the overall appearance of the corridor are problems.

STRENGTHS/ELEMENTS TO CONTINUE:
It has the heart of the community in mind, so they are committed to its upkeep and upgrading. Want to continue to have it available for the uses that businesses use it for, such as the movement of goods, providing a customer base, an identifiable location, and it is a living space for employees and many owners who live in North or Northeast Minneapolis.

WHAT WOULD YOU CHANGE:
Widening the road in certain places would be a major help. Additional businesses could come to the area. Beautify the corridor would also help attract businesses. The street has been unkept for a long time.

TRAFFIC AND PARKING:
Parking conditions are poor; there are lots of places that you cannot park along the corridor.

CURRENT PEDESTRIAN SITUATION:
People use the sidewalks, and lots of businesses have pedestrian traffic from the adjacent neighborhoods. The sidewalks are at least in good repair.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Better lighting and a more attractive walkway space would enhance the pedestrian area. Use brick work to emphasize the pedestrian zone as they did on Central Avenue.

THINGS THAT DON'T BELONG:
Nothing comes to mind in Northeast.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The signage is fairly good, making it easier and more convenient.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
West of Central to the bridge by Marshall.

CONTACT 8: DATE: 8-14-01

CONNECTION TO LOWRY:
Building and remodeling at Lowry and Central Ave. Long history in the area, lives in Northeast, owns business at 30th and Central. On the task force that turned into the Northeast CDC.

STRENGTHS:
Connector across northern end of the city. NE to IMS is faster than going south to the freeway. It is the main artery to major streets, with strong ties to cross streets. Commercial nodes are not yet strengths, but they could be. There is an interesting mix of commercial, residential and churches. There is a long enough distance between lights, so traffic moves quickly.

PROBLEMS:
The road width varies too much. It widens, narrows, which involves a lot of switching lanes. There is blight along the edge of the street. In the last year properties have been boarded up or abandoned, especially between Central and University on the Northside.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
A streetscape would greatly enhance the corridor. Jogging of the roadway is fine…the road should meander. This would cause traffic to slow down and pay more attention. This would be more compatible with the residential uses adjacent to the road.
As you pass through neighborhoods they should each be identified with its own identity. Banners, varying streetlights, etc. could create this feeling. Improving the infrastructure helps enhance the individuality of neighborhoods, and people take pride in their community again. Squeeze in a second lane and sidewalks. Take out enough development to give it a parkway feel with plenty of width and green. This would add to the safety and security of the environment, and it's worth the investment.

TRAFFIC AND PARKING:
It is hazardous to park. Cars are flying along, and there are lots of areas with no parking. Encourage parking bays (like along Minnehaha Creek Pkwy). Have pullover spots for buses (some exist) and traffic, which would free up some traffic flow.

CURRENT PEDESTRIAN SITUATION:
Not a lot of people walk, maybe between Central and Stinson, but not elsewhere. Think they would walk if it was a parkway.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Add green space, a wider boulevard, and more separation between the street and the boulevard.

THINGS THAT DON'T BELONG:
Hard to make it a mix of commercial and residential. North-south streets are more business focused, such as Central Ave, Stinson Ave. Pick residential or commercial as the main element along the corridor, she favors having more residential. People go in and out of town on North-south routes, and stop then. Neighbors use East-west routes.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Trees, visiting and gathering places, such as around coffee shops and sidewalk cafes.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
A critical mass of acquisition is necessary to pull it off. Lends more to the success at the end.

CONTACT 9: DATE: 8-20-01

CONNECTION TO LOWRY:
Longtime NE resident. Active in Windom Park.

STRENGTHS:
It is a through street, and makes it easy to get places. It is always cleaned and kept up fairly nice along there. Most of the people keep it up on the east side of Central. Windom Park is an amenity.

PROBLEMS:
There have been studies done of Central Avenue, but residents don't feel like they know what is going on with the project. [Lack of communication to the community at stages of the process.] Nothing ever comes out of plans. People are bothered by that and the time lapse before any results are seen. Parents don't feel safe with their kids playing in yards that front on Lowry Avenue.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Snow removal is a problem. Seniors [everyone] can't walk on the sidewalks, especially in winter. Traffic is bad, it's very busy. Not safe to walk.

TRAFFIC AND PARKING:
During peak times there are high volumes of traffic moving fast. In the winter you have to park on the side streets. No parking available near the Windom Park Neighborhood office.

CURRENT PEDESTRIAN SITUATION:
It is difficult to walk in the winter. Traffic speeds by so quickly that it feels unsafe to walk.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Clean off the snow in the winter.
Put hedges along the street (side of front yards) to keep kids safely in their yards and protected from traffic. More green.

THINGS THAT DON'T BELONG:
Not sure if the commercial uses fit in the corridor.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Not sure where to prioritize, but does not want it to be widened in the residential neighborhoods because the residents would greatly object to losing their homes.

CONTACT 10: DATE: 08-20-01

CONNECTION TO LOWRY:
Longtime resident of NE Minneapolis. Owned business in NE Minneapolis.

STRENGTHS:
It is a place to get from here to there.

PROBLEMS:
She avoids walking Lowry Avenue because it feels like you are walking in the street and it's dangerous.
It is a place to get from here to there, but it's not attractive.
Lighting is needed. Telephone and electrical poles are in the middle of the sidewalk and one has to walk around them. It's easier to walk along streets that parallel Lowry, rather than Lowry.

STRENGTHS/ELEMENTS TO CONTINUE:
Traffic moves along at a steady flow during the day and the evening.

WHAT WOULD YOU CHANGE:
New lighting. Widen the street to a boulevard.

TRAFFIC AND PARKING:
Traffic moves along at a steady flow during the day and the evening.

CURRENT PEDESTRIAN SITUATION:
Lighting is needed. Telephone and electrical poles are in the middle of the sidewalk and one has to walk around them. It's easier to walk along streets that parallel Lowry, rather than Lowry.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
New lighting. Widen the street to a boulevard

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus efforts on the north side (west of the river) even though the northeast side needs help because the former needs help more than the latter.
Make it a more attractive corridor.

CONTACT 11: DATE: 8-20-01

CONNECTION TO LOWRY:
Co-owner of business at Central and Lowry. Past President of the Northeast Business Association, and currently on three committees of the Association.

STRENGTHS:
The high traffic count on Lowry Avenue provides good exposure for the businesses along the corridor.

PROBLEMS:
It's an ugly corridor with mostly downtrodden businesses, not as viable as they could be. Revitalization has been centered elsewhere in the community, making it a forgotten space. The commercial nodes are spread out and sparse.

STRENGTHS/ELEMENTS TO CONTINUE:
It runs through many neighborhoods, making it a good commuter/commercial stretch.

WHAT WOULD YOU CHANGE:
Could lend itself well to a boulevard design with slower traffic.
Put money into businesses, help clean up the place, put in trees, and generally make it a more attractive environment. Add pedestrian scale lighting.
Regrouping and clustering the commercial nodes would help. Add more green in between them.

TRAFFIC AND PARKING:
Traffic moves too fast. The lack of parking hurts businesses, though some in NE have their own parking. The commercial nodes are spread out and sparse. Regrouping and clustering them would help. Add more green in between.

CURRENT PEDESTRIAN SITUATION:
Lowry Avenue is a busy street, and she wouldn't want to walk it. It is not a strolling environment. Central is safer with more eyes on you because of the clustering of commercial uses.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Add pedestrian scale lighting and clean up and beautify the corridor.

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The way Lowry cuts across the length of the city is an advantage.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Create a more pedestrian friendly environment that's cleaner, with more beauty added. Slow down the traffic speeds.

CONTACT 12: DATE: 5-21-01

CONNECTION TO LOWRY:
Owns commercial business on Lowry Avenue and works in the area.

STRENGTHS:
Traffic flow is good. Identifiable location, on strong East-west corridor. Close to downtown, and close to restaurants of all nationalities (advantage for people working in the area). Places are gradually being fixed up, but in jolts and starts.

PROBLEMS:
Run down here and there. Not exciting, but probably never going to be.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Nothing really, except painting a couple of rundown buildings.

TRAFFIC AND PARKING:
Great traffic flow. He has parking for his building, so it's not a problem for him, but he knows that other businesses don't, not that all of them have traffic beyond employees.

CURRENT PEDESTRIAN SITUATION:
There are not a lot of pedestrians out on the street. In his stretch by Washington there is a Dairy Queen and a furniture store which is unlicensed and will probably be shut down in the next year, as was the unlicensed business that formerly occupied the site. These places add more character to the environment than a McDonald's.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Fix the sidewalks, which are not great, but not the worst he's seen. He'd add space between the sidewalk and the office buildings built up to the sidewalk. Most of them are run-down, and not appealing. It seems to take 10-20 years before improvements are made, like on Central Avenue.

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Restaurants.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Find the worst looking spots and contact the owners. For example, there is gas station and convenience store in NE with gas pumps that are all dented in after being crashed into, and they

were never repaired. Another building in NE needs a new coat of paint, even though the owner is a multi-millionaire.
Create a minimum appearance code because there is no cohesion or consistency along the corridor.
Make owner's responsible for the upkeep of their properties. (painting to trash cleanup)
It is a community in transition, especially with all the new nationalities that have moved into the neighborhoods along the corridor.

CONTACT 13: DATE: 8-20-01

CONNECTION TO LOWRY:
NRP Specialist for every neighborhood on Lowry except Hawthorne, Folwell, and Jordan.

STRENGTHS:
Lowry is an East-west connection from border to border of Minneapolis. It connects with major thoroughfares. Lowry has a residential feel at the ends. It is not a heavy commercial corridor anymore, even less so on the northside.

PROBLEMS:
There is blight on both sides of the river. There are bare lots with trash and terrible housing close to the river. It is not utilized the way it should be. There is no bus traffic on Lowry to get across the river. Spurs on both sides that don't connect - you have to go downtown to get back out to Lowry on the other side of the river. [see route 32]

STRENGTHS/ELEMENTS TO CONTINUE:
Community is actually examining itself. High-density housing is being considered, which is a good thing. Improving existing housing in Hawthorne neighborhood.

WHAT WOULD YOU CHANGE:
She would change the filth along the corridor, and expectations. Make the small stores- their owners and customers- responsible for their own trash. Improve the aesthetics. Make it cleaner, greener, and better maintained.

TRAFFIC AND PARKING:
Cut-outs on the Northside would be possible, but parking is more problematic on the Northeast side because the road is narrower and limits uses on the road. There are fewer businesses on the Northside, so less demand for on-street parking. Mainly convenience stores, gas stations, barber shops, etc.

CURRENT PEDESTRIAN SITUATION:
There is little pedestrian traffic, except at the nodes: Penn, Emerson/Fremont, Lyndale. There is more foot traffic on the northeast side.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Would improve sidewalks, add gardens, and put in a buffer between the sidewalk and the road. The buffer could be a box of flowers or painted sidewalks to delineate the separation of space. More clearly defined separation. Make the space not so stark.

THINGS THAT DON'T BELONG:
Convenience stores just push cigarettes and junk food.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Blooming boulevards. Good gas stations. Historic bar. Auto shop with flower boxes at the edge of the sidewalk to create an attractive buffer, showing they are willing to make that extra effort to improve the pedestrian environment. Good hardware store. High-density housing is being constructed in the Jordan neighborhood.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Blight, housing issues, and traffic flow.

CONTACT 14: DATE: 8-21-01

CONNECTION TO LOWRY:
Longtime resident, used to be on the Central/Lowry Avenue Task Force

STRENGTHS:
East-west connection. Windom Park. The Central/Lowry Avenue intersection and the businesses there are strengths. NRP housing has helped considerably.

PROBLEMS:
The deterioration of the corridor is a problem. The road is too narrow and buildings are so close to the street in northeast that she doesn't know how it would be possible to widen the street. There is a vast amount of truck traffic, and heavy volumes of traffic overall. There is a lack of bus service east-west connecting the length of the corridor.

STRENGTHS/ELEMENTS TO CONTINUE:
The one block of Windom Park on Lowry is a strength that could be repeated in some way by adding more green spaces along the corridor.

WHAT WOULD YOU CHANGE:
She sees limited opportunities for change. Add lighting. Add more public transportation. She remembers when Lowry was surfaced with bricks and lined with Elm trees. Those can't be brought back, but greenery and distinct surfaces could be added back in. Some of the housing should be taken down and replaced with trees to turn it into a boulevard/greenway.

TRAFFIC AND PARKING:
Heavy truck and general traffic. There is no room for other lanes. Eliminate all parking because it's so narrow already. But then she also wonders what church-goers and people who live along Lowry will do for parking.

CURRENT PEDESTRIAN SITUATION:
There are some people who walk along Lowry. She won't let her dog walk along Lowry, even though he likes to, because it feels crowded with narrow sidewalks, no boulevard in many places, it's noisy, and the busy traffic is so close. By Filmore there is a new building with plantings that improves the space. In winter the conditions are worse because many people don't or can't shovel frequently. Shrubbery grows over the sidewalk making it even narrower.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Wider sidewalks, add boulevards. Trim back the shrubbery hanging over the sidewalk (they've already asked one offender to do so with no success).

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
New plantings enrich the space. East from Filmore houses are set back further with nice yards.
Attractiveness of businesses and buildings add to the environment.
NRP housing has helped considerably.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
From Filmore St west to the river in Northeast.
Pedestrian issues. Maintenance. Good walkways.

CONTACT 15: DATE: 8-21-01

CONNECTION TO LOWRY:
Former leader of the Windom Park Citizens in Action. Resident of Northeast Minneapolis.

STRENGTHS:
Mississippi River is the jewel in the crown. The new Upper Mississippi River Plan.
The Central/Lowry Avenue intersection is a strength, but they haven't been able to make best use of that intersection yet. Historically significant structures. Windom Park. The Humboldt Greenway will be a strength when it's completed.

PROBLEMS:
Lowry Avenue is very, very busy with commercial truck traffic. There is deteriorating housing, and businesses aren't keeping up facades. There is a derth of greenery. It's not very pedestrian friendly, and the sidewalks are narrow, especially with overhanging shrubbery. It's a bad corridor for bicyclists, who are often forced on to the sidewalk.

STRENGTHS/ELEMENTS TO CONTINUE:
Repeat green spaces like Windom Park. There are some lovely old houses. There are businesses that are historically significant. Highlight those places. More sidewalk spaces.
Traffic flow is good at certain times of the day. The area around the river should be maintained as green space.

WHAT WOULD YOU CHANGE:
Take down some structures and widen the street. If that's not possible, take down ratty structures and businesses. Replace them with green. Add charming neighborhood scale businesses that are quality, not big box retail. Add public transportation. Add urban housing without parking for empty nesters and young urban folks who can take the bus to work downtown. Add more interesting bus stops- she has a file on creative bus stops designed by NE artists.

TRAFFIC AND PARKING:
Traffic is heavy, and the parking along Lowry exacerbates the problem. She doesn't travel on Lowry because of the traffic and parking situation. Parking during rush hour especially makes it awful. But bus stops are good, and more should be added.

CURRENT PEDESTRIAN SITUATION:
Sidewalks are narrow with utility poles in the path. Bikes are forced to use the sidewalks, and in many places the sidewalk is too narrow for people to pass.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Widen the sidewalks and bury the utilities (obviously a great expense). Add brick detailing, flower pots, and other beautifying features. Make facades welcoming and charming with a connection to the neighborhood.

THINGS THAT DON'T BELONG:
The business mix doesn't work. Structures for some businesses are slopped together. Slap-dash businesses that are atrocious do nothing for a corridor trying to rejuvenate itself.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The cross-city corridor connection. Parks. The fact that people are looking at it, and thinking about what can be done with it.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Windom neighborhood. The river is the jewel in the crown that needs to be the best that it can. Focus on improving that area and making it shine, and the spread out efforts from there.

CONTACT 16: DATE: 9-19-01

CONNECTION TO LOWRY:
Coordinator of neighborhood block club for Aldrich and Lowry Ave N.

STRENGTHS:
The mix of people and the different nationalities that live along Lowry are an asset. The Metro Transit Route 32 bus service connects to other routes and provides affordable mobility to those without cars, like her.

The small businesses in the community are assets and further reflect the diversity of the area. Owners of these businesses remember residents and are friendly.

Reasonably priced housing of quality still exists in her neighborhood. The neighborhood is unpretentious and the neighbors are aggressive in improving their area.

PROBLEMS:
Prostitution and drug dealing are the major problems on her corner, which bring down the image of the area. They blatantly conduct business, drawing in customers from the suburbs because of the reputation that neighborhood has acquired. These keep away people who would otherwise want to live there.
There are also numerous minor problems that indicate a poor attitude towards the neighborhood. There are also “Boom cars” that drive through the neighborhood at all hours with loud music blasting so loudly that they rattle house windows. There is trash everywhere and garbage cans on the street would help reduce the problem.
Police respond to compliant calls, but there are not enough of them on patrol. Residents know who the prostitutes are, where they live, and recognize the drug dealers. Residents are even willing to videotape criminals and take down license plates. It should be just as obvious to the police who the offenders are.

Loitering cars in small businesses’ parking lots are a problem, and owners have been assaulted. The police should enforce rules to keep drug deals out of those parking lots.

Route 32 does not run on weekends, cutting residents off from other bus lines and the ability to work overtime on the weekends. People are forced to take 3 trips instead of one to reach their destination.

STRENGTHS/ELEMENTS TO CONTINUE:
The bus route should be continued, but smaller buses should be utilized for efficiency and weekend service should be offered.
The little neighborhood businesses should be supported and allowed to continue. There is a nice library and funeral home on Lowry Ave.

WHAT WOULD YOU CHANGE:
The community needs a big market. Services should be centered in the area. There is a lot of garbage that needs to be cleaned up, and public garbage cans would be a big deal.
The block club is considering developing a community garden on an empty lot that does not drain sufficiently for housing. She is going to plant a blooming boulevard.

TRAFFIC AND PARKING:
Traffic is quite heavy. Vehicles parked on the side streets often get stolen, so residents use their garages. It's easy to spot the prostitution and drug dealing vehicles because they're the only ones on the street.

CURRENT PEDESTRIAN SITUATION:
It takes five minutes to cross Lowry because people don't yield to pedestrians in the crosswalk. Waiting for a bus at the Lyndale/Lowry intersection is unpleasant because prostitutes wait there pretending to wait for the bus. Overall, the corridor could use more crosswalks.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Ornamental garbage cans and grass boulevards would really improve the appearance and safety of the corridor.

THINGS THAT DON'T BELONG:
The drugs, prostitution, noise pollution, and yuppies from the suburbs that come to utilize these services do not belong. There has been gunfire to the southwest of her block.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The mix of immigrants enrich the space. The Turkish brothers who own a store are teaching her Turkish. The Asian gentleman who's store she's stopped in waves on the street. There's a fabulous mix of people.
Residents are involved and keep tabs on which properties are problematic. They write to landlords with bad renters. Neighbors want to make it work and they are willing to make the necessary efforts, including maintaining their properties.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Efforts should be focused on getting rid of the drug dealers, prostitutes, garbage, and noise pollution. There are fines for these acts, and it's time they were charged for the disruption they cause. It's a stress on the neighborhood and it's image.

CONTACT 17: DATE: 9-25-01

CONNECTION TO LOWRY:
Executive Director of the Folwell and Weber-Camden Neighborhood Association

STRENGTHS:
Lowry connects to four neighborhoods, serves as a transit corridor, and is a connection to commercial services in Robbinsdale.

PROBLEMS:
The conditions of the corridor, including crime and property deterioration, are its weaknesses. Parking is also a weakness, especially as it limits the function of Lowry Avenue as a transit corridor because when cars park on the street edge it impedes the flow of bus traffic in the

outside lane of traffic. There is a lack of parking, and the width of the road does not accommodate any being added.

STRENGTHS/ELEMENTS TO CONTINUE:
Lowry Avenue should remain a straight line corridor without any wandering. It should remain or become a retail based corridor. Residential density should increase between the retail nodes. Open spaces should be continued and added to along Lowry. Parking should stay off Lowry Ave.

WHAT WOULD YOU CHANGE:
Land uses on the edges should support off-street parking, increased retail, and increased density housing including townhomes. At some places retail could be developed with a zero-lot line and rear parking, though this is not the solution for intersections like Penn Avenue. The intersection of Emerson and Lowry would benefit from eliminating the parking in front of the stores, moving the stores to the street edge, and putting the parking behind. There needs to be more control and regulation of access and egress of gas stations and convenient marts. By placing the parking in the back, that traffic would be filtered into the Lowry Ave traffic flow in a more controlled manner.

There is a need for shops that supply quality products for residents of the adjacent neighborhoods. The area is misconstrued as low- and middle-income neighborhoods, and they can in fact support better businesses than many people presume.

Wider pedestrian walkways are needed. Parking on Lowry Ave should be prohibited in more places. Transit should be better supported, including signal preemption and consideration of transit connections in the middle of the street. Functional lighting needs to be increased, instead of just adding cozy lighting.

TRAFFIC AND PARKING:
Parking is a problem, and should be relegated to the side streets and off-street parking spaces. Traffic is consistent. It is a congested, angry, competitive environment. Parking on Lowry only adds to the hassle and jockeying for position.

CURRENT PEDESTRIAN SITUATION:
There are people on the sidewalks, but drug dealers and prostitutes make it an uncomfortable environment. There is nothing along Lowry at which to spend time. Too many businesses on the North side of Lowry are convenience stores or illegal businesses.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
To make it more pedestrian friendly widen the sidewalks, add boulevards back, especially where they were removed at Fremont and Emerson. The corridor should be well lit with functional means for trash collection (trash cans). Well-constructed transit shelters are also needed. Traffic control is lacking at the nodes for pedestrians, so the development of crosswalks would increase awareness of pedestrians in those areas.

THINGS THAT DON'T BELONG:
Drug dealers, prostitutes, and retail services that don't offer quality services for residents, such as pawn shops, convenience stores, etc., don't belong.

A bikeway doesn't belong on Lowry because the street is a working corridor that will never be genteel. There isn't sufficient room for a dedicated bike lane, and side streets would serve as more effective bikeways.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Historic Bremer, the library, and the new fire station make Lowry a good place. Wirth Parkway and the River enrich the space. The potential for landscaping around the senior housing at Oliver is also an asset.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
There are already projects in place at Penn/Lowry Ave, and property was acquired for a new fire station between Newton and Morgan.
The area most in need of help is between the River and Girard Ave. Substandard properties should be acquired. That will drive out crime and draw public and private interest and investment.
There should be increased residential density around the three schools near Lowry Ave. They are located NW of Lowry/Lyndale, at Humboldt/29th, and at Penn one block south of Lowry. Redevelopment of housing in these areas will attract families to invest and stay in the area, creating a long-term base for these schools.
The Fourth Precinct is a source of concern. Crime and traffic need to be dealt with. CPTED would help this area.

CONTACT 18: DATE: 9-26-01

CONNECTION TO LOWRY:
Resident who has lived at 31st and 6th St for 19 years, and uses the Lowry Ave corridor quite a bit.

STRENGTHS:
The corridor gets a lot of use, but could be used more.

PROBLEMS:
The Lowry corridor needs more shopping centers. There is trash on the sidewalks, drug dealers, and the there has been a break down of the rental housing available. More police protection is needed, more cracking down on criminals.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
There is a need for a police precinct at her end of Lowry, by Lyndale Avenue. There is an empty lot at 31st and Lyndale that could be used for this purpose. The bushes and other hiding places

criminals use need to be chopped down. Police officers on foot patrol would be helpful; there used to be police bike patrol of the neighborhood.
There are stores that serve as hangouts for kids. Those kids should be at home.

New restaurants are needed, not fast food joints. Cafes or coffee shops could serve as spaces to gather in and visit with neighbors.

Flowers should be planted along Lyndale and Lowry Avenue.
The buses should run further north on Washington Ave.

TRAFFIC AND PARKING:
There could be more parking available, for now people seem to use the side streets. Parking on Lowry Avenue makes it difficult for buses to maneuver along the corridor.

CURRENT PEDESTRIAN SITUATION:
She doesn't walk very much, so she wasn't very aware of current pedestrian conditions.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:

THINGS THAT DON'T BELONG:
The drug dealers and their pick-up and drop-off business do not belong in the Lowry Ave corridor.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The neighbors make it a good place. She has lived in her building for 19 years and gets along well with her neighbors even though she is the only white woman.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Clean up the drug problem, and the neighborhood will follow. People in the neighborhood cooperate, and want it to be a good place. Bring in more police presence, including K-9 units. There are too many people crowded into some rental units, for example, there is an efficiency apartment with 3 kids and 2 parents and the drug addict friends who occasionally stay overnight.

CONTACT 19: DATE: 9-27-01

CONNECTION TO LOWRY:
Runs Residents for Affordable Housing. Lives on Lowry Avenue and 3rd Ave by I-94.

STRENGTHS:
The people are the corridor's strength. The library is a strength. There are small business owners who know all the neighbors and take an active role in the community.

PROBLEMS:
There is not sufficient multiple unit housing. People along the corridor use transit and there isn't enough service. There needs to be more affordable housing in the lower than 50% range to keep

local workers in the community. The corridor has been neglected for too long. Efforts being made by the City make residents feel like they won't be around long. The City has neglected this area. Residents don't feel like they are included in the process. The process for the Upper Mississippi River Plan included very little input from the neighbors. Seeing the promotional materials for the project, they fear they'll be pushed out for higher end housing.

A number of houses that had been rental were sold in the last year, further limiting the rental market. In addition, these new neighborhood residents put up fencing and do not bother to watch the street and monitor the activities on the street. People are giving up. There is blatant crime. It takes little effort though to scare them away in the short term, for example, if they think you're a cop they'll leave.

The corner of Lyndale and Lowry is a trouble spot. Though there are some store owners who are active in the community, advocating bus use and reading the newspaper. A shop near Lyndale wants to apply for a small business loan, but is afraid of what will happen in the corridor.

STRENGTHS/ELEMENTS TO CONTINUE:
These are neighborhoods- people say hi to each other while walking by or sitting on front steps.

WHAT WOULD YOU CHANGE:
Widen the lanes to accommodate trucks and buses stopping in the second lane, which currently makes for a tight squeeze. Enforce the stoplights, because it is very hazardous for pedestrians crossing Lowry Ave. There needs to be a crosswalk at 3rd and Lowry for kids to get safely across to and from school. A fair number of drivers speed up on that stretch of road between Emerson and the freeway, often running red lights. Slow down the traffic, especially at night. Finish the bridge over the freeway.

Garbage pick-up is a problem. People roll their trashcans out on to the sidewalk, making walking down the sidewalk a dodging sport. The sidewalks are also in poor repair and not safe, so they should be fixed up. Shovel sidewalks. Additional lighting is needed, especially near 3rd where the lights are often broken for long periods of time.

Remove parking on Lowry Ave. Parking is not used much on Lowry until closer to Penn Ave. The parking lots for the small stores are in terrible repair though, and need to be redone because people will not park in them in bad weather.

A medium size grocery store like Supervalu would be a better match for the neighborhood than a Rainbow. Don't create oversized parking lots, they waste space and many residents don't own cars. A Dollar Store would have a chance to survive in the community. A barbershop for the older residents would be a good asset. The community needs gathering spaces.

Fixing up the corridor would bring the people outside and make them care and feel they are cared about. It would improve morale and result in more efforts by residents to improve their own spaces.

Hennepin County Commissioners need to be more vocal and involved in the community. Residents need to know they have people to talk to for help besides the City.

TRAFFIC AND PARKING:
The traffic is tight in some locations with turning traffic and bus traffic. Parking on Lowry further restricts the flow of traffic. People tend to use the side streets more for parking.

CURRENT PEDESTRIAN SITUATION:
Children are not allowed to hang out on Lowry usually because of the unsafe conditions. The sidewalks are difficult to walk on in the winter because many people don't shovel. Garbage and drug dealers on the sidewalk make it an inhospitable space.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Create better crossings. Better policing of automobile traffic is necessary because that is what makes the sidewalks unsafe for pedestrians. Light timings need to be adjusted.
More lighting is needed. The corner at 3rd is particularly bad at night.

THINGS THAT DON'T BELONG:
Do not add the same retail services as on West Broadway. The corridor is different and needs corner shops. Don't put in a drycleaners until the neighborhood mix has changed sufficiently to support it. A medium size grocery store like Supervalu would be a better match for the neighborhood than a Rainbow. Don't create oversized parking lots, they waste space and many residents don't own cars. A Dollar Store would have a chance to survive in the community.

Lawns that aren't maintained and garbage piling up do not belong in the corridor. Boarded up buildings should not exist, often times they are made into crack houses in the meantime.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Older residents care about the community. The people make it a good place.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus near Lyndale end of Lowry on the north side. Slow down the traffic. Light timings need to be adjusted. Widen sidewalks after widening the roads.
Allow neighborhood businesses to stay and help them fix themselves up. Sidewalk improvements should be made especially for the safety of the elderly and disabled who live in that neighborhood.
Rid the community of the drug-dealing taking place along the side streets above and below Lowry Ave.

CONTACT 20: DATE: 9-27-01

CONNECTION TO LOWRY:
Renter at Lowry Ave and Lyndale Ave.

STRENGTHS:
Lowry is a through street from Robbinsdale to Northeast Minneapolis.

PROBLEMS:
The lack of turn lanes and arrows on stoplights at Lyndale and Penn intersection is problematic for traffic.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Add left turn lanes, and no left turn at certain times of the day restrictions. Better bus service is needed because it's too slow.

TRAFFIC AND PARKING:
Traffic is generally smooth flowing except for some accidents at Lyndale.

CURRENT PEDESTRIAN SITUATION:
There are drug dealers and hookers on the street, but not many other people. There are not many places to walk to or that you would want to walk to considering the "street traffic."

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Find employment for these people on the corners, and provide them education, training, etc.

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The buses along Lowry Ave and Lyndale Ave are good features, though it would be better if they ran more frequently. Otherwise it is excellent public transit. The rents and real estate prices are still reasonable.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus on getting people jobs and self-respect. Then the neighborhood would come back. Otherwise you drive the poor people out without improving the corridor for their use. They need housing too. There is no point widening the streets and adding high-end shops because the people currently living in the corridor cannot afford those services and it will force them out of the neighborhood as real estate prices rise.

CONTACT 21: DATE: 10-1-01

CONNECTION TO LOWRY:
On the Board of Directors of the Folwell Neighborhood Association

STRENGTHS:

PROBLEMS:
The flow of traffic is a problem. Bikes and cars are not able to coexist. Buildings are rundown in sections of North Minneapolis along the corridor.

STRENGTHS/ELEMENTS TO CONTINUE:

WHAT WOULD YOU CHANGE:
Change the people- the drug dealers, prostitutes, and business owners who facilitate those illegal activities. Remove the blighted buildings. Signs in shops that say "WIC accepted here" make by-passers think that only poor people live nearby. Those signs should be inside the store and not advertised outside.

Little nodes should be created along the corridor with shopping areas, coffee shops, local eateries, corner shops without jacked-up prices, a local hardware store, and barber shops. Gas stations are also needed at the east end of the North side, like at the northwest corner of the Lyndale and Lowry intersection.

There is a nice empty brick building on the north side of Lowry by Oliver that would be a good reuse site.

TRAFFIC AND PARKING:
Turn lanes are needed at Emerson, Penn and Lyndale. Parking is okay except in the morning rush when parking is not allowed on the south side but people park there anyway. The same problem occurs during the afternoon on the north side of the street. There should be enforcement of these restrictions to show there are consequences. This often happens by the corner stores at Emerson.

CURRENT PEDESTRIAN SITUATION:
The pedestrian areas are not bad in some places. Most people probably don't walk on Lowry because of the drug dealers, hookers, and other people on the street. The stretch from Emerson to I-94 is the worst.
In winter the conditions are bad because many business and homeowners do not shovel their sidewalks or do so after more than the legal 24 hr period. This creates many icy spots which are even more dangerous than just deep snow. No consequences are given for failure to shovel.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Lighting is fine, even in the evening. Adding street trees with circular grates would improve the appearance of the corridor, but when they were added between 29th and Lowry on Emerson a while ago, vandals destroyed them within a year.

THINGS THAT DON'T BELONG:
The drug dealers and prostitutes should not be selling their wares. Previous attempts to have dollar stores on Lowry didn't last for whatever reason. Steve's warehouse is an unappealing store on the interior and exterior.

On the northwest side of the Penn/Lowry intersection is a hodge-podge of stores that doesn't look inviting.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The library and the look of the funeral homes enrich the space. The plan for the new fire station is a good addition to the community.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus efforts at the key nodes. Improve the look and feel of these places. Improve the flow of traffic by adding turn lanes. University and Lowry has a nice look with the new gas station. Do similar work in North to make the corridor more appealing.

CONTACT 22: DATE: 10-22-01

CONNECTION TO LOWRY:
Jordan Area Community representative to Penn/Lowry Implementation Committee, member of the Jordan Area Community's Housing Committee, and resident of North Minneapolis.

STRENGTHS:
The combination of commercial and residential is an asset. There are opportunities available to create new mixed-use projects. There are 5 neighborhoods working together to improve the Penn/Lowry intersection. Neighborhoods are also working with the Minneapolis Community Development Agency (MCDA). The corridor has good growth potential. A project at Penn/Lowry is being considered that would have senior housing over commercial. If it was rental a rental office would be located on the first floor, with for-sale housing there would be more room for different options, including a food court.

Lowry Avenue is a good road. It connects to the parkway and offers a connection to the Mississippi River.

PROBLEMS:
If the economy falls, so will the Northside along Lowry Avenue. Currently the Northside has a fair amount of old buildings in ill repair, some of which have been removed leaving behind vacant properties.

Some commercial properties are unused and others are underutilized. There is not as high a density of commercial services as exist on Broadway Ave. There is a lack of funds to improve the community. For example, developers are just beginning to come into the community to invest, particularly around the Penn/Lowry intersection. However, this trend is very dependent on the economy.

In the Jordan neighborhood there is weak representation from the residents. The few people who represent neighborhoods do not know if they represent the majority view since so few residents voice their opinions.

STRENGTHS/ELEMENTS TO CONTINUE:
Planning and organizing the neighborhoods needs to continue in order to see more activity within the neighborhoods. Citizens are needed to push projects along.

Mass transit is good in the corridor, but could be improved.

WHAT WOULD YOU CHANGE:
Add more mass transit service, depending on demographics of the corridors. Develop more medium density housing, which will increase the need for transit providing a cross-town connection, especially to industry on the northeast end of Lowry Avenue.

Parking is needed, particularly for the few residential properties that front on Lowry Avenue. Turning room is needed at the Penn/Lowry intersection.

Better lighting is needed along Lowry Avenue.

Commercial spaces are underutilized, and need to be upgraded. An old gas station should be developed into something useful for the community.

Create more funding for strategic planning in the neighborhoods and small business improvement loans. Spend money on the corridor overall- invest in it.

Old housing that is in poor repair should be replaced with better housing to create a stronger tax base for the area. This will help pay for the cost of the new lighting, etc. Better state and federal financial support for schools would reduce the tax burden on residents to pay for schools. Some of those savings in taxes could then be replaced with taxes that cover the cost of maintaining the proposed new amenities for this corridor and other similar projects.

TRAFFIC AND PARKING:
There is not as high traffic volumes as there will be in the future. Parking is okay, but it limits room for turning traffic and vehicle passing room.

CURRENT PEDESTRIAN SITUATION:
More sidewalk space is needed. During rush hour, safety is a great concern for pedestrians. There have not been many accidents to date. A wider boulevard would serve as a good buffer, especially when both lanes of traffic are in use.

There are a few properties where businesses crowd the sidewalk, such as the bowling alley. At nodes the buildings are often built to the sidewalk edge.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Develop new storefronts along Lowry with a setback from the sidewalk. Create more comfortable bus stops. Add lighting to the corridor.

THINGS THAT DON’T BELONG:
No.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
There aren't any things that make it a good place yet. There is tasteful signage on some commercial properties.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus on the neighborhood groups, and determine who needs the most help. There is a need for a new set of residents to get involved to help certain neighborhoods get organized to move projects forward.

CONTACT 23: DATE: 10-22-01

CONNECTION TO LOWRY:
Executive Director of McKinley Community

STRENGTHS:
There are interesting buildings located along the Lowry corridor. Lowry is a gateway to the river, and could become an even stronger one. The corridor is a major cross-city thoroughfare. The diversity of the community and local business owners are strengths.

PROBLEMS:
The corridor is not very pretty; it's bleak. There are no trees.

Traffic moves too fast.

Businesses are scattered along the corridor, and not concentrated at nodes. Not many of the existing businesses serve the needs of the residents. There are semi-shady businesses and then auto repair shops. There is a demand for businesses that provide services the residents need.

STRENGTHS/ELEMENTS TO CONTINUE:
The McKinley neighborhood has paid for a study of the possibility and the resulting impacts of daylighting Silver Lake, which used to cover the area between Lowry and 34th Ave from Colfax Ave to Aldrich Ave.

The neighborhood is currently working with a consultant and the Hawthorne neighborhood to finish a study of the redevelopment potential of the Lowry/Lyndale intersection. This plan includes both housing and economic development options. In this plan the commercial buildings on the Northside of the intersection remain but are refurbished. Housing density would increase around Lyndale, with a mix of types provided. Larger market-rate single-family housing, townhomes, apartments, senior housing, and housing for people with disabilities. In some instances residential would be located above commercial.

The neighborhood is negotiating with the park board to develop the park north of CityView school as market-rate housing, and use the proceeds of the sale of the property to purchase other

property in the neighborhood for green space. The neighborhood would prefer to use that to build a greenway along 33rd Ave from the school to at least Lyndale.

WHAT WOULD YOU CHANGE:
The ideal scenario would include restoring Silver Lake and creating a greenway along 33rd Ave to the school from the lake. This greenway would provide off-street bike paths for recreational riders.
Trees, façade improvements, a boulevard in the middle of the road, and pedestrian level lighting would all improve the look of the corridor. Nodes for commercial services should be developed with some new commercial buildings and space to accommodate the relocation of viable existing local businesses. The company Ageless Possibilities has been working for a while to develop a multi-use building in the neighborhood with commercial on the first floor and multi-generational housing above.

There needs to be a way to connect the neighborhood to the river, especially in connection with the Upper River Plan.

TRAFFIC AND PARKING:
Traffic moves too fast. She uses parking lots for businesses rather than parking on the street. It appears there are places to park, except that creates obstacles for drivers.

CURRENT PEDESTRIAN SITUATION:
The drug dealers and prostitutes are practically the only people using the sidewalks. Only a couple of business owners make the effort to sweep the sidewalks in front of their businesses and keep them free of weeds. A few “Sweep Events” in the summer to clean up the neighborhood help, but efforts are not consistent among property owners and over the course of the year.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Trees, façade improvements, a boulevard in the middle of the road, and pedestrian level lighting would all improve the look of the corridor. Nodes for commercial services should be developed with some new commercial buildings and space to accommodate the relocation of viable existing local businesses.

THINGS THAT DON’T BELONG:
Drug dealers and prostitutes do not belong in the community. Boarded up buildings and businesses that don’t serve neighborhood needs also do not belong.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
McKinley neighborhood is a good place to begin, and they have a plan.

Properties that are changing hands should be purchased now while available and affordable.

Trees and pedestrian lighting will help a lot. Daylighting Silver Lake would create a natural amenity that would bring in housing to improve the local tax base.

CONTACT 24: DATE: 10-22-01

CONNECTION TO LOWRY:
Board Member of the Cleveland Neighborhood. Member of the Penn/Lowry Implementation Committee (PLIC).

STRENGTHS:
The neighborhoods along Lowry are beginning to improve. There are proposals for development at the Penn/Lowry intersection. There has been a rise in the price of housing, especially in North Minneapolis. Hard work to improve the area is finally beginning to pay off. There is a new mix of population.

It is beneficial that the nine neighborhoods along Lowry Ave are committed to work on this study to produce a useful study.

PROBLEMS:
Lowry is a commercial corridor in bad need of revitalization. Properties and the community were decaying. The liquor store was the strongest local business, and drew people who did not respect surrounding neighborhoods. Properties were not maintained. Developers are just returning now.

There is crime on Lowry, and there needs to be efforts made to turn around these families with involvement and social services rather than just pushing them out of the area.

STRENGTHS/ELEMENTS TO CONTINUE:
People need to continue to work together, coming out of isolation. Residents need to be responsible and take ownership of their neighborhoods. Knowing one's neighbors and taking a stand for acceptable behavior will help to continue to improve the community.

Older folks are moving back to the area from the suburbs because of the services the city offers. This trend should be encouraged.

WHAT WOULD YOU CHANGE:
Lowry should be a parkway with plenty of green space, slower traffic, and wider sidewalks.

Commercial uses should be concentrated at nodes with family-owned businesses in live-work units. No more convenience stores are needed. Residential should be added in between the nodes. Overall, the corridor needs a nicer look, and to be strollable and bikeable.

TRAFFIC AND PARKING:
Traffic moves too fast. Stop signs are often ignored, making it a hazardous environment for pedestrians. There is more parking than is needed. Residents would rather be able to walk to businesses.

CURRENT PEDESTRIAN SITUATION:
Traffic moves too fast. Stop signs are often ignored, making it a hazardous environment for pedestrians. The street edge is unfriendly as it is bordered by parking lots and abandoned buildings in many places.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
More green space is needed along Lowry Avenue. Traffic should be slowed down, and commercial located at nodes to make it walkable. Increased housing density along the corridor will also improve the pedestrian environment and support more needed local businesses.

THINGS THAT DON'T BELONG:
Fronts for illegal drug dealing and prostitution operations don't belong in the community. The current mix of commercial doesn't work. Liquor stores are feeding the problem. Purse-snatching from the elderly needs to end.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
Businesses that have held out and some new businesses that take care of their space with considerate customers are assets for the community.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Focus first on the commercial nodes, then on developing the housing in between. New development should not be built right to the street edge. Wider sidewalks are also needed.

The improvements at Penn/Lowry will make or break that area.

CONTACT 25: DATE: 10-28-01

CONNECTION TO LOWRY:
Landlord for several properties in North Minneapolis, particularly around Colfax Ave.

STRENGTHS:
There are good tenants out there in the northside community.

PROBLEMS:
Crackheads and drug dealers are problems impacting the northside along Lowry Ave. Many drivers go too fast along Lowry and side streets. The convenience stores are crap. There are no good retail stores that would work along Lowry. A restaurant at Emerson and Lowry would not succeed since none have been successful there to date. Not enough residential available along the corridor.
There isn't a coffee shop; Black people drink coffee too.

STRENGTHS/ELEMENTS TO CONTINUE:
Encourage the good tenants to remain and new ones to move in to the community.

WHAT WOULD YOU CHANGE:
Add stop signs to slow down speeding drivers. Add more residential properties along Lowry and on side streets, especially owner-occupied housing.
Get ride of the drug dealers and the druggies. They cause crime problems and degrade properties.
A bike lane is needed because the current conditions are dangerous and riders are often at risk for being hit or run over.
There are three stores at the Lyndale intersection, and there needs to be something else there.
Convert more streets crossing Lowry to one-way streets.
Make the Lowry corridor a working neighborhood. Add coffee shops and other services oriented to local residents.

TRAFFIC AND PARKING:
There are numerous problems related to the feeder roads. Colfax Ave should be made a one-way street southbound, especially because of the hill that many drivers take too fast even in the winter. Add more one-way streets crossing Lowry. Most of the traffic on feeder streets seems to be traveling south. There are problems around Bryant and Aldrich due to the jog in the street alignment.
People only park on Lowry and the side streets when they have to. Accidents occur with parked vehicles even on the side streets due to speeding traffic. Exiting a parked vehicle is hazardous for this same reason.

CURRENT PEDESTRIAN SITUATION:
The main pedestrians are drug dealers and prostitutes. On Colfax Avenue many of the residents don't tolerate it. They make efforts to push these "pedestrians" out of the neighborhood when they see them. There is nowhere for residents to walk anyway.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Get rid of the GoldStar and the problem people will leave.

THINGS THAT DON'T BELONG:
The odd mix of residential and commercial doesn't work for the corridor. The problem then is where do residents shop. Most of the businesses do not serve residents' needs.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
There is a printing company at Emerson that is a good legitimate business, but residents don't have a need to use it.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Target the drug dealers first and force them out of business. A Precinct 4 Substation is needed at Lyndale. Once the drug dealers move on that will do lots to improve the area. Perhaps the neighbors could contribute $5 per house to hire a security guard to circle the neighborhood a few times a night on patrol. Drug dealers need to be afraid of people, so make trouble for them.
Public investment in the area alone might not push them out.
He has a property on a corner near Colfax that the police could lease for a substation.

CONTACT 26: DATE: 11-28-01

CONNECTION TO LOWRY:
Vice Chair of the Folwell Neighborhood Association

STRENGTHS:
There is lots of potential in the Northside of Minneapolis. The value of real estate is increasing, new young families are moving in to the area, and good changes are happening at nodes like Penn, Emerson/Fremont, and Lyndale. Relocating the fire station will bring new businesses to the corridor.

PROBLEMS:
Crime is a serious issue along Lowry. The police are working to curtail prostitution. Better control of traffic flow is needed, with more stop lights or modifications to move traffic better through the corridor. The lack of turn lanes hinders traffic flow. East-west transit service is weak. More residents would use transit if they didn't have to go through downtown in order to reach Northeast Minneapolis.
There is a lack of business hubs and off-street parking for existing businesses.

STRENGTHS/ELEMENTS TO CONTINUE:
The hardware store in North Minneapolis is an asset. Retain other businesses that are assets to the community. The buildings along Lowry on the Northside are attractive despite a few blighted buildings. The area has a rich history- it was the wealthy neighborhood before Edina developed- which is reflected in quality older homes in the neighborhoods around Lowry.
People are buying homes and fixing them up, particularly in the Jordan neighborhood, which helps improve the appearance and image of the neighborhoods.

WHAT WOULD YOU CHANGE:
More concentrated housing is needed along Lowry. Senior housing that is being constructed at Penn is a good example of what is needed. Fix up or replace blight along the corridor. Get rid of vacant properties.

Turn lanes are needed along Lowry, especially at major intersections like Penn, Emerson, Fremont, and Lyndale. New stoplights with left turn signals would also be beneficial in improving traffic flow. Add east-west transit service that is continuous along Lowry. Consider adding medians to prevent people from darting across Lowry, which has resulted in accidents and near misses. This would be a way to enforce driving behavior control through design.

Build business hubs, though once the Lowry Corridor project is underway the businesses will come. Make sure that the redesign of nodes does not restrict the ability of new businesses to function. Provide more off-street parking at these nodes.

The mortuary that is going out of business would work well as a locally owned upscale restaurant like Little Jack's and Jax's in Northeast Minneapolis.

TRAFFIC AND PARKING:
Better control of traffic flow is needed. Turn lanes are needed along Lowry, especially at major intersections like Penn, Emerson, Fremont, and Lyndale. New stoplights with left turn signals would also be beneficial in improving traffic flow. Consider adding medians to prevent people from darting across Lowry, which has resulted in accidents and near misses. People ignore stop signs.

There is a lack of off-street parking for existing businesses.

CURRENT PEDESTRIAN SITUATION:
There is a fair amount of foot traffic, which will increase when the senior housing is built on the corner at Penn because it will also have first floor retail.

Crime after dark is a major deterrent to pedestrians, people are simply afraid to go outside. Lighting is okay, but the city should consider using brighter lights again to eliminate shadowed corners and alleys that serve as hiding spaces.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
The city should consider using brighter lights again to eliminate shadowed corners and alleys that serve as hiding spaces.

THINGS THAT DON'T BELONG:
There are a number of shady businesses along Lowry including the nail and beauty shops that seem to be providing other services.

The liquor store just south of Penn/Lowry is all right as long as it does not carry the low-end liquor or allows lingering on their property. The owner of that store is considering remodeling to make his business more upscale.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
There is a nice mix of residents of different ethnicities that build the character of the community. There are ethnic shops now that provide everything from African clothing for the Somalis to specialty Asian groceries.

The businesses that legitimate tend to be good businesses. The mortuaries are good solid businesses that keep their properties very well maintained.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
First focus efforts at the intersection of Lyndale and Lowry. There are bad buildings and crime there that need to be dealt with.

An on/off ramp from I-94 should be added at Lowry to bring shoppers to the corridor. Not having this access point limits the ability of people from other parts of the metro area to get to the corridor.

There are scattered properties that are blighted and should be dealt with to improve the appearance of the corridor.

It's been quite a few years since a real roadway improvement has been conducted, so investment should definitely be made in the road.

CONTACT 27: DATE: 11-28-01

CONNECTION TO LOWRY:
Patrol member for the Cleveland Neighborhood, PLIC Committee Member

STRENGTHS:

PROBLEMS:
There are dumpy businesses that should be cleaned up. There are also businesses that are shady, with people inside long past closing time. There is concern that these businesses are doing illegal activities, including a barber shop off Lowry in N Minneapolis.

Drug dealing and prostitution are problems on the Northside of Lowry. The police don't seem to be concerned or deal with the problem even when prostitutes are weaving in the street at 5am.

The Lowry Ave bridges are poorly lit, and people walk over them in the early morning.

STRENGTHS/ELEMENTS TO CONTINUE:
The police substation works well where it is, and shouldn't move.
The workforce center on Penn kitty-corner from the empty lot is a good business.

WHAT WOULD YOU CHANGE:
Add left-turn lanes, especially at the major intersections including Penn, Emerson, Fremont, and Lyndale. Add bump outs for parking. Add cameras on traffic lights to catch traffic violators, especially those who run red lights and speed.

Clean up blighted buildings. Get new legitimate businesses in to the community.

TRAFFIC AND PARKING:
The police have clamped down on traffic at the west end. People are still not moving their cars out of the managed parking during the peak hours when parking is not allowed. You can park almost anywhere otherwise, except for the bus lanes.

There are a couple of people in particular who run red lights (they stop, look both ways, and then go before the light turns green).

CURRENT PEDESTRIAN SITUATION:
There are not many pedestrians except by Super America. There is trash all over the sidewalks. A building near the steak house is always messy.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
To make it more pedestrian friendly plant trees, shrubs and flowers, and add lighting.

There are not many bike riders now, not sure if they would use Lowry if facilities were provided.

THINGS THAT DON'T BELONG:
Non-legitimate businesses and messy properties don't belong on Lowry.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The old Bremer School with its nice big windows is an asset to the neighborhood. The library and police substation are also noteworthy locations.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Getting rid of crime and improving safety should be priorities. There is a significant amount of drug traffic at Penn in the evening and all day at Lyndale.

NRP money from the Cleveland neighborhood was earmarked for lighting and providing help for seniors. This money probably has not been spent and perhaps could be used for improvements on Lowry as described in this plan.

CONTACT 28: DATE: 11-29-01

CONNECTION TO LOWRY:
Former member of Cleveland Neighborhood Board of Directors (12 years)
Resident of Cleveland for 24 years

STRENGTHS:
There is a lot of traffic, and there could be more businesses benefiting from that customer base.

PROBLEMS:
Lowry Avenue is a straight shot from end to end with traffic moving too fast. The corridor is poorly lit.

STRENGTHS/ELEMENTS TO CONTINUE:
Not now.

WHAT WOULD YOU CHANGE:
Slow traffic and create little parking areas for businesses. Change the road to curve gently to add interest and slow the traffic. Make it more pedestrian friendly with lighting, landscaping, benches, and trashcans.

TRAFFIC AND PARKING:
There is no parking along the corridor. Traffic is zooming along, and needs to be slowed.

CURRENT PEDESTRIAN SITUATION:
The pedestrian environment is not safe because of the high rate of speed of traffic.

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Make it more pedestrian friendly with lighting, landscaping, benches, and trashcans.

THINGS THAT DON'T BELONG:
The drug dealers don't belong in the corridor.
Properties that aren't maintained or upgraded do not belong as they drag down a neighborhood. For example, the property that will now house a senior residential and retail complex used to have a building that the landlord refused to invest in upgrading, so businesses could not succeed there. That needs to be prevented.

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
There used to be restaurants and lots of stores particularly at Penn that met residents' needs, including a video store, bakery, and cafes. When Penn is redeveloped it will enrich the neighborhood once again.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
Create little business nodes at Penn, Fremont/Emerson, and Lyndale. Add streetscape and then improve the road itself.

CONTACT 29: DATE: 11-29-01

CONNECTION TO LOWRY:
Chair of Webber Camden Neighborhood

STRENGTHS:
Lowry has a central location for the Northside, and provides a straight shot to the river.
There is a good base of housing in the neighborhoods around Lowry.

PROBLEMS:
The Northside has a bad reputation, due in large part to the yet unresolved crime problems. There are boarded up and decrepit buildings. Traffic moves too fast on Lowry Ave.

The liquor store on Penn is considering building a new building setback in the suburban style, which would be detrimental to the appearance of the corridor and reduce the pedestrian accessibility of the business.

STRENGTHS/ELEMENTS TO CONTINUE:
There are old commercial buildings at the major nodes that should be saved.

WHAT WOULD YOU CHANGE:
Make the street more attractive by widening the boulevards or adding planted medians, adding landscaping treatments, and curving the road slightly to break it up.

Tear down substandard housing at the east end of the North end, near Lyndale.
Add more townhomes and senior housing with single level units, like the County built on the Humboldt project.

Tie CityView School to the river and Lowry, as some previous plans have suggested.

TRAFFIC AND PARKING:
Traffic moves too fast along Lowry. Parking is probably fine, but doesn't know much about the current conditions.

CURRENT PEDESTRIAN SITUATION:

RECOMMENDATIONS FOR PEDESTRIAN FRIENDLY:
Add a boulevard to pull the pedestrian traffic away from the high speed auto traffic in order to make it more comfortable and safer for pedestrians.

THINGS THAT DON'T BELONG:

THINGS THAT MAKE IT A GOOD PLACE OR ENRICH THE SPACE:
The Old Bremer School and the library are anchors. The Post Office grounds could be more attractive. The senior housing at Penn will be a strong addition to the corridor when it finally gets built.

WHERE EFFORTS SHOULD BE FOCUSED/ PRIORITIZED:
The Penn-Lowry intersection needs to have some more uses built there and remaining buildings rehabilitated. There is more of a base to draw from in Cleveland, and the empty storefronts should be filled.

April 9, 2001

MEMORANDUM

TO: Phil Carlson
Dahlgren, Shardlow and Uban

FROM: Thomas G. O'Neil
Maxfield Research Inc./Market Research Partners, Inc.

RE: Housing Market Overview: Lowry Corridor

Introduction

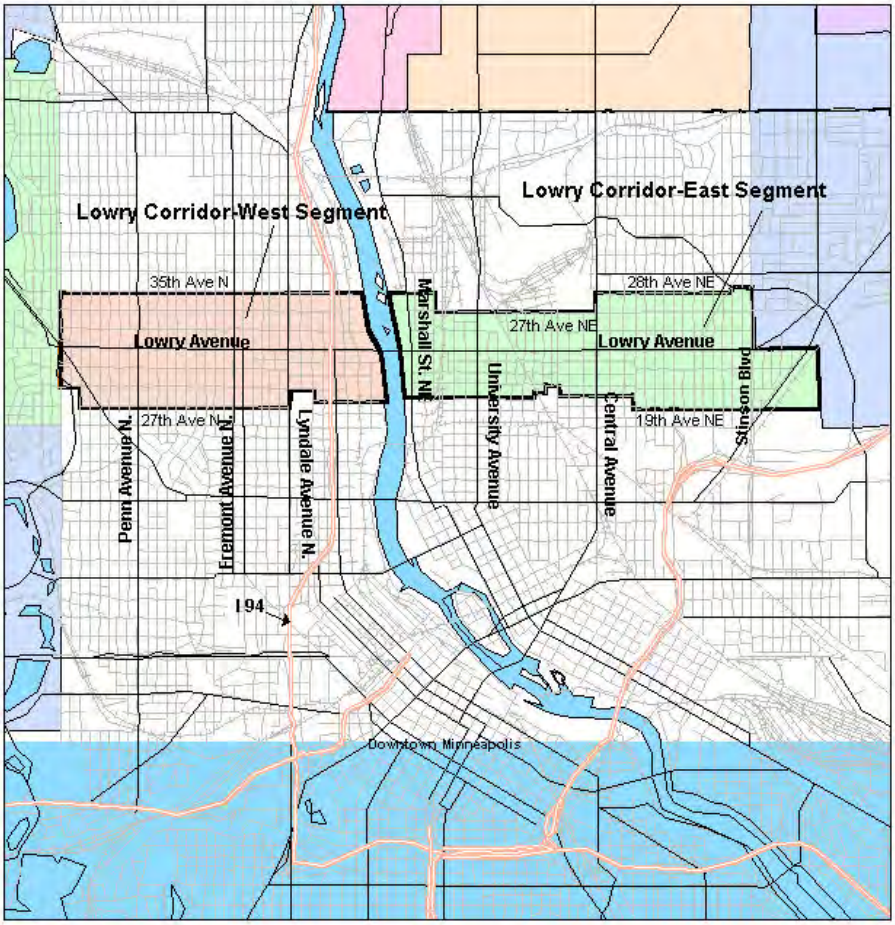
The purpose of this memorandum is to present information on current market conditions for owned and rental housing within the Lowry Corridor, which is defined as the area within three blocks north and south of Lowry Avenue (see Map 1).

The information contained in this memo is intended to provide a good overview of the condition of owned and rental housing markets in the Corridor, and to help establish a basis for considering development alternatives that involve housing at key nodes. A follow-up memorandum, to be delivered later in April, will summarize current conditions for office, industrial, retail and vacant land uses.

A full feasibility study will be conducted later in the Corridor study process to determine the economic feasibility of detailed, prioritized development concepts.

This memorandum also contains a brief overview of planned housing developments within the Lowry Corridor, of which there are few at this time.

Map 1
Lowry Corridor Housing Market Analysis Area
April 2001



Sources: Maxfield Research Inc., Market Research Partners, Inc.

Summary of Findings

Single-Family Housing Market Conditions

- ***The Lowry Corridor single-family home market has experienced a strong resurgence over the past six years***. Prices have increased by 10% annually in the Corridor, home sale market times have fallen to just 2 weeks, and over half of the sellers garnered 100% or more of asking price in 2000. By all accounts, there is strong interest in owned housing in the Lowry Corridor.

- ***The sales volume in the western segment of the Lowry Corridor (west of the Mississippi River) has picked up dramatically over the past five years***, with homes selling at a faster pace than the Twin Cities overall. The Northeast segment of the Corridor has remained unchanged in sales volume over the past six years.

- ***Inexpensive single-family housing is the fuel for the currently strong resale market in the Lowry Corridor.*** The median price for a single family home in the Corridor ($95,800) was just over half the median of the Twin Cities overall in 2000. This low cost level is attractive to moderate-income buyers, who are having increasing difficulty buying housing throughout the Twin Cities, where the average single-family home sales price has recently exceeded $180,000.

- ***The eastern segment of the Corridor, east of the Mississippi in Northeast Minneapolis, has produced the highest home resale prices in the Corridor***. The eastern segment of the Corridor appears to capture a substantial price premium over the western segment, perhaps as much as $50,000 for a comparable unit. This eastern section also has shown stronger annual price appreciation than the western segment over the past six years: 12% versus 10%.

- ***The strong market demand for single-family homes is encouraging for the development of new, owned housing.*** New housing on the west side of the River within the Corridor would likely be price-constrained, due to the low- and moderate-priced homes in the North and Camden markets ($80,000 and $95,000 average sales price in 2000, respectively). However, MCDA officials have cited new homes selling in Near North in the Lyn Park area (near 14th and Lyndale) for as much as $200,000, and home prices in the Humboldt Greenway redevelopment area will likely be relatively high for the area.

- ***Development on the east side of the Corridor could likely attract higher prices than the west side***, given the relatively higher home resale values in the Northeast area (just over $128,000 last year) for older pre-WWII homes.

Rental Housing Market Conditions

- ***The current rental market is "frozen" in the two areas containing the Lowry Corridor.*** North Minneapolis had an overall rental vacancy of just 0.3% in the 4th Quarter of 2000, leaving virtually no opportunity for renter households to move into the community or for current renters to upgrade their living arrangement. Northeast Minneapolis fared not much better, with a 0.8% vacancy rate. Comparatively, the 1.5% estimated vacancy in the Twin Cities overall looks almost generous.

- ***Rents in North Minneapolis are significantly below the Twin Cities average, reflecting an older rental stock and virtually no new units added in 10 or more years.*** The rental stock in North Minneapolis is comprised of smaller (4-12 unit) buildings that are owned and operated by individuals with limited financial means or interest to reinvest in property upgrades. This constrains the evolution of the market, as little new or improved product is introduced.

Planned Housing Development in the Corridor (Owned and Rental)

- There is just one firm housing development proposal at this time in the Lowry Corridor, while another is fairly likely, but short on detail. Dunbar Development has proposed a ***54-unit, independent senior rental building on the southeast quadrant of Penn and Lowry***. The senior units would reside above 17,000 square feet of commercial (retail) space, and 20% of the units would be at affordable rent levels. The MCDA expects the project to start construction in Fall 2001.

- ***Adjacent parcels on the southeast quadrant of Penn and Lowry could accommodate roughly 9-10 for-sale townhomes***, according to the MCDA. This proposal, however, depends on the elevation of the site to Tax Increment Financing (TIF) status, something MCDA officials are currently working on.

- MCDA officials are also working on roughly ***10 scattered sites to encourage home renovation or redevelopment in the Jordan Neighborhood, and 18 new home construction projects on derelict sites in the Hawthorne Neighborhood***. The new homes are expected to sell for $135,000 to $150,000. Eligible parcels within the Corridor itself would be subject to this condemnation and redevelopment process, although MCDA officials believe that any parcels fronting Lowry Avenue would not be likely candidates until the Corridor redevelopment plan is finished.

Single-Family Housing Market Trends in the Lowry Corridor and Surrounding MLS Districts

Introduction

This section presents key indicators of the single-family home sales market in the Lowry Corridor (3 blocks north and south of Lowry Avenue), as well as in the three Multiple Listing Service (MLS) districts that contain the full Corridor across Minneapolis:

- District 305 - North Minneapolis
- District 301 - Camden
- District 306 - Northeast Minneapolis

We analyzed data for more than 8,500 single-family home sales that occurred between 1995 and 2000 in these three districts; just under 2,600 of these sales occurred within the six-block wide Lowry Corridor itself. The following sections discuss trends in sales volume, home sales prices, buyer demand for prices and market times.

Home Sales Volumes

Table 1 and Charts 1 and 2 show trends in sales volume over the six-year period. The data reveals the following:

- ***There has been increasing market interest in homes in the western half of the Lowry Corridor*** – The number of sales in the western segment of the Corridor (the west side of the Mississippi River) increased by 10.4% annually, from 211 in 1995 to 347 in 2000. In contrast, the eastern segment of the Corridor showed no change in sales volume, remaining constant at about 170 sales per year.

- ***There has been a resurgence of home sales in North Minneapolis*** – The number of homes sold in the North Minneapolis MLS district increased by over 10% annually compared to just 4% in Camden and less than 1% in Northeast Minneapolis. The Twin Cities Metro Area increased by 3.4% during the same period.

- ***The housing market in the western part of the Lowry Corridor is currently double that in the eastern half*** – In 1995, sales volume in the eastern segment of the Lowry Corridor represented more than 80% of the activity in the western segment (170 sales versus 211 sales). By 2000, however, eastern-segment volume had fallen to just 48% of western

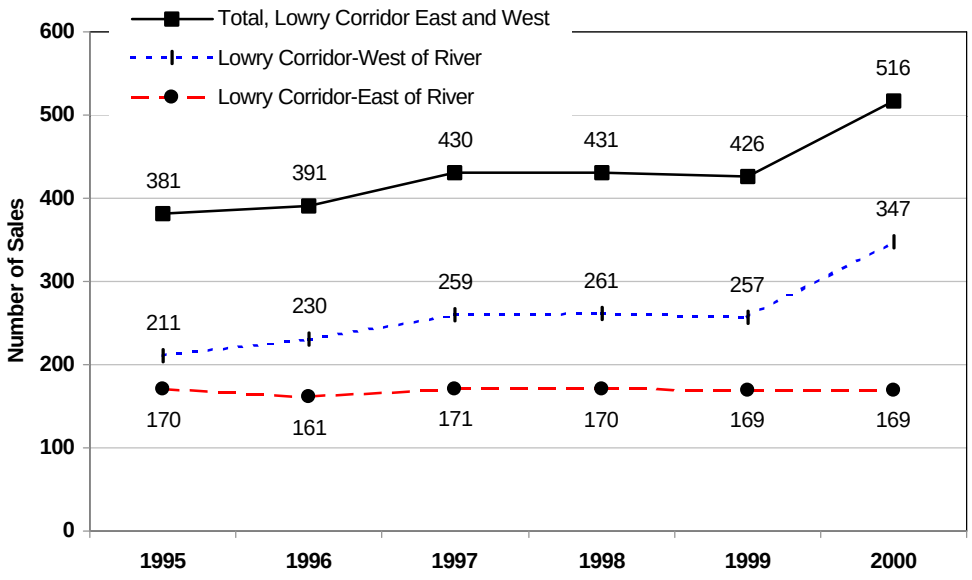
Table 1
Sales Volume
Lowry Corridor Segments (West and East) and MLS Districts
1995-2000

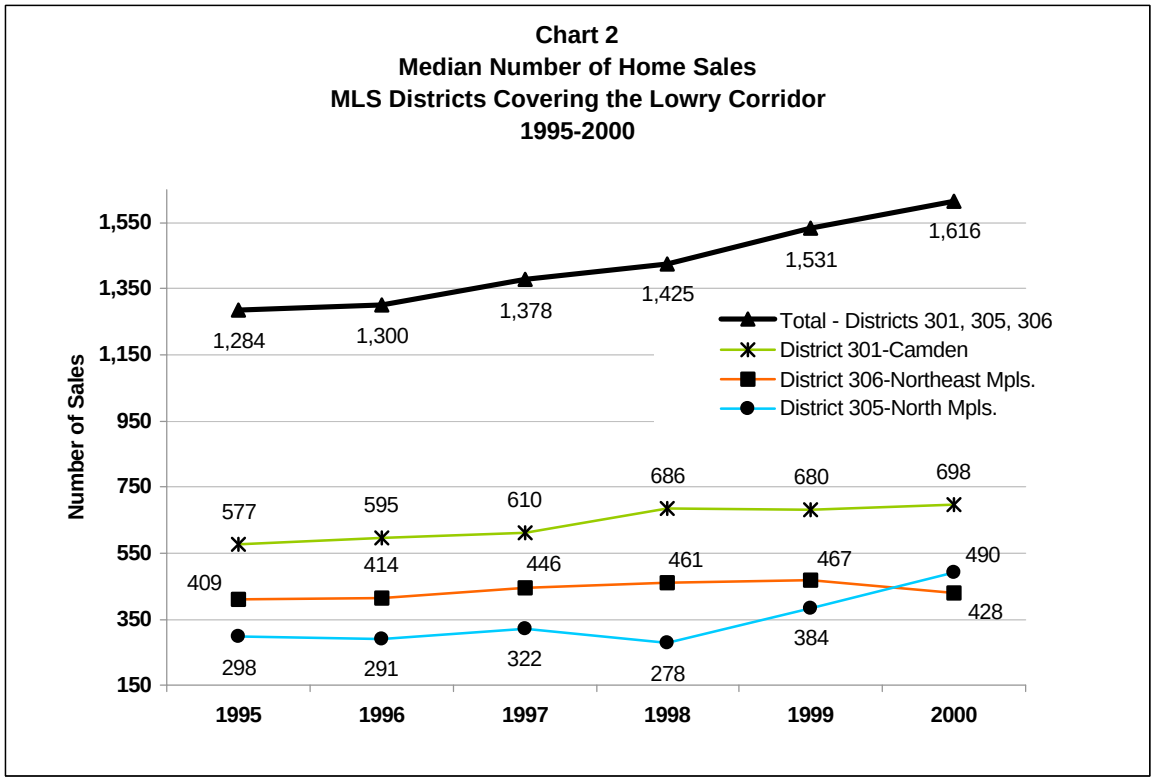
							Change 1995-2000	
Lowry Corridor Segments	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Number**	**Annual Rate**
West of River	211	230	259	261	257	347	136	10.4%
East of River	170	161	171	170	169	169	-1	0.0%
Total, East and West Segments	381	391	430	431	426	516	135	6.2%
MLS Districts Containing the Lowry Corridor								
District 301-Camden	577	595	610	686	680	698	121	3.9%
District 305-North Mpls.	298	291	322	278	384	490	192	10.4%
District 306-Northeast Mpls.	409	414	446	461	467	428	19	0.9%
Total - Districts 301, 305, 306	1,284	1,300	1,378	1,425	1,531	1,616	332	4.7%
13-County Twin Cities M. A.	64,556	73,433	77,871	79,060	72,915	76,289	11,733	3.4%

Note: The Twin Cities volume figures cover all for-sale residential properties.

Sources: Vista Information Services, Market Research Partners, Inc., Maxfield Research Inc.

Chart 1
Median Number of Home Sales
Lowry Corridor Segments: West and East of River
1995-2000





segment volume, indicating far stronger market interest in the past six years in the North Minneapolis/Camden housing stock than in Northeast Minneapolis stock. This likely has much to do with the lower cost of housing on the west side of the River, which is discussed next.

Average Home Sales Prices (Raw Dollars)

Table 2 and Charts 3 and 4 show trends in sales prices from 1995 to 2000 in the Lowry Corridor. The table presents average prices while the charts show median prices.

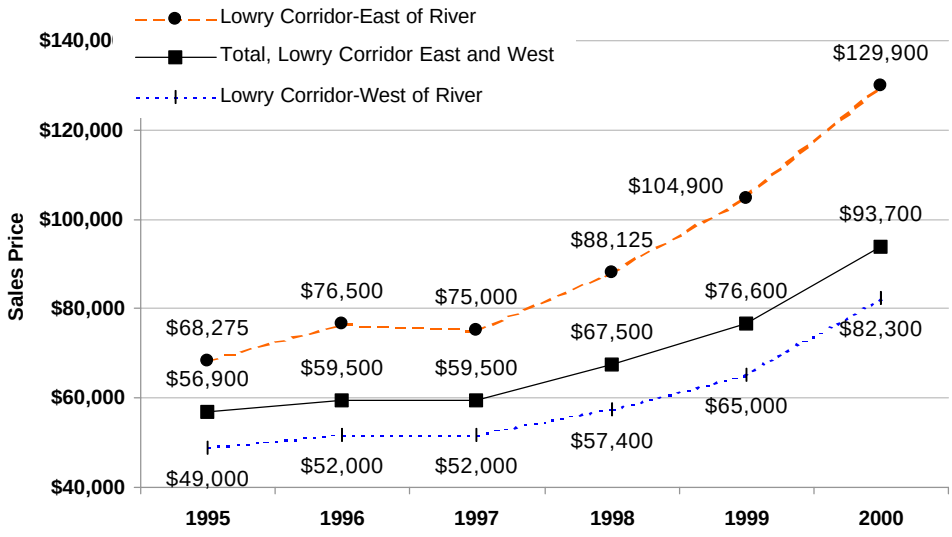
- ***Home prices in the Lowry Corridor and the surrounding MLS districts grew at faster rates than the Twin Cities overall*** – Overall, average sales prices in the full stretch of the Lowry Corridor, as well as the three surrounding MLS districts combined, grew at an annual rate of just over 10% (Table 2). Comparatively, the 13-county Twin Cities Metro Area average sales price increased by 7.7% over the six-year period. The average home sales price in the Corridor started from a low base –just $58,749 in 1995– but rose to $95,784 between by 2000, a gain of $37,035.

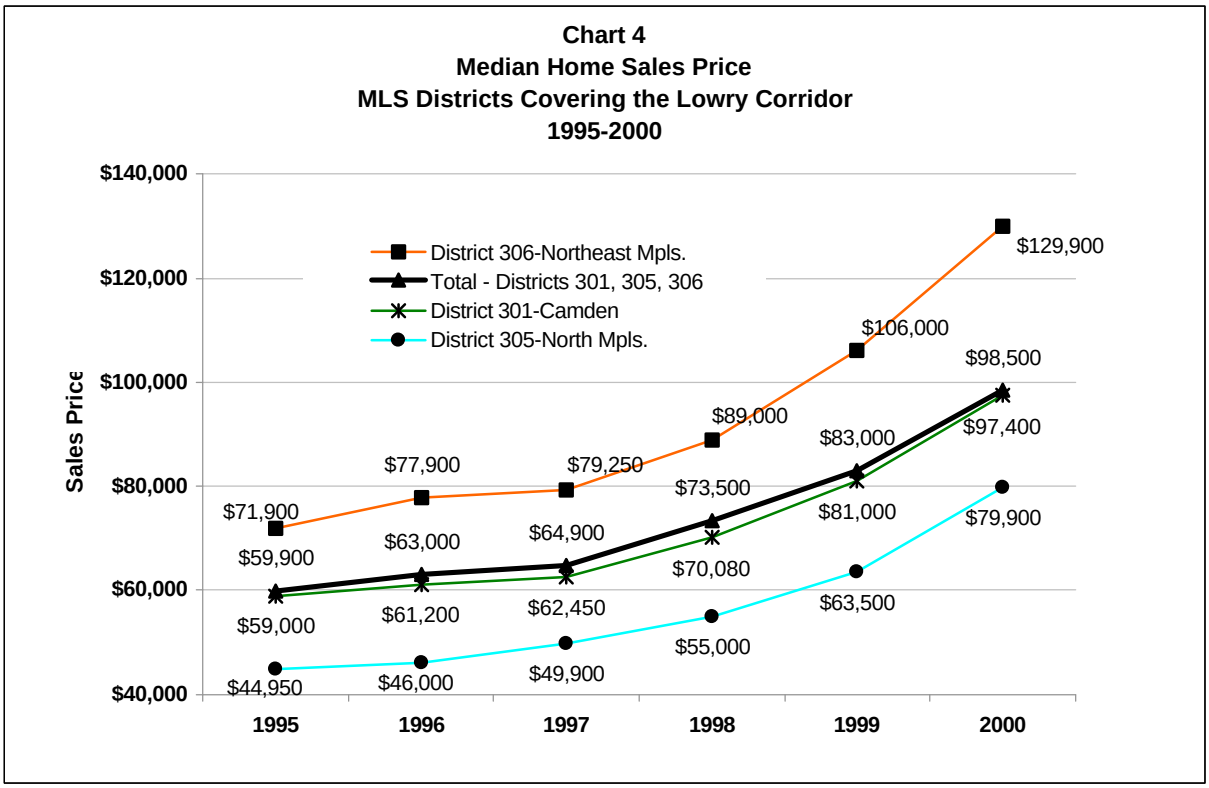
Table 2
Average Single-Family Home Sales Price
Lowry Corridor Segments (West and East) and MLS Districts
1995-2000

							Change 1995-2000	
Lowry Corridor Segments	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Number**	**Annual Rate**
West of River	$48,553	$51,725	$54,493	$58,573	$64,926	$80,088	$31,535	10.5%
East of River	$71,405	$75,155	$75,095	$91,697	$105,516	$128,011	$56,606	12.4%
Total, East and West Segments	$58,749	$61,373	$62,686	$71,638	$81,029	$95,784	$37,035	10.3%
MLS Districts Containing the Lowry Corridor								
District 301-Camden	$59,422	$62,018	$63,119	$70,935	$80,627	$95,309	$35,887	9.9%
District 305-North Mpls.	$46,278	$47,923	$52,259	$57,897	$63,308	$79,342	$33,064	11.4%
District 306-Northeast Mpls.	$72,742	$76,864	$78,563	$90,401	$105,822	$128,463	$55,721	12.1%
Total - Districts 301, 305, 306	$60,614	$63,590	$65,580	$74,689	$83,968	$99,251	$38,637	10.4%
7-County Twin Cities M. A.	$126,511	$134,668	$140,863	$150,904	$166,802	$183,764	$57,253	7.7%

Sources: Vista Information Services, Market Research Partners, Inc., Maxfield Research Inc.

Chart 3
Median Home Sales Price
Lowry Corridor Segments: West and East of River
1995-2000





- ***Overall, homes in the Lowry Corridor are low to moderately priced –*** The average price for a single-family home in the Corridor is about half that for a home in the Twin Cities overall ($95,784 versus $183,764). The strong increase in sales volume over the past six years in the Corridor, in the western half in particular, is likely in reaction to these moderate home prices. Moderately-priced homes in the Lowry Corridor have become increasingly in demand as the larger Twin Cities market has escalated to over $180,000 on average for a single-family home.

- ***Homes in the eastern segment of the Corridor have increased more rapidly in recent years and sell for significantly higher prices than those in the western segment –*** Homes on the east side of the Mississippi in the Lowry Corridor sold for an average price of about $128,000 last year, as opposed to just over $80,000 for homes located west of the River in the Corridor. As well, the average price of eastern-segment homes increased by 12.4% per year between 1995 and 2000, compared to just 10.5% for western-segment homes. (Not shown on the table is that the Corridor housing stock is homogeneous from end to end, so price variations are not due to differences in housing across the Corridor.)

- ***Regarding the 3 MLS districts covering the Corridor, North Minneapolis has the lowest value homes while Northeast Minneapolis has the highest value homes –*** The average price for a home in District 305-North Minneapolis was nearly $50,000 below the average price for a home in District 306-Northeast Minneapolis ($79,342 vs. $128,463), despite strong similarity in housing stocks. District 301-Camden fell in between the two, with an average price of $95,309.

Average Home Sales Prices (Per-Square-Foot)

Table 3 and Charts 5 and 6 look at Lowry Corridor home sales prices on a per square foot basis from 1995 to 2000.

Table 3
Median Single-Family Home Sales Price (Per Square Foot)
Lowry Corridor Segments (West and East) and MLS Districts
1995-2000

							Change 1995-2000	
Lowry Corridor Segments	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Number**	**Annual Rate**
West of River	$37.54	$41.15	$42.49	$46.15	$54.49	$67.07	$29.53	12.3%
East of River	$54.21	$57.56	$59.63	$66.24	$78.04	$97.14	$42.93	12.4%
Total, East and West Segments	$43.66	$47.58	$47.87	$52.95	$62.22	$75.35	$31.69	11.5%
MLS Districts Containing the Lowry Corridor								
District 301-Camden	$46.24	$48.91	$48.64	$56.45	$65.57	$78.50	$32.26	11.2%
District 305-North Mpls.	$33.08	$35.37	$37.90	$43.21	$46.93	$62.39	$29.31	13.5%
District 306-Northeast Mpls.	$54.56	$59.20	$59.92	$69.35	$81.54	$97.74	$43.17	12.4%
Total - Districts 301, 305, 306	$46.74	$50.00	$50.05	$58.28	$66.39	$78.75	$32.01	11.0%
13-County Twin Cities M. A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Sources: Vista Information Services, Market Research Partners, Inc., Maxfield Research Inc.

- ***On a per-square-foot basis, average single-family home prices in the Lowry Corridor showed strong appreciation over the past six years*** – Both segments of the Corridor grew by more than 12% annually between 1995 and 2000. Again, this is in reaction to strong demand for the low- and moderately-priced homes in the Corridor, among the most affordable in the Twin Cities.

- ***The average per square foot value of single-family homes is substantially lower in the western half of the Corridor than in the eastern half –*** Confirming the pattern identified with raw selling prices, the average per-square foot selling price west of the River was

Chart 5
Median Home Sales Price Per Square Foot
Lowry Corridor Segments: West and East of River
1995-2000

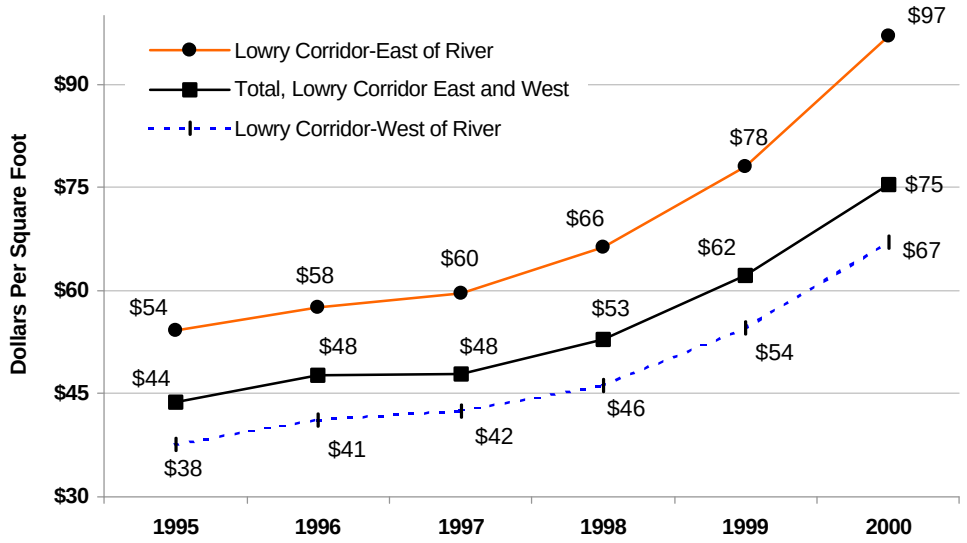
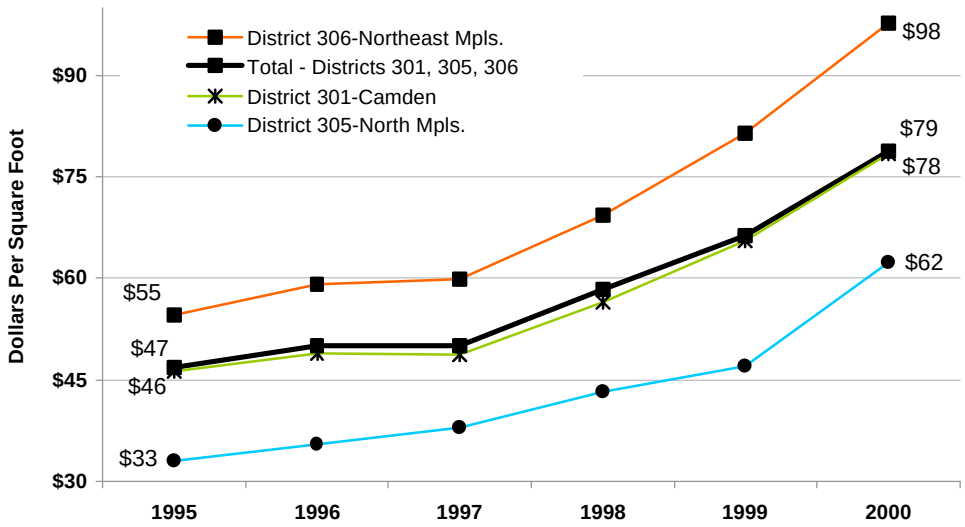


Chart 6
Median Home Sales Price Per Square Foot
MLS Districts Covering the Lowry Corridor
1995-2000



more than $30 lower in 2000 than the price east of the River ($97 versus $67). This strongly indicates lower price limits for new development west of the River.

- ***Per square-foot figures confirm that Northeast Minneapolis garners the highest single-family home prices of the three districts containing the Lowry Corridor*** – Camden currently trails Northeast by nearly $20 per square foot, while North Minneapolis trails Northeast by nearly $35 per square foot.

Strength of Prices (Sales-to-List Price Percentages)

Table 4 and Charts 7 and 8 present data on sales to list price percentages in the Lowry Corridor. The sales-to-list price percentage is a measure of buyer demand for prices set by sellers, and is therefore a measure of the strength of a market. For example, a sales-to-list figure of 100% for a market area means that sellers were successful, on average, in capturing the prices they had asked for their homes, and that buyers were willing, on average, to pay full price.

- ***The Lowry Corridor became a very strong sellers market between 1995 and 2000*** – Both segments of the Corridor achieved a median figure of 100% sales-to-list in 1998 or after, and have remained at this level since.

- ***All MLS districts, including North Minneapolis, outperformed the overall Twin Cities market during the period*** – North Minneapolis began the period with buyer demand for prices at a level slightly below the Twin Cities, but by the end of the period, this area had achieved a median figure among all sales of 100%.

- ***High sales to list price percentages indicates that Lowry Corridor housing is in strong demand and the market would be interested in additional housing development, appropriately located and priced –*** Median figures of 100% across the full Corridor indicate that many homes sell for well above asking price; this indicates very strong demand for housing in the Corridor.

Market Times

Table 5 and Charts 9 and 10 present data on the amount of time needed to sell homes in the Lowry Corridor between 1995 and 2000.

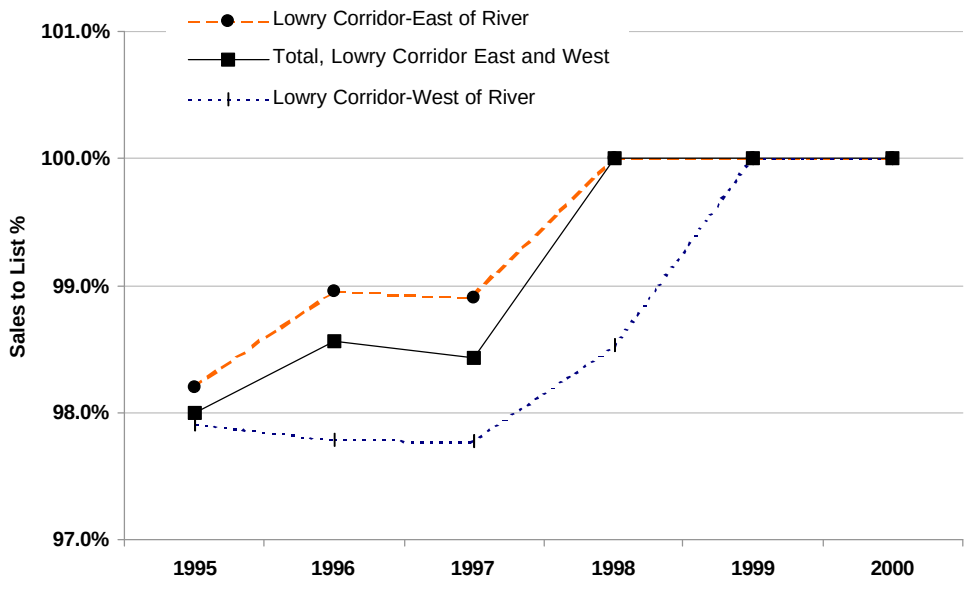
- ***The time needed to sell a home has dropped substantially in the Lowry Corridor since 1995*** – Median sale time in the Corridor has dropped from 49 days in 1995 to just 14

Table 4
Median Sales to List Price Percentage for Single-Family Homes
Lowry Corridor Segments (West and East) and MLS Districts
1995-2000

Lowry Corridor Segments	1995	1996	1997	1998	1999	2000	Percentage Point Change 1995-2000
West of River	97.9%	97.8%	97.8%	98.5%	100.0%	100.0%	2.1 pp
East of River	98.2%	99.0%	98.9%	100.0%	100.0%	100.0%	1.8 pp
Total, East and West Segments	98.0%	98.6%	98.4%	100.0%	100.0%	100.0%	2.0 pp
MLS Districts Containing the Lowry Corridor							
District 301-Camden	98.4%	98.4%	98.6%	100.0%	100.0%	100.0%	1.6 pp
District 305-North Mpls.	97.3%	96.8%	97.6%	97.5%	100.0%	100.0%	2.3 pp
District 306-Northeast Mpls.	98.3%	98.8%	99.0%	100.0%	100.0%	100.0%	1.7 pp
Total - Districts 301, 305, 306	98.2%	98.4%	98.6%	100.0%	100.0%	100.0%	1.8 pp
7-County Twin Cities M. A.	97.7%	97.8%	97.7%	98.3%	98.7%	N/A	N/A

Sources: Vista Information Services, Market Research Partners, Inc., Maxfield Research Inc.

Chart 7
Median Sales to List Price Percentage for Homes Sold
Lowry Corridor Segments: West and East of River
1995-2000



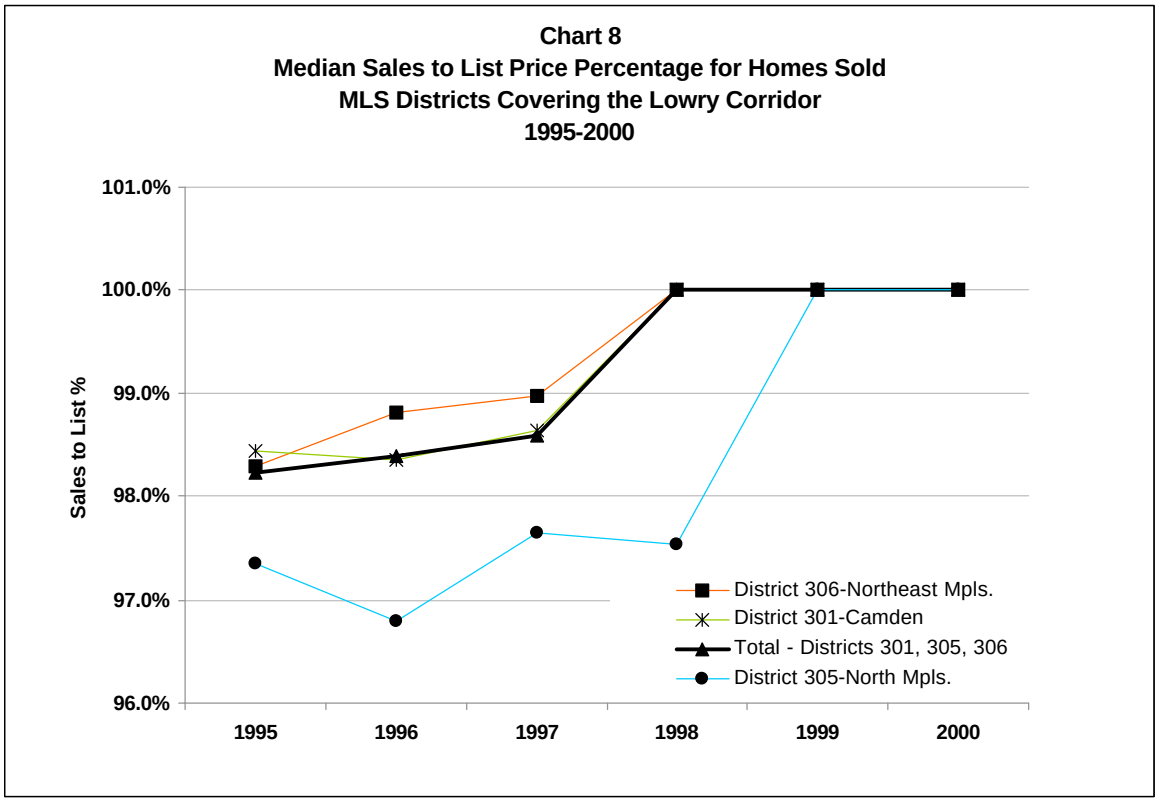


Table 5
Median Time Require to Sell Single-Family Homes
Lowry Corridor Segments (West and East) and MLS Districts
1995-2000

							Change 1995-2000	
Lowry Corridor Segments	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Number**	**Annual Rate**
West of River	80	51	51	34	29	14	-66	-29%
East of River	32	25	30	15	11	13	-19	-16%
Total, East and West Segments	49	37	44	24	20	14	-35	-22%
MLS Districts Containing the Lowry Corridor								
District 301-Camden	57	48	39	26	18	12	-45	-27%
District 305-North Mpls.	75	61	54	33	26	15	-60	-28%
District 306-Northeast Mpls.	34	28	26	15	12	14	-20	-16%
Total - Districts 301, 305, 306	54	41	37	22	17	14	-40	-24%
7-County Twin Cities M. A.	62	59	57	51	39	N/A	N/A	N/A

Sources: Vista Information Services, Market Research Partners, Inc., Maxfield Research Inc.

Chart 9
Median Home Selling Time
Lowry Corridor Segments: West and East of River
1995-2000

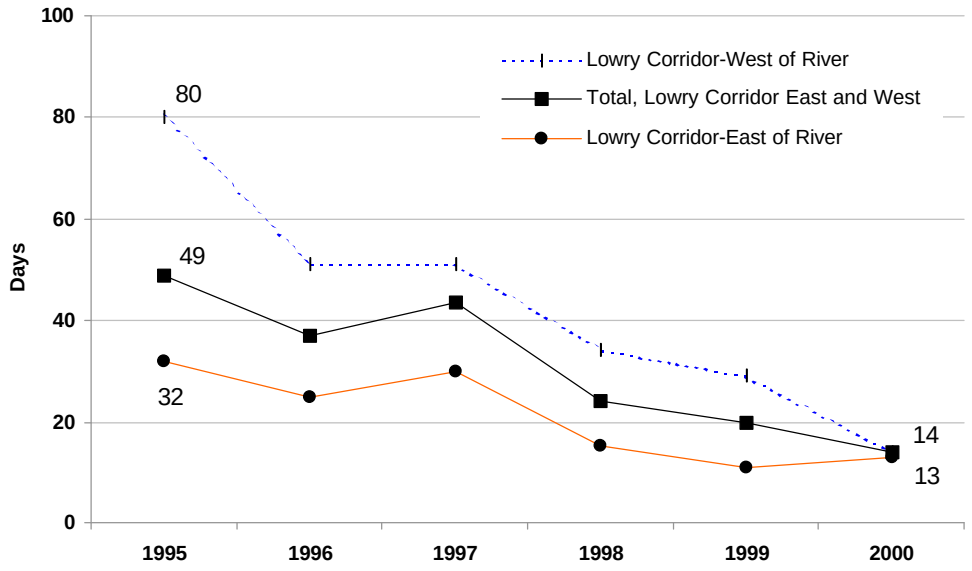
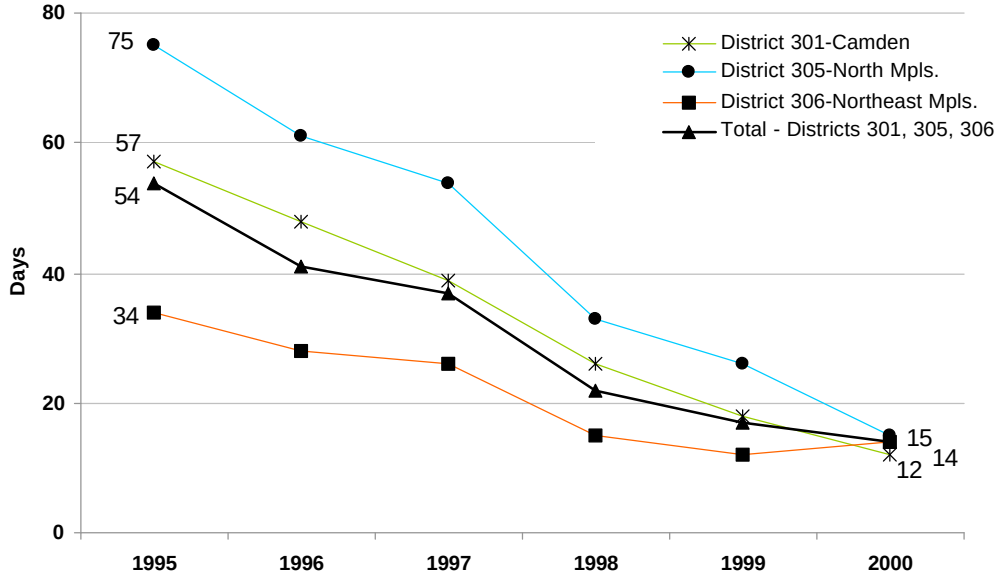


Chart 10
Median Home Selling Time
MLS Districts Covering the Lowry Corridor
1995-2000



days in 2000. Both the east and west segments achieved the 2-week level last year, after steady reductions over the period.

- ***The western segment of the Corridor and the larger North Minneapolis MLS District have shown the strongest reductions in market times since 1995*** – Both of these areas showed a reduction in market time of 60 days or more (just under 30% each).

- ***The steady decline in market time in the Corridor confirms the increasing demand for homes in the North and Northeast areas of Minneapolis*** – In fact, both the Lowry Corridor and the three MLS districts surrounding it have consistently produced faster home sale market times than the Twin Cities in each of the past six years.

Rental Housing Market Trends in the Larger Districts Containing the Lowry Corridor

Introduction

This section presents key indicators of the rental housing market in the districts that contain the Lowry Corridor. Data is from Apartment Search Profiles, a local firm that tracks nearly 140,000 rental units annually in the Twin Cities. Two rental districts surveyed by Apartment Search cover the Lowry Corridor: North Minneapolis and Northeast Minneapolis[1].

This section considers rental building/unit characteristics, vacancy trends and rental rates.

General Characteristics of Rental Buildings and Units

Table 6 presents data on the buildings in the North and Northeast markets that are surveyed by Apartment Search.

- ***Rental buildings in the two markets covering the Lowry Corridor are generally at least 30 years old*** – Of 52 buildings surveyed in the North and Northeast markets, 32 were constructed prior to 1970 while just 8 were constructed after this point (11 buildings had no age data). Furthermore, there are no buildings newer than 1987 in either market, according to Apartment Search Profiles.

- ***Rental buildings in the two markets surrounding the Lowry Corridor are generally smaller*** – The average number of units per complex in North and Northeast markets was

[1] The Northeast market also includes the University of Minnesota and Southeast areas of Minneapolis. Table 6 separates these areas from Northeast, but the rental price and vacancy surveys include them.

Table 6
Characteristics of Rental Buildings and Units
Rental Districts Containing the Lowry Corridor
4th Quarter 2000

Rental Districts Containing the Lowry Corridor	Total Complexes Surveyed	Total Units Surveyed	Average Units Per Complex	Average Age of Buildings	Number of Buildings by Era: Pre 1950	1950-1969	1970-1979	1980-1989	1990+
North Mpls.	31	867	28	1955	5	13	2	0	0
Northeast Mpls.	21	594	28	1960	4	11	2	4	0
Total	***52***	***1,461***	***56***		***9***	***24***	***4***	***4***	***0***

Note: Eleven buildings surveyed in North Minneapolis did not have information on age.
Note: The buildings included in the survey are privately owned and operated, although they may accept tenant-based subsidy at the discretion of the owner.

Source: Apartment Search Profiles 2000, Market Research Partners, Inc., Maxfield Research Inc.

28 in the 4th Quarter of 2000, fairly small by suburban Twin Cities standards, but typical for the central cities. Many of the complexes in both markets contain just 4-12 units, which is indicated by the median figures: 11 units per complex in North Minneapolis and 18 units per complex in Northeast.

- ***These statistics indicate that both markets, especially north Minneapolis, are less sophisticated in terms of product, management and marketing*** – Both markets appear to be dominated by smaller properties that are owned and operated by individuals with limited financial means or interest to reinvest in property upgrades. This constrains the evolution of the market, as little new or improved product is introduced. As well, it is difficult to find suitable development rental sites in the Corridor; the MCDA has indicated as much, as officials there have been working to locate new housing along Central Avenue in particular.

Rental Rates

Table 7 and Charts 11 and 12 present rental data on the buildings in the North and Northeast markets that are surveyed by Apartment Search. The Northeast district also covers the University of Minnesota and Southeast Minneapolis areas, so the rent figures do not necessarily pertain to the Northeast Minneapolis area near the Lowry Corridor. We believe that this area garners lower rents than near the University of Minnesota, where competition for rental units is much stronger.

Table 7
Rental Rates by Unit Style
Rental Districts Containing the Lowry Corridor
1995-2000 (4th Quarter)

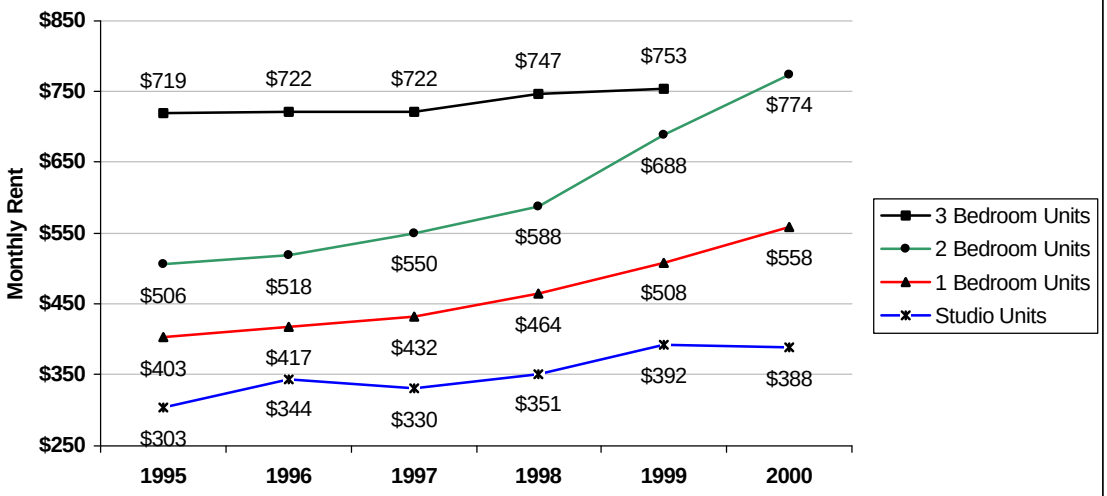
	Monthly Rent, 4th Quarter						Change 1995-2000	
Studio Units	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Number**	**Annual Rate**
North	$303	$344	$330	$351	$392	$388	$85	5.0%
Northeast	$399	$409	$421	$446	$480	$529	$130	5.8%
Twin Cities	$400	$414	$427	$452	$487	$527	$127	5.7%
1 Bedroom Units								
North	$403	$417	$432	$464	$508	$558	$155	6.8%
Northeast	$477	$486	$492	$526	$570	$628	$151	5.6%
Twin Cities	$510	$530	$551	$584	$641	$688	$178	6.2%
2 Bedroom Units								
North	$506	$518	$550	$588	$688	$774	$268	8.9%
Northeast	$617	$645	$648	$695	$824	$943	$326	8.8%
Twin Cities	$644	$666	$693	$730	$794	$842	$198	5.5%
3 Bedroom Units								
North	$719	$722	$722	$747	$753	N/A	N/A	1.2%
Northeast	$883	$896	$905	$972	$938	$1,056	$173	3.6%
Twin Cities	$826	$868	$910	$968	$1,055	$1,104	$278	6.0%

Note: The Northeast market also includes the University and Southeast areas of Minneapolis.

Source: Apartment Search Profiles 2000, Market Research Partners, Inc., Maxfield Research Inc.

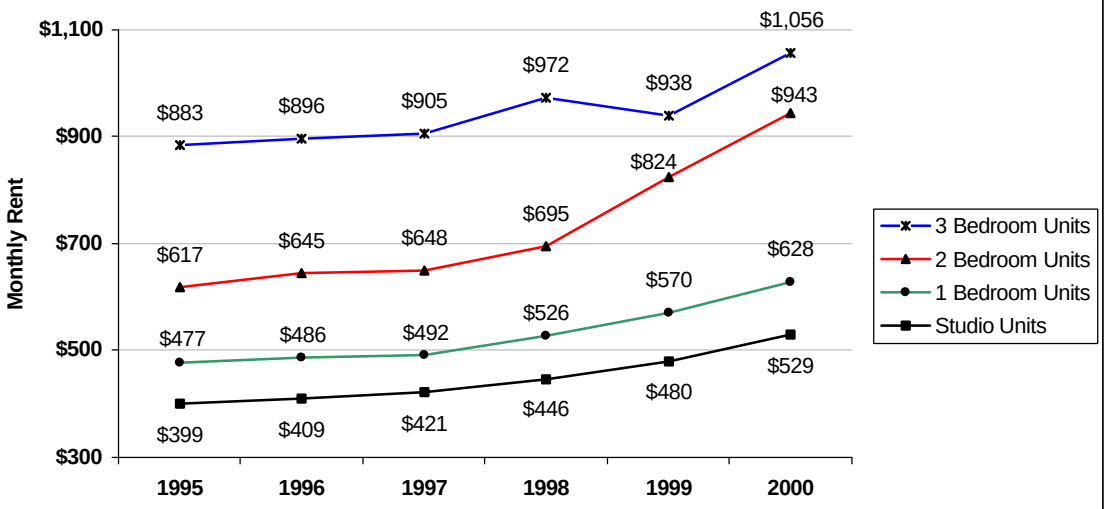
- ***Rents in North Minneapolis, which contains the western segment of the Lowry Corridor, are substantially below those for the Twin Cities*** – Depending on the unit style, rents for units in North Minneapolis were between $40 and $128 below the Twin Cities area price levels in the 4th Quarter of 2000. Figures for the Northeast Minneapolis district, a vast area containing many units not near the Corridor, were fairly close to Twin Cities rents, and in the case of two-bedroom units, were significantly above them.

Chart 11
Rental Price Trends - North Minneapolis
1995-2000



Note: Data is for 4th Quarter in all years.
Note: There were no 3-bedroom units surveyed in 2000.

Chart 12
Rental Price Trends - Northeast/U of M/Southeast Minneapolis
1995-2000



Note: Data is for 4th Quarter in all years.

- ***The annual rates of rental increase in North Minneapolis were nearly equal to, or above those for the Twin Cities during the past six years*** – The rate of rent increase for one- and two-bedroom units in North Minneapolis exceeded the rates of increase for the same style units in the Twin Cities as a whole. Studio units increased at just below the rate for the Twin Cities (5.0% versus 5.7%). There was insufficient data to draw a full conclusion for three-bedroom units, as there was no data for these units in 2000 and there were only small samples (16 units) in each of the previous years.

Vacancy Rates

Table 8 and Chart 13 present vacancy information for the North and Northeast rental districts.

Table 8
Overall Rental Vacancy Rate
Rental Districts Containing the Lowry Corridor
1995-2000 (4th Quarter)

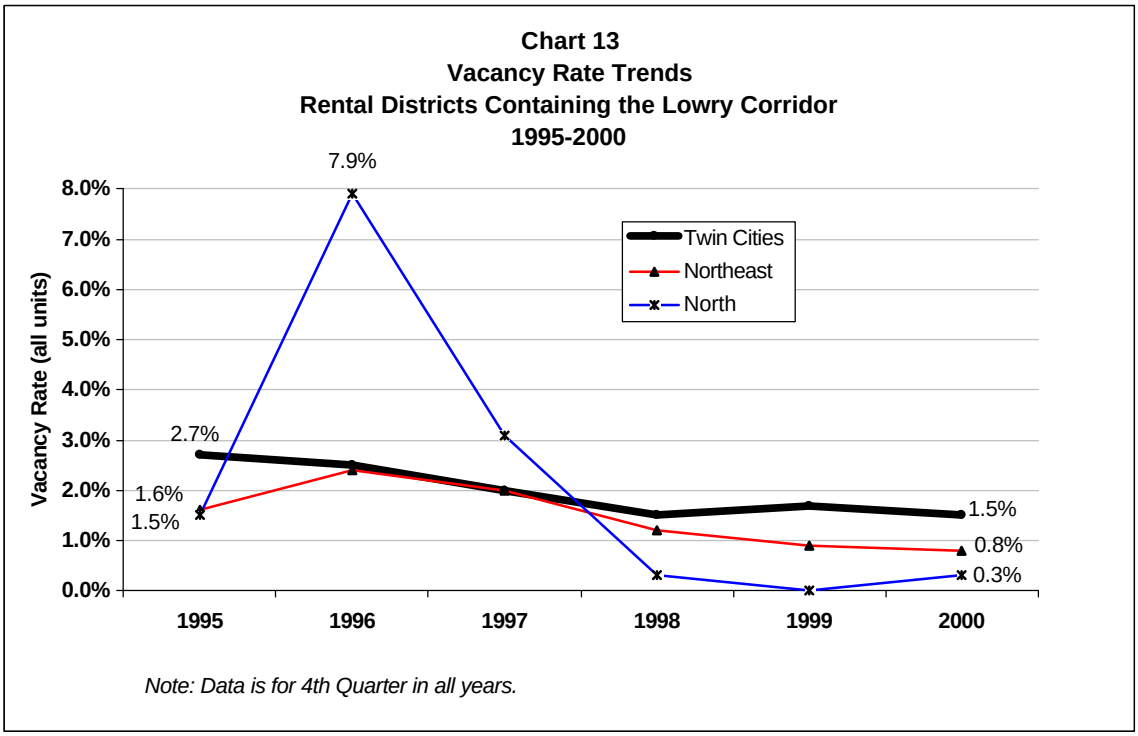
	Vacancy Rate, 4th Quarter					
All Units	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
North	1.5%	7.9%	3.1%	0.3%	0.0%	0.3%
Northeast	1.6%	2.4%	2.0%	1.2%	0.9%	0.8%
Twin Cities	2.7%	2.5%	2.0%	1.5%	1.7%	1.5%

Note: The Northeast market also includes the University and Southeast areas of Minneapolis.

Source: Apartment Search Profiles 2000

- ***The rental market in the districts covering the Lowry Corridor is extremely tight*** – Both the North and Northeast markets had vacancy rates below 1% in the 4th Quarter of last year. This rate is unhealthy as it leaves virtually no opportunity for new renter households to move into these areas, nor does it afford current renters any opportunities to upgrade their current living quarters without moving from the area.

- ***The rental market in the districts covering the Lowry Corridor has been tight for the past six years, at least*** – With the exception of 1996 in North Minneapolis, both districts have had vacancy rates well below the 5% level, a threshold that is commonly cited as optimal.



Planned Housing Developments in the Lowry Corridor

We contacted several project managers at the MCDA to learn about planned housing proposals within the 6-block wide Corridor. We found two formal proposals, two ongoing construction programs that continually produce new housing and one tentative plan:

- ***Penn/Lowry Senior Housing*** – Dunbar Development has proposed a 54-unit, independent senior rental building on the southeast quadrant of this intersection. The senior units would reside above 17,000 square feet of commercial (retail) space. According to the MCDA, 20% of the units will offer affordable rents. The MCDA expects the project to start construction in Fall 2001; the neighborhood group is currently reviewing a list of retail use options. The MCDA also stated that local seniors in the neighborhood are unusually price conscious and that there may be some difficulty motivating them to move from their homes.

- ***Penn/Lowry Single-Family*** – According to the MCDA, the remainder of the southeast quadrant of Penn and Lowry, south of the senior housing development proposed by Dunbar, could be developed with roughly 9-10 for-sale townhomes. MCDA officials are

working to give this full block Tax Increment Financing (TIF) status, and if they are successful, the project will likely proceed. The MCDA declined to place a timeframe on this portion of the Penn/Lowry redevelopment plan.

- ***Scattered Site Single-Family Home Renovation and Redevelopment, Jordan Neighborhood*** – MCDA officials are working on roughly 10 scattered sites to encourage home renovation or redevelopment in the Jordan Neighborhood, located to the southeast of Lowry and Emerson Avenues. The MCDA takes ownership of derelict single-family home sites, then works with non-profit developers and the neighborhood group to pursue new construction or rehabilitation. This process could also occur on parcels within the Corridor, although MCDA officials believe that any parcels fronting Lowry Avenue would not be likely candidates until the Corridor redevelopment plan is finished.

- ***Scattered Site Single-Family Home Renovation and Redevelopment, Hawthorne Neighborhood –*** Under the same process described above, the MCDA expects construction of 18 new single-family homes in the Hawthorne Neighborhood this year, 13 by Greater Minneapolis Metropolitan Housing Corporation and 5 by Project for Pride in Living, both non-profit housing development organizations. The MCDA expects these new homes to sell for a base price of $135,000. The Hawthorne Area Community Council (HAAC) and General Mills are working together to offer "soft" second mortgages to help buyers afford the homes; the second mortgages are not payable until home sale, thus enabling buyers to realize the benefits of the debt immediately, but not the financial burden until much later.

- ***George Sherman has expressed interest in developing new rental housing near the Lowry/Central intersection –*** We were unable to obtain firm details about this possible project, but will likely learn more in time for the next memorandum in late April.

May 8, 2001

MEMORANDUM

TO: Phil Carlson
Dahlgren, Shardlow and Uban

FROM: Thomas G. O'Neil
Maxfield Research Inc./Market Research Partners, Inc.

RE: Office, Industrial and Retail Market Overviews: Lowry Corridor

Introduction

The purpose of this memorandum is to present information on current market conditions for commercial land uses within the Lowry Corridor, which is defined as the area within three blocks north and south of Lowry Avenue.

The information contained in this memo is intended to provide a good overview of the office, industrial and retail markets in the Corridor. This overview will help establish the context for considering commercial development/redevelopment alternatives at key nodes throughout the Corridor.

For information about commercial buildings within the Corridor itself, we relied on the Organization of Commercial Realtors (OCR), which maintains a database of information for the vast majority of commercial buildings of all types in the Twin Cities. Data for the Twin Cities and its submarkets comes from Colliers Towle, which conducts annual surveys of office, industrial and retail uses across the Metro Area.

This memo supplements an earlier memo (dated April 9, 2001), which presented information regarding the current market conditions for owned and rental housing in the Corridor.

A more in-depth analysis will be conducted later in the Corridor study process, after detailed development concepts have been considered and prioritized.

Summary of Findings

Office Market Conditions

- ***The overall base of office space in the Lowry Corridor is small and low in value*** – We found just 383,000 square feet of office in the Corridor, scattered among 36 buildings. This total is roughly equivalent to Butler Square in Downtown Minneapolis, a 9-story renovated warehouse. Furthermore, over 84% of the buildings in the Corridor had valuations of under $200,000, while nearly 40% were under $100,000 in value.

- ***There is virtually no newer, modern office space within the Lowry Corridor*** – We found no Class-A buildings in the Corridor and just two Class-B buildings. This indicates a lack of market demand for professional office space within the Corridor, a lack of developer interest for new space, a lack of available development sites, or a combination of them.

- ***The Lowry Corridor office market is overwhelmingly comprised of smaller, single-user buildings*** – The majority of buildings surveyed in the Corridor average only 5,800 square feet in size, room enough for roughly 30 employees. More than 80% of the buildings are single-user spaces, accommodating lower-margin, smaller service establishments.

- ***Most office buildings in the Lowry Corridor are older with few amenities*** – Over 83% of the office buildings we surveyed were built prior to 1965, while no Corridor office building has been built since 1987. Just over half of the buildings were built prior to the end of WWII in 1945, and virtually all buildings lack modern office space amenities.

- ***90% of the Corridor office space is located east of the River*** – There are just 13 buildings west of the River, averaging just 2,900 square feet in size, or enough for about 12 workers, on average. This indicates a very small or currently limited office market in the western Corridor segment (especially for multi-tenant space).

- ***Over 90% of the office supply in the Corridor is located along Central and Lowry Avenues, while Central Avenue alone holds more than 57% of the Corridor supply*** – Clearly, Central Avenue is the dominant commercial strip in the Corridor, with Lowry Avenue a distant follower. Central Avenue's space is concentrated within six blocks, while Lowry's is scattered over many miles.

Industrial Market Conditions

- ***The overall base of industrial space in the Lowry Corridor is large*** – We tallied nearly 2.4 million square feet of industrial space of all types in the Corridor.

- ***The Lowry Corridor lies in of one of the largest concentrations of industrial uses in the Twin Cities***, extending along the Mississippi between the warehouse district of Minneapolis and roughly 41st Avenue North.

- ***98% of the industrial space in the Lowry Corridor falls within ½ mile on either side of the River, between I-94 on the west and University Avenue on the east.***

- ***Over 70% of the industrial space in the Lowry Corridor is located west of the River, in the industrial district east of I-94*** – Washington Avenue North alone is home to 34% of the industrial buildings in the Corridor.

- ***The industrial base in the Corridor on either side of the River includes many older, heavy industrial users*** – Many of the buildings in the Corridor are 30 or more years old, and accommodate single, heavy industrial users that rely on river and rail transportation.

- ***The industrial vacancy rate is moderate within the Corridor at 8.0%*** – This compares to the 9.4% rate cited by Colliers Towle for all multi-tenant properties metro-wide in 2000.

Retail Market Conditions

- ***Retail space in the Lowry Corridor is widely dispersed among numerous small, single-user buildings*** – We found 94 retail buildings in the Corridor, totaling 660,000 square feet. Roughly 71% of this space is in small buildings averaging just 5,400 square feet.

- ***Virtually all of the retail buildings are at least 30 years old in the Corridor, with most well over 50 years old –*** Much of the retail in the Corridor is old, accommodating "mom and pop" retailers who have been established for several decades, as well as newer start-up businesses.

- ***90% of Corridor retail space is located along just 6 main streets*** – These include Central (49% of Corridor retail space), Lowry (19%), Penn (9%), University (6%), Johnson Street (4%) and Lyndale (3%). The 34 buildings along the six-block stretch of Central Avenue in the Corridor further confirm the relative dominance of this strip.

- ***New Boston Square is the only retail complex above 30,000 square feet in the Lowry Corridor*** – It was built in the late 1980s and is 3-4 blocks south of Lowry on Central Avenue Northeast.

Current Office Space Conditions in the Lowry Corridor

Introduction

This section presents key indicators of the office space market in the Lowry Corridor. This section begins with an overview of the Corridor in the context of the Twin Cities office market (from Colliers Towle), then follows with analyses of building characteristics and valuations for specific properties within the Corridor itself (from the OCR).

The Lowry Corridor Office Market in the Context of the Twin Cities

Table 1 presents building size and vacancy information for buildings in the Lowry Corridor and 18 Twin Cities office submarkets. Data for the Corridor was broken out by two space classes, Class B and Class C[2]. We also tallied information for all Corridor office buildings (including the "Small" building class as defined by OCR) and compared this summary to the inner city markets of Minneapolis and St. Paul (outside of the Downtown areas)[3].

The data reveals the following:

- ***The lower-quality space classes metro-wide faired marginally in 2000*** – Between the 4th quarters of 1999 and 2000, the four Class B submarkets in the Twin Cities lost a total of 343,000 square feet of rented space, a retrenchment of 1.4%. Class C space faired not much better, with a marginal gain of 45,000 square feet over a 3.3 million square foot base, a rented-space advance of just 1.3%. Poor performance among these two classes metro-wide is likely due to the strong economy over the past few years, which spurred many businesses to upgrade their space (from B class especially) to Renovated and Class-A facilities.

[2] Office class definitions (Colliers Towle): Class B – seasoned buildings of at least 30,000 square feet in good condition and generally over ten years old. Mid-rise and may include skyway linkage; Class C – Older buildings at least 30,000 square feet in average to poor condition with or without skyway linkage; Small (OCR definition) – any buildings not classified as Class B or C, that are generally smaller than 10,000 square feet.

[3] It is important to note that Colliers Towle does not survey buildings smaller than 30,000 square feet, nor those that are single-user or owner-user; these characteristics predominate among office buildings in the Lowry Corridor.

TABLE 1
OFFICE BUILDING SIZE AND VACANCY COMPARISON*
(Buildings of at least 30,000 square feet)
LOWRY CORRIDOR AND TWIN CITIES METRO AREA SUBMARKETS
2000/2001**

Space Type and Submarket	No. of Bldgs. Surveyed	Rentable Area (S.F.)	Vacant S.F.	Vacancy Rate	Absorption 1999-2000
Class B					
Minneapolis CBD	31	6,888,756	508,185	7.4%	-81,485
Southwest	121	8,820,931	1,093,625	12.4%	-132,964
West	72	4,639,109	593,576	12.8%	5,499
St. Paul	24	4,684,161	616,211	13.2%	-128,882
Lowry Corridor	***1***	***42,000***	***24,000***	***57.1%***	***N/A***
Class C					
Lowry Corridor	***2***	***150,000***	***0***	***0.0%***	***N/A***
St. Paul CBD	12	1,310,875	177,031	13.5%	-25,031
Minneapolis CBD	14	1,960,119	307,355	15.7%	70,249
Inner-City Neighborhood					
Lowry Corridor-All (Class B, C and Small)***	***36***	***382,523***	***26,108***	***6.8%***	***N/A***
St. Paul-Out of CBD	22	1,928,682	204,485	10.6%	-13,902
Minneapolis-Out of CBD	17	1,554,062	185,795	12.0%	128,576
All Other Submarkets					
Minneapolis-Class A	14	11,472,592	606,095	5.3%	-74,599
Anoka County	12	466,966	35,782	7.7%	20,812
Minneapolis-Renovated	26	3,159,495	258,831	8.2%	74,514
West-Class A	11	2,367,330	276,935	11.7%	450,713
Southwest-Class A	24	5,655,121	717,104	12.7%	305,225
Northwest	13	993,067	132,593	13.4%	126,546
Northeast	31	2,240,616	314,185	14.0%	-2,391
Washington County	7	417,413	75,125	18.0%	19,232
Dakota County	30	1,620,297	292,830	18.1%	52,029
St. Paul-Class A	4	1,618,488	430,647	26.6%	285,648
Twin Cities Metro-All Building Classes	485	61,798,080	6,826,390	11.0%	1,079,789

* Colliers Towle surveys multi-tenant buildings exclusively while Lowry Corridor buildings may be either single- or multi-tenant.
** Colliers Towle survey is from the 4th quarter of 2000 while the Lowry Corridor survey is from May 2001.
***Colliers Towle does not survey the "small" class of buildings that are covered in the OCR database.

Sources: Colliers Towle, Market Research Partners, Inc., Maxfield Research Inc.

- ***There is virtually no newer, modern office space within the Lowry Corridor*** – We found no Class A buildings in the Corridor above 30,000 square feet and just two Class B buildings in this size range, totaling 150,000 square feet. The dearth of space among these two office categories indicates limited market demand for professional office space within the Corridor, a lack of developer interest for new space, a lack of available development sites, or a combination of all three.

- ***Currently, Class C space is fully occupied in the Corridor, while Class B space has available square footage*** – However, the universe of space for either space type (just 192,000 square feet total, with 24,000 vacant Class B space) is so small that market trend statements do not have much meaning.

- ***Small office space performs well within the Corridor as compared to the overall base of office space in the Twin Cities*** – The 36 buildings covered in the OCR database, totaling about 383,000 square feet, had a collective occupancy rate of 93.2% (6.8% vacancy), while the full Twin Cities office market (all space classes) hit just 89.0% occupancy (11.0% vacancy). The two most comparable submarkets in the Towle survey, Minneapolis-Out of CBD (of which the Corridor is a part) and St. Paul-Out of CBD, had vacancy rates of 10%-12%.

Characteristics of Office Buildings in the Lowry Corridor

Table 2 presents basic information regarding 36 office buildings located within the Corridor. We believe this tally, completed by the OCR, represents the vast majority of the office space in the Corridor.

- ***The overall base of office space in the Lowry Corridor is small*** – The OCR database, the most complete tally available, counts just 383,000 square feet of office in the Corridor, scattered among 36 buildings. This represents well under 0.5% of the Twin Cities office base, including small buildings of less than 30,000 square feet.

- ***The Lowry Corridor office market is overwhelmingly comprised of smaller, single-user buildings*** – The buildings surveyed in the Corridor average only 10,600 square feet in size. This figure is actually misleading, as it is skewed upwards by three relatively-large buildings of 40,000-90,000 square feet each. Excluding these, the average office building size within the Corridor drops to just 5,800 square feet, enough to house about 30 employees.[4] More than 80% of the buildings are single-user spaces.

[4] Based on 200 square feet of space per employee.

TABLE 2
BASIC BUILDING INFORMATION
OFFICE BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy Sq. Ft.	Building Vacancy %	Comments
Buildings With Available Space (ranked by vacancy)									
2338 Central Building	2338 Central Avenue	1979	Class B	Multiple	42,000	N/A	24,000	57.1%	US Bank anchor; $15-$17/sf gross rent.
Tellus Consultants	2136 Lowry Avenue N	1954	Small	Single	2,108	1,054	2,108	100.0%	Renovated 1985; asking price of $89,900
Subtotal/Average	***2 Buildings***	***1966.5***			***44,108***	--	***26,108***	***59.2%***	
Remainder of Inventory (ranked by building size)									
California Building	65 22nd Avenue NE	1920	Class C	Single	90,000	38,050	0	0.0%	6 stories, former factory/warehouse
Soo Line Building	2800 Central Avenue NE	1900	Class C	Single	60,000	N/A	0	0.0%	Central Ave frontage, no amenities per OCR
Sullivan Building	2534 Central Avenue NE	1980	Class C	Single	16,299	16,107	0	0.0%	ADA Compliant, Airco, Elevator
Firstar Bank Building	2401 Lowry Avenue NE	1979	Small	Single	16,000	76,230	0	0.0%	Firstar Bank anchor; central air, surface park.
2400 Central Ave NE	2400 Central Avenue NE	1978	Small	Multiple	14,000	7,610	0	0.0%	3 stories w/ Central Ave frontage.
2401 Central Ave NE	2401 Central Avenue NE	1920	Class C	Multiple	12,000	2,750	0	0.0%	Central Ave frontage, no amenities per OCR
. 2220 Central Bldg.	2220 Central Avenue NE	1905	Class B	Single	10,000	N/A	0	0.0%	Central Ave frontage, no amenities per OCR
2306-2310 Central Ave NE	2306-2310 Central Avenue NE	1920	Small	Single	10,000	7,000	0	0.0%	Central Ave frontage, no amenities per OCR
Century 21-Forsythe Bldg.	2535 Central Avenue NE	1924	Small	Single	10,000	8,140	0	0.0%	No building amenities cited in OCR.
Lindgren Sales Bldg.	2014 Central Avenue NE	1886	Small	Single	10,000	7,520	0	0.0%	Central Ave frontage, no amenities per OCR
Little People Day Care	3110 Emerson Avenue N	1950	Small	Single	8,160	11,458	0	0.0%	Airco, Conference Room
Twin City Marine Hardware	2506 Central Avenue NE	1907	Class C	Multiple	8,000	8,140	0	0.0%	3 stories w/ Central Ave frontage; Airco, Stor.
2214 Central Bldg.	2214 Central Avenue NE	1905	Class B	Multiple	7,350	8,550	0	0.0%	Renovated 1990, few amenities.
Graham Research Building	664 22nd Avenue NE	1948	Small	Single	7,000	29,320	0	0.0%	No building amenities cited in OCR.
648 Lowry Building	648 Lowry Avenue NE	1963	Small	Multiple	7,000	N/A	0	0.0%	No building amenities cited in OCR.
2218 Central Bldg.	2218 Central Avenue NE	1987	Class C	Single	6,000	N/A	0	0.0%	No building amenities cited in OCR.
2408 Central Building	2408 Central Avenue NE	1900	Small	Single	4,000	7,580	0	0.0%	Central Ave frontage, no amenities per OCR
2414 Central Building	2414 Central Avenue NE	1917	Small	Single	4,000	7,610	0	0.0%	Central Ave frontage, no amenities per OCR
3300 Penn Ave N Building	3300 Penn Avenue N	1940	Class C	Single	4,000	9,930	0	0.0%	1 block north of Lowry, no amenities
Mpls. School of Massage	220 Lowry Avenue NE	1948	Small	Single	4,000	5,260	0	0.0%	No building amenities cited in OCR.
Glover Agency	2520 Lowry Avenue N	1906	Small	Single	3,500	4,600	0	0.0%	No building amenities cited in OCR.

TABLE 2, cont.
BASIC BUILDING INFORMATION
OFFICE BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy Sq. Ft.	Building Vacancy %	Comments
Remainder of Inventory (ranked by building size)									
2220 Lowry Bldg.	2220 Lowry Avenue N	1939	Small	Single	3,000	10,130	0	0.0%	No building amenities cited in OCR.
2700 Central Building	2700 Central Avenue NE	1955	Small	Single	3,000	19,120	0	0.0%	Central Ave frontage, no amenities per OCR
3031 Penn Ave N Building	3031 Penn Avenue N	1954	Class C	Single	3,000	5,050	0	0.0%	Renovated 1990, no amenities cited in OCR.
807 Lowry Ave Building	807 Lowry Avenue N	1925	Small	Single	3,000	9,600	0	0.0%	No building amenities cited in OCR.
Krumholtz Plumbing	3107 Lyndale Avenue N	1986	Small	Single	3,000	4,800	0	0.0%	ADA Compliant, Airco, Conference, Storage
Spectrum Inc. Building I	2901 2nd Street N	1914	Class C	Single	2,506	4,310	0	0.0%	Renovated 1990, Conference Room
207-209 Lowry Ave NE	207-209 Lowry Avenue NE	1962	Small	Multiple	2,000	3,660	0	0.0%	No building amenities cited in OCR.
2305 Lowry Bldg.	2305 Lowry Avenue N	1950	Small	Single	2,000	3,620	0	0.0%	No building amenities cited in OCR.
2708 NE Johnson Street	2708 NE Johnson Street	1914	Small	Single	1,500	2,760	0	0.0%	No building amenities cited in OCR.
207 Lowry Building	207 Lowry Avenue N	1960	Small	Single	1,400	13,570	0	0.0%	No building amenities cited in OCR.
1110 Lowry Building	1110 Lowry Avenue N	1940	Small	Single	1,000	5,380	0	0.0%	No building amenities cited in OCR.
Twin City Dental Group	2503 Lowry Avenue N	N/A	Small	Single	1,000	N/A	0	0.0%	No building amenities cited in OCR.
2527 Central Ave NE	2527 Central Avenue NE	1900	Small	Single	700	8,140	0	0.0%	Central Ave frontage, no amenities per OCR
Subtotal/Average	***34 Buildings***	***1935.818***			***338,415***	**–**	***0***	***0.0%***	
Total, All Buildings	**36 Buildings**	**–**			**382,523**	**–**	**26,108**	**6.8%**	
Average, All Buildings		**1937.571**			**10,626**	**11,568** *(.27 acres)*	**–**	**–**	

* Total building and land value per building square foot.
Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

- ***The vast majority of office buildings in the Lowry Corridor are older with few amenities*** – Over 83% of the office buildings surveyed in the Corridor were built prior to 1965, while no building is newer than 14 years old. Just over half of the buildings were built prior to the end of WWII in 1945. Furthermore, virtually all buildings lack modern office space amenities, of which an elevator, adjacent surface parking and ADA compliance represent top-line amenities in the local market. The most prestigious building we found was the Firststar Bank Building, a 16,000 square foot Class B building at the extreme eastern edge of the Corridor at Lowry and Stinson Boulevard.

- ***90% of the Corridor office space is located east of the River*** – This includes buildings with Lowry Avenue frontage in Northeast Minneapolis. There are just 13 buildings west of the River, averaging just 2,900 square feet in size, or enough for about 12 workers on average. This indicates a very limited office market in the western Corridor segment (especially for multi-tenant space).

- ***Over 90% of the office supply in the Corridor is located along Central and Lowry Avenues*** – These two strips accommodate 78% of the office buildings in the Corridor and nearly 350,000 square feet of its office space.

- ***Central Avenue alone accommodates more than 57% of the Corridor space supply*** with over 217,000 square feet – Clearly, Central Avenue is the dominant commercial strip in the Corridor.

- ***The largest building covered in the Corridor survey is a former warehouse building now used primarily for artist's lofts*** – The California Building, located along 22nd Avenue about two blocks south of Lowry and 2 blocks east of Marshall, holds 90,000 square feet of space on 6 floors. The building is formally unfinished, and serves as affordable space for a growing community of artisans and craftspeople.

Office Building Valuations in the Lowry Corridor

Table 3 presents land and building valuations for office buildings located in the Lowry Corridor. Valuations are 2000 assessed values for taxation per City of Minneapolis. Given the lack of available space for lease, we had no market value data to analyze other than assessed values.

- ***Office property values in the Corridor are generally low*** – Virtually all office buildings covered in the survey had 2000 total assessed values (building plus land) under $400,000; just two were above this level. Furthermore, over 84% of the buildings in the Corridor had valuations of under $200,000, while nearly 40% were under $100,000 in value. These are very low valuations for office space, reflecting their small size, older age, poor condition, or combinations thereof.

TABLE 3
ASSESSED VALUES (gross and per square foot)
OFFICE BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class	Bldg. Sq. Ft.	Land Sq. Ft.	Year 2000 Assessed Values					
						Gross Dollar Amounts			*Per Square Foot Amounts*		
						Building	Land	Total	Building	Land	Total*
Buildings With Available Space											
2338 Central Building	2338 Central Avenue	1979	Class B	42,000	N/A	$418,000	$45,000	$463,000	$9.95	N/A	$11.02
Tellus Consultants	2136 Lowry Avenue N	1954	Small	2,108	1,054	$57,100	$2,900	$60,000	$27.09	$2.75	$28.46
Subtotal/Average	***2 Buildings***			***44,108***	--	--	--	--	***$18.52***	--	***$19.74***
Remainder of Inventory											
. Firstar Bank Building	2401 Lowry Avenue NE	1979	Small	16,000	76,230	$1,025,000	$270,000	$1,295,000	$64.06	$3.54	$80.94
California Building	65 22nd Avenue NE	1920	Class C	90,000	38,050	$434,500	$100,000	$534,500	$4.83	$2.63	$5.94
Graham Research Building	664 22nd Avenue NE	1948	Small	7,000	29,320	$247,000	$73,000	$320,000	$35.29	$2.49	$45.71
Lindgren Sales Bldg.	2014 Central Avenue NE	1886	Small	10,000	7,520	$186,500	$38,000	$224,500	$18.65	$5.05	$22.45
2408 Central Building	2408 Central Avenue NE	1900	Small	4,000	7,580	$170,500	$38,000	$208,500	$42.63	$5.01	$52.13
2400 Central Ave NE	2400 Central Avenue NE	1978	Small	14,000	7,610	$141,500	$38,000	$179,500	$10.11	$4.99	$12.82
2214 Central Bldg.	2214 Central Avenue NE	1905	Class B	7,350	8,550	$118,000	$43,000	$161,000	$16.05	$5.03	$21.90
2306-2310 Central Ave NE	2306-2310 Central Avenue NE	1920	Small	10,000	7,000	$109,500	$35,000	$144,500	$10.95	$5.00	$14.45
648 Lowry Building	648 Lowry Avenue NE	1963	Small	7,000	N/A	$109,500	$15,500	$125,000	$15.64	N/A	$17.86
Mpls. School of Massage	220 Lowry Avenue NE	1948	Small	4,000	5,260	$91,500	$26,000	$117,500	$22.88	$4.94	$29.38
2700 Central Building	2700 Central Avenue NE	1955	Small	3,000	19,120	$19,000	$96,000	$115,000	$6.33	$5.02	$38.33
Spectrum Inc. Building I	2901 2nd Street N	1914	Class C	2,506	4,310	$102,000	$11,000	$113,000	$40.70	$2.55	$45.09
2414 Central Building	2414 Central Avenue NE	1917	Small	4,000	7,610	$69,000	$38,000	$107,000	$17.25	$4.99	$26.75
2401 Central Ave NE	2401 Central Avenue NE	1920	Class C	12,000	2,750	$94,000	$13,000	$107,000	$7.83	$4.73	$8.92
207 Lowry Building	207 Lowry Avenue N	1960	Small	1,400	13,570	$61,500	$35,000	$96,500	$43.93	$2.58	$68.93
2220 Lowry Bldg.	2220 Lowry Avenue N	1939	Small	3,000	10,130	$63,000	$30,000	$93,000	$21.00	$2.96	$31.00
Krumholtz Plumbing	3107 Lyndale Avenue N	1986	Small	3,000	4,800	$78,100	$14,400	$92,500	$26.03	$3.00	$30.83
3300 Penn Ave N Building	3300 Penn Avenue N	1940	Class C	4,000	9,930	$60,500	$30,000	$90,500	$15.13	$3.02	$22.63
2305 Lowry Bldg.	2305 Lowry Avenue N	1950	Small	2,000	3,620	$67,100	$10,900	$78,000	$33.55	$3.01	$39.00
2708 NE Johnson Street	2708 NE Johnson Street	1914	Small	1,500	2,760	$58,700	$13,800	$72,500	$39.13	$5.00	$48.33
Glover Agency	2520 Lowry Avenue N	1906	Small	3,500	4,600	$55,100	$14,900	$70,000	$15.74	$3.24	$20.00
807 Lowry Ave Building	807 Lowry Avenue N	1925	Small	3,000	9,600	$45,500	$24,000	$69,500	$15.17	$2.50	$23.17
207-209 Lowry Ave NE	207-209 Lowry Avenue NE	1962	Small	2,000	3,660	$54,700	$10,300	$65,000	$27.35	$2.81	$32.50
Little People Day Care	3110 Emerson Avenue N	1950	Small	8,160	11,458	$53,000	$7,000	$60,000	$6.50	$0.61	$7.35
3031 Penn Ave N Building	3031 Penn Avenue N	1954	Class C	3,000	5,050	$42,800	$15,200	$58,000	$14.27	$3.01	$19.33
1110 Lowry Building	1110 Lowry Avenue N	1940	Small	1,000	5,380	$35,900	$16,100	$52,000	$35.90	$2.99	$52.00
Century 21-Forsythe Bldg.	2535 Central Avenue NE	1924	Small	10,000	8,140	$26,000	$14,000	$40,000	$2.60	$1.72	$4.00
Sullivan Building	2534 Central Avenue NE	1980	Class C	16,299	16,107	N/A	N/A	N/A	N/A	N/A	N/A
2218 Central Bldg.	2218 Central Avenue NE	1987	Class C	6,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 3 (cont.)
ASSESSED VALUES (gross and per square foot)
OFFICE BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class	Bldg. Sq. Ft.	Land Sq. Ft.	Year 2000 Assessed Values					
						Gross Dollar Amounts			*Per Square Foot Amounts*		
						Building	Land	Total	Building	Land	Total*
2220 Central Bldg.	2220 Central Avenue NE	1905	Class B	10,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2527 Central Ave NE	2527 Central Avenue NE	1900	Small	700	8,140	N/A	$12,000	N/A	N/A	$1.47	N/A
Twin City Dental Group	2503 Lowry Avenue N	N/A	Small	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Soo Line Building	2800 Central Avenue NE	1900	Class C	60,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Twin City Marine Hardware	2506 Central Avenue NE	1907	Class C	8,000	8,140	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal/Average	***34 Buildings***			***338,415***	--	--	--	--	***$22.57***	***$3.48***	***$30.43***
Total, All Buildings	**36 Buildings**	--		**382,523**	--	--	--	--	--	--	--
Average, All Buildings		**1939**		**10,626**	**11,568**	**$141,190**	**$37,667**	**$179,741**	**$22.29**	**$3.45**	**$29.70**

* Total building and land value per building square foot.
Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

- There are few benchmarks to compare against small, older, single-user office buildings such as those in the Corridor. However, compared to known sales prices of larger, multi-tenant buildings (listed in Colliers Towle's annual report), ***it appears that the bulk of the office properties in the Lowry Corridor are valued at the low end of the market in terms of price per-square-foot***. The lowest per-square-foot building sale in 2000 according to Colliers Towle was $31 for Earle Brown Tower in Brooklyn Center, an older, lower-market multi-tenant building. Comparatively, 53% of the Corridor buildings had assessed values at or below this level in 2000.

Current Industrial Space Conditions in the Lowry Corridor

Introduction

This section presents key indicators of the industrial space market in the Lowry Corridor. This section begins with an overview of the Corridor in the context of the Twin Cities industrial market (from Colliers Towle). The section then presents data on building characteristics for specific properties within the Corridor itself (from the OCR). We also present tabular information about building valuations (Table 6), but provide no analysis because the large, single-user industrial buildings in the Corridor defy generalization due to their highly tailored, user-specific build-outs.

The Lowry Corridor Industrial Market in the Context of the Twin Cities

Table 4 presents building size and vacancy information for buildings in the Lowry Corridor and 10 Twin Cities industrial submarkets. We broke data out according to two space classes, Office/Warehouse and Bulk/Manufacturing[5]. The buildings surveyed in the Corridor conform to the same characteristics as those covered in the Colliers Towle survey.

- ***The market for bulk space in the Twin Cities was stagnant in 2000*** – Just 49,000 square feet of space was absorbed of this product type between the third quarters of 1999 and 2000, an advance in leased space of about 2%. Half of the ten markets surveyed showed leased-space losses during the year; Minneapolis and St. Paul showed the greatest losses, with retrenchments of 5% and 7%, respectively.

- ***Bulk space vacancies in the Corridor are just slightly above the Metro Average*** – The four buildings in the Lowry Corridor displayed a vacancy rate of 13.5% as compared to

[5] Industrial class definitions (Colliers Towle): Office/Warehouse – multi-tenant buildings with 10%-20% finished office space and the remainder warehouse or production space with 16 to 20 foot ceilings; Bulk – multi-tenant buildings with 5%-10% finished office space and the remainder warehouse or production space with 20 foot ceilings or greater.

TABLE 4
INDUSTRIAL BUILDING SIZE AND VACANCY COMPARISON*
(Multi-tenant buildings of at least 25,000 s.f. for O/W or 50,00 s.f. for Bulk)
LOWRY CORRIDOR AND TWIN CITIES METRO AREA SUBMARKETS
2000/2001**

Space Type and Submarket	No. of Bldgs. Surveyed	Rentable Area (S.F.)	Average Building S.F.	Vacant S.F.	Vacancy Rate	Absorption 1999-2000
Bulk/Manufacturing (ranked by vacancy %)						
Northeast	9	2,039,000	226,556	82,540	4.0%	53,446
Anoka County	6	665,280	110,880	35,534	5.3%	93,773
Southwest	13	1,703,105	131,008	95,531	5.6%	71,836
West	22	2,853,720	129,715	161,032	5.6%	-86,074
Northwest	18	2,522,844	140,158	222,323	8.8%	71,559
St. Paul	22	2,901,791	131,900	281,370	9.7%	-207,970
Minneapolis	13	2,625,249	201,942	313,154	11.9%	-124,754
Lowry Corridor	***4***	***407,000***	***101,750***	***55,000***	***13.5%***	***N/A***
Scott County	4	708,720	177,180	140,000	19.8%	289,480
Dakota County	14	2,996,690	214,049	741,881	24.8%	-55,987
Washington County	3	464,444	154,815	165,128	35.6%	-56,128
Twin Cities Metro	124	19,480,843	157,104	2,238,493	11.5%	49,181
Office/Warehouse (ranked by vacancy %)						
Washington County	24	1,092,463	45,519	20,688	1.9%	21,376
Anoka County	27	2,064,769	76,473	69,098	3.3%	76,412
Minneapolis	47	3,364,542	71,586	172,329	5.1%	31,940
St. Paul	38	2,742,824	72,180	156,102	5.7%	23,557
Scott County	8	796,925	99,616	47,147	5.9%	310,371
Southwest	111	7,152,356	64,436	442,709	6.2%	163,197
West	82	6,438,572	78,519	472,737	7.3%	35,682
Northeast	106	5,855,189	55,238	573,339	9.8%	120,274
Dakota County	48	3,731,912	77,748	419,660	11.2%	85,579
Lowry Corridor	***8***	***837,455***	***104,682***	***104,000***	***12.4%***	***N/A***
Northwest	85	6,119,094	71,989	882,612	14.4%	270,726
Twin Cities Metro	576	39,358,646	68,331	3,256,421	8.3%	1,139,114

* Towle surveys multi-tenant buildings exclusively while Lowry Corridor buildings may be either single- or multi-tenant.
** Towle survey is from the 3rd quarter of 2000 while the Lowry Corridor survey is from May 2001.

Sources: Colliers Towle, Market Research Partners, Inc., Maxfield Research Inc.

the 11.5% rate for the Twin Cities overall. Given the Corridor's central location (within the Twin Cities), its excellent freeway and rail access and the strong industrial infrastructure where the Corridor crosses the Mississippi, we believe the market for industrial space will remain solid in the larger Corridor area.

- ***The Lowry Corridor lies in of one of the largest concentrations of industrial uses in the Twin Cities*** – The four multi-tenant bulk buildings in the survey represent nearly 16% of the multi-tenant bulk space in Minneapolis. These buildings are part of a larger base that extends along the Mississippi between the warehouse district of Minneapolis and roughly 41st Avenue North.

Characteristics of Industrial Buildings in the Lowry Corridor

Table 5 presents basic information regarding 58 industrial buildings located within the Corridor. We believe this tally, completed by the OCR, represents the vast majority of the industrial space in the Corridor.

- ***The overall base of industrial space in the Lowry Corridor is large*** – The OCR database, the most complete tally available, counts nearly 2.4 million square feet of industrial space, including all types.

- ***The industrial vacancy rate is moderate within the Corridor*** – Just over 190,000 square feet of industrial space was vacant in the Corridor in May 2001, a rate of 8.0%. This is similar to the 9.4% rate cited by Colliers Towle for all multi-tenant industrial properties metro-wide in the 3rd quarter of 2000.

- ***The industrial base in the Corridor on either side of the River includes many older, heavy industrial users*** – Unlike many newer, suburban industrial parks, many of the buildings in the Corridor industrial areas are 30 or more years old, and accommodate single-user heavy industrial tenants that rely on river and rail transportation. Over 70% of the properties surveyed in the Corridor were built prior to 1970, and 67% of the properties accommodate single-users.

- ***98% of the industrial space in the Lowry Corridor falls within ½ mile on either side of the River, between I-94 on the west and University Avenue on the east*** – Just four buildings, totaling 43,000 square feet, lie outside of this zone. This indicates that industrial development in the Corridor is highly concentrated and generally follows a desirable land use pattern, segregated from residential uses.

- ***Over 70% of the industrial space in the Lowry Corridor is located west of the River, in the industrial district east of I-94*** – 34% of all industrial buildings have an address on

TABLE 5
BASIC BUILDING INFORMATION
INDUSTRIAL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class*	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy	
							Sq. Ft.	%
Buildings With Available Space								
Pacific Building	3100 Pacific Street NE	1964	O/W	Multiple	144,000	145,000	104,000	72.2%
2600 2nd Street North Building	2600 2nd Street North	1935	Bulk Ware.	Multiple	72,000	136,860	55,000	76.4%
2900 Washington Building	2900 Washington Avenue North	1980	O/W	Single	21,516	23,460	21,516	100.0%
50 31st Avenue North Building	50 31st Avenue North	1965	N/A	Single	10,000	N/A	10,000	100.0%
Subtotal/Average	***4 Buildings***	***1961***			***247,516***	--	***190,516***	***77.0%***
Remainder of Inventory								
2626-2630 University Ave NE	2626-2630 University Ave NE	1959	O/W	Multiple	40,000	12,930	0	0.0%
Fellegy Cabinet	2422 Washington Ave.	1944	O/W	Multiple	10,000	27,000	0	0.0%
111 Lowry Ave NE Building	111 Lowry Ave NE	1900	O/W	Multiple	8,000	47,970	0	0.0%
125 27th Avenue NE Building	125 27th Avenue NE	1948	O/W	Single	17,800	20,620	0	0.0%
2416 NE 2nd Street Building	2416 NE 2nd Street	N/A	O/W	Multiple	85,000	N/A	0	0.0%
2501 North 2nd Street	2501 North 2nd Street	N/A	O/W	Multiple	200,000	N/A	0	0.0%
2531 Marshall Street NE Building	2531 Marshall Street NE	1945	Show/H.T.	Single	10,033	15,850	0	0.0%
2555 NE California Street Building	2555 NE California Street	1952	O/W	Single	2,883	16,590	0	0.0%
2626 NE 2nd Street Building	2626 NE 2nd Street	N/A	Manuf.	Multiple	22,000	N/A	0	0.0%
27th Avenue Distribution Center	113 27th Avenue NE	1979	Bulk Ware.	Multiple	225,000	409,780	0	0.0%
2814 Washington Avenue Building	2814 Washington Avenue	1947	O/W	Multiple	10,574	19,410	0	0.0%
2817 North 2nd Street Building	2817 North 2nd Street	1953	Bulk Ware.	Single	N/A	10,320	0	N/A
2nd Street Business Center	2800-2930 North 2nd Street	1981	O/W	Multiple	154,000	277,180	0	0.0%
3010 Washington Avenue N Bldg.	3010 Washington Avenue North	N/A	O/W	Single	70,000	N/A	0	0.0%
ABC Industrial Building	2808 Washington Avenue North	1953	Manuf.	Single	4,000	7,910	0	0.0%
Action Labs Building	3238 Washington Avenue North	1963	O/W	Single	4,000	8,880	0	0.0%
Advance Rubber Building	3334 Washington Avenue North	1980	Manuf.	Single	9,000	14,780	0	0.0%
Advantage Sign and Graphics Bldg.	3240 Washington Avenue North	1960	O/W	Single	5,000	8,760	0	0.0%
American Iron and Steel Building	2800 Pacific Street	1953	Manuf.	Single	50,000	397,610	0	0.0%
Bemis Building	315 27th Avenue NE	1945	Manuf.	Single	60,000	279,320	0	0.0%
BFI Waste Systems Building	2716-2720 Pacific Street	1900	N/A	Single	25,000	164,930	0	0.0%
Biff's Building	216 27th Avenue North	1963	O/W	Single	7,000	70,180	0	0.0%
Brown Bros. Inc. Building	3346 Washington Avenue North	1974	O/W	Single	6,000	6,925	0	0.0%
BSD Repair Building	2932 Washington Avenue North	1955	O/W	Single	5,000	15,560	0	0.0%
Contour Tool Building	3301 North 2nd Street	1949	O/W	Multiple	2,106	4,180	0	0.0%
Crankshaft Supply Building	2726 Washington Avenue	1900	Bulk Ware.	Single	14,000	38,940	0	0.0%
Dongo Tool Building	125 Lowry Avenue	1952	Manuf.	Single	12,000	21,660	0	0.0%
Ducat Pattern Works Building	3442 Washington Avenue North	1969	Manuf.	Single	11,000	4,290	0	0.0%
Fabric Supply Building	3442 2nd Street North	1969	O/W	Multiple	42,000	90,000	0	0.0%
Flittie Redi-Mix Building	2610 NE Marshall Street	1951	N/A	Single	20,000	67,600	0	0.0%
GAF Building	50 Lowry Avenue North	1936	N/A	Single	200,000	271,000	0	0.0%
Grace Lee Building	2540 NE 2nd Street	1993	O/W	Single	53,502	130,000	0	0.0%

TABLE 5 (cont.)
BASIC BUILDING INFORMATION
INDUSTRIAL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class*	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy	
							Sq. Ft.	%
HE Erickson Building	635 Lowry Avenue NE	1934	O/W	Single	8,000	11,350	0	0.0%
Hoff Machinery Building	2543 NE Marshall Street	1956	Manuf.	Single	27,000	30,430	0	0.0%
In Play Building	3110 Washington Avenue North	1984	O/W	Multiple	17,800	47,113	0	0.0%
Japs Olson Building 1	30 North 31st Avenue	1964	O/W	Single	144,900	132,410	0	0.0%
Japs Olson Building 2	3003 Pacific Street North	1952	O/W	Single	102,530	126,600	0	0.0%
Mandeville Meat Equipment Bldg.	2800-2802 Washington Ave N	1902	O/W	Single	14,000	7,910	0	0.0%
Milton Johnson Roofing Building	525 Lowry Avenue NE	1956	O/W	Single	10,000	17,030	0	0.0%
Montgomery and Associates Bldg.	2922 Washington Avenue North	1951	O/W	Single	12,000	14,850	0	0.0%
Mothers and Children Building	3234 Washington Avenue North	1946	O/W	Single	13,000	9,050	0	0.0%
Nelson Electric Building	3218 Washington Avenue North	1960	O/W	Single	20,000	13,280	0	0.0%
Offset Plate and Service	3246 N 2nd Street	1957	O/W	Single	11,000	21,840	0	0.0%
P Graham Building	666 22nd Avenue NE	1948	O/W	Multiple	12,706	29,322	0	0.0%
Park Printing Building	81 Lowry Avenue	1953	O/W	Single	9,000	9,960	0	0.0%
Pinnacle Signs and Graphics	817 27th Avenue NE	N/A	O/W	Multiple	2,200	5,368	0	0.0%
Prestige Building	2706 Washington Avenue N	1948	O/W	Single	15,000	4,600	0	0.0%
Protek Building	2701 University Avenue NE	1986	O/W	Multiple	100,455	148,010	0	0.0%
Recycle Minnesota Building	2520 Washington Avenue North	N/A	O/W	Single	100,000	N/A	0	0.0%
Richard Hardware Building	38 27th Avenue NE	1950	O/W	Single	2,400	4,460	0	0.0%
Riteway Precision Machine Bldg.	2607 6th Street NE	1971	O/W	Single	12,000	28,380	0	0.0%
Time Machine Building	3239 North 2nd Street	N/A	O/W	Single	9,000	N/A	0	0.0%
Trio Supply Building	3112 North 2nd Street	1979	O/W	Multiple	72,000	N/A	0	0.0%
Turfco Manufacturing Building	3456 Washington Avenue N	1948	O/W	Multiple	21,500	30,125	0	0.0%
Subtotal/Average	***54 Buildings***	***1954***			***2,121,389***	--	***0***	***0.0%***
Total, All Buildings	**58 Buildings**	--			**2,368,905**	--	**190,516**	**8.0%**
Average, All Buildings		**1954**			**41,560**	**69,152**	--	--

* Building classifications:
** Total building and land value per building square foot.

Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

TABLE 6
ASSESSED VALUES (gross and per square foot)
INDUSTRIAL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class*	Bldg. Sq. Ft.	Land Sq. Ft.	Year 2000 Assessed Values: *Gross Dollar Amounts* Building	Land	Total	*Per Square Foot Amounts* Building	Land	Total**
Buildings With Available Space											
Pacific Building	3100 Pacific Street NE	1964	O/W	144,000	145,000	$1,448,000	$298,000	$1,746,000	$10.06	$2.06	$12.13
2600 2nd Street North Building	2600 2nd Street North	1935	Bulk Ware.	72,000	136,860	$272,500	$308,000	$580,500	$3.78	$2.25	$8.06
2900 Washington Building	2900 Washington Avenue North	1980	O/W	21,516	23,460	$349,000	$56,000	$405,000	$16.22	$2.39	$18.82
50 31st Avenue North Building	50 31st Avenue North	1965	N/A	10,000	N/A	$177,500	$37,000	$214,500	$17.75	N/A	$21.45
Subtotal/Average	***4 Buildings***			***247,516***	--	--	--	--	***$11.95***	***$2.23***	***$15.12***
Remainder of Inventory											
27th Avenue Distribution Center	113 27th Avenue NE	1979	Bulk Ware.	225,000	409,780	$2,506,000	$1,024,000	$3,530,000	$11.14	$2.50	$15.69
2nd Street Business Center	2800-2930 North 2nd Street	1981	O/W	154,000	277,180	$2,662,000	$624,000	$3,286,000	$17.29	$2.25	$21.34
Japs Olson Building 2	3003 Pacific Street North	1952	O/W	102,530	126,600	$1,512,500	$285,000	$1,797,500	$14.75	$2.25	$17.53
Japs Olson Building 1	30 North 31st Avenue	1964	O/W	144,900	132,410	$1,448,000	$298,000	$1,746,000	$9.99	$2.25	$12.05
Protek Building	2701 University Avenue NE	1986	O/W	100,455	148,010	$1,254,000	$296,000	$1,550,000	$12.48	$2.00	$15.43
Bemis Building	315 27th Avenue NE	1945	Manuf.	60,000	279,320	$795,500	$594,000	$1,389,500	$13.26	$2.13	$23.16
GAF Building	50 Lowry Avenue North	1936	N/A	200,000	271,000	$401,000	$627,000	$1,028,000	$2.01	$2.31	$5.14
American Iron and Steel Building	2800 Pacific Street	1953	Manuf.	50,000	397,610	$45,000	$895,000	$940,000	$0.90	$2.25	$18.80
Fabric Supply Building	3442 2nd Street North	1969	O/W	42,000	90,000	$495,000	$203,000	$698,000	$11.79	$2.26	$16.62
In Play Building	3110 Washington Avenue North	1984	O/W	17,800	47,113	$432,500	$112,000	$544,500	$24.30	$2.38	$30.59
Hoff Machinery Building	2543 NE Marshall Street	1956	Manuf.	27,000	30,430	$316,500	$76,000	$392,500	$11.72	$2.50	$14.54
Biff's Building	216 27th Avenue North	1963	O/W	7,000	70,180	$224,500	$166,000	$390,500	$32.07	$2.37	$55.79
Crankshaft Supply Building	2726 Washington Avenue	1900	Bulk Ware.	14,000	38,940	$292,000	$93,000	$385,000	$20.86	$2.39	$27.50
Turfco Manufacturing Building	3456 Washington Avenue N	1948	O/W	21,500	30,125	$265,000	$74,000	$339,000	$12.33	$2.46	$15.77
Flittie Redi-Mix Building	2610 NE Marshall Street	1951	N/A	20,000	67,600	$151,500	$169,000	$320,500	$7.58	$2.50	$16.03
P Graham Building	666 22nd Avenue NE	1948	O/W	12,706	29,322	$247,000	$73,000	$320,000	$19.44	$2.49	$25.18
Riteway Precision Machine Bldg.	2607 6th Street NE	1971	O/W	12,000	28,380	$210,000	$60,000	$270,000	$17.50	$2.11	$22.50
Advance Rubber Building	3334 Washington Avenue North	1980	Manuf.	9,000	14,780	$218,500	$33,000	$251,500	$24.28	$2.23	$27.94
125 27th Avenue NE Building	125 27th Avenue NE	1948	O/W	17,800	20,620	$198,500	$44,000	$242,500	$11.15	$2.13	$13.62
111 Lowry Ave NE Building	111 Lowry Ave NE	1900	O/W	8,000	47,970	$105,000	$120,000	$225,000	$13.13	$2.50	$28.13
2814 Washington Avenue Building	2814 Washington Avenue	1947	O/W	10,574	19,410	$175,000	$46,000	$221,000	$16.55	$2.37	$20.90
Nelson Electric Building	3218 Washington Avenue North	1960	O/W	20,000	13,280	$191,000	$30,000	$221,000	$9.55	$2.26	$11.05
2626-2630 University Ave NE	2626-2630 University Ave NE	1959	O/W	40,000	12,930	$178,500	$29,000	$207,500	$4.46	$2.24	$5.19
Milton Johnson Roofing Building	525 Lowry Avenue NE	1956	O/W	10,000	17,030	$137,000	$63,000	$200,000	$13.70	$3.70	$20.00
2531 Marshall Street NE Building	2531 Marshall Street NE	1945	Show/H.T.	10,033	15,850	$140,000	$49,000	$189,000	$13.95	$3.09	$18.84
Action Labs Building	3238 Washington Avenue North	1963	O/W	4,000	8,880	$165,000	$20,000	$185,000	$41.25	$2.25	$46.25
Park Printing Building	81 Lowry Avenue	1953	O/W	9,000	9,960	$156,500	$25,000	$181,500	$17.39	$2.51	$20.17
Montgomery and Associates Bldg.	2922 Washington Avenue North	1951	O/W	12,000	14,850	$136,500	$35,000	$171,500	$11.38	$2.36	$14.29

TABLE 6 (cont.)
ASSESSED VALUES (gross and per square foot)
INDUSTRIAL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

						Year 2000 Assessed Values					
						Gross Dollar Amounts			*Per Square Foot Amounts*		
Name	**Address**	**Year Built**	**OCR Building Class***	**Bldg. Sq. Ft.**	**Land Sq. Ft.**	**Building**	**Land**	**Total**	**Building**	**Land**	**Total****
Dongo Tool Building	125 Lowry Avenue	1952	Manuf.	12,000	21,660	$116,000	$54,000	$170,000	$9.67	$2.49	$14.17
Advantage Sign and Graphics Bldg.	3240 Washington Avenue North	1960	O/W	5,000	8,760	$139,000	$20,000	$159,000	$27.80	$2.28	$31.80
Offset Plate and Service	3246 N 2nd Street	1957	O/W	11,000	21,840	$103,000	$49,000	$152,000	$9.36	$2.24	$13.82
HE Erickson Building	635 Lowry Avenue NE	1934	O/W	8,000	11,350	$87,500	$57,000	$144,500	$10.94	$5.02	$18.06
ABC Industrial Building	2808 Washington Avenue North	1953	Manuf.	4,000	7,910	$103,800	$20,200	$124,000	$25.95	$2.55	$31.00
Ducat Pattern Works Building	3442 Washington Avenue North	1969	Manuf.	11,000	4,290	$108,300	$9,700	$118,000	$9.85	$2.26	$10.73
Mothers and Children Building	3234 Washington Avenue North	1946	O/W	13,000	9,050	$89,000	$27,000	$116,000	$6.85	$2.98	$8.92
2817 North 2nd Street Building	2817 North 2nd Street	1953	Bulk Ware.	N/A	10,320	$88,000	$24,000	$112,000	N/A	$2.33	N/A
Brown Bros. Inc. Building	3346 Washington Avenue North	1974	O/W	6,000	6,925	$81,900	$15,600	$97,500	$13.65	$2.25	$16.25
2555 NE California Street Building	2555 NE California Street	1952	O/W	2,883	16,590	$50,500	$35,000	$85,500	$17.52	$2.11	$29.66
Richard Hardware Building	38 27th Avenue NE	1950	O/W	2,400	4,460	$64,800	$15,200	$80,000	$27.00	$3.41	$33.33
BSD Repair Building	2932 Washington Avenue North	1955	O/W	5,000	15,560	$35,000	$40,000	$75,000	$7.00	$2.57	$15.00
Mandeville Meat Equipment Bldg.	2800-2802 Washington Ave N	1902	O/W	14,000	7,910	$50,300	$18,700	$69,000	$3.59	$2.36	$4.93
Contour Tool Building	3301 North 2nd Street	1949	O/W	2,106	4,180	$40,600	$9,400	$50,000	$19.28	$2.25	$23.74
Fellegy Cabinet	2422 Washington Ave.	1944	O/W	10,000	27,000	$21,900	$15,600	$37,500	$2.19	$0.58	$3.75
Prestige Building	2706 Washington Avenue N	1948	O/W	15,000	4,600	$9,100	$10,900	$20,000	$0.61	$2.37	$1.33
2416 NE 2nd Street Building	2416 NE 2nd Street	N/A	O/W	85,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2501 North 2nd Street	2501 North 2nd Street	N/A	O/W	200,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2626 NE 2nd Street Building	2626 NE 2nd Street	N/A	Manuf.	22,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3010 Washington Avenue N Bldg.	3010 Washington Avenue North	N/A	O/W	70,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BFI Waste Systems Building	2716-2720 Pacific Street	1900	N/A	25,000	164,930	N/A	N/A	N/A	N/A	N/A	N/A
Grace Lee Building	2540 NE 2nd Street	1993	O/W	53,502	130,000	N/A	N/A	N/A	N/A	N/A	N/A
Pinnacle Signs and Graphics	817 27th Avenue NE	N/A	O/W	2,200	5,368	N/A	N/A	N/A	N/A	N/A	N/A
Recycle Minnesota Building	2520 Washington Avenue North	N/A	O/W	100,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time Machine Building	3239 North 2nd Street	N/A	O/W	9,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trio Supply Building	3112 North 2nd Street	1979	O/W	72,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal/Average	***54 Buildings***			***2,121,389***	--	--	--	--	***$14.13***	***$2.43***	***$19.45***
Total, All Buildings	**58 Buildings**	**--**		**2,368,905**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Average, All Buildings		**1954**		**41,560**	**69,152**	**$385,317**	**$151,735**	**$537,052**	**$13.94**	**$2.42**	**$19.08**

Note: Building square footage figures may or may not include office space that accompanies the manufacturing or warehouse space; OCR does not typically collect this breakdown of space.

* Building classifications:
** Total building and land value per building square foot.

Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

Washington Avenue North, the main thoroughfare through this densely concentrated industrial area. Numerous other industrial buildings occupy parcels on adjacent streets such as Pacific Street and 27th Avenue North.

Current Retail Space Conditions in the Lowry Corridor

Introduction

This section presents key indicators of the retail space market in the Lowry Corridor. This section begins with an overview of the Corridor in the context of the Twin Cities retail market (from Colliers Towle). The section then presents data on building characteristics and valuations for specific properties within the Corridor itself (from the OCR).

The Lowry Corridor Retail Market in the Context of the Twin Cities

Table 7 presents building size and vacancy information for buildings in the Lowry Corridor and 10 Twin Cities retail submarkets. We only list data for neighborhood centers[6], as the Corridor only offers this type of retail complex in the category of multi-tenant space in a complex larger than 30,000 square feet (Colliers Towle's low-end cutoff point).

- ***The Twin Cities neighborhood-scale retail market was stagnant in 2000*** – Just 164,000 square feet of space was absorbed of this product type between the first quarters of 2000 and 2001, an advance in leased space of just 1.2%. Four of the ten markets surveyed declined in leased area; gains were made primarily in outlying suburban markets.

- ***Vacancies among neighborhood-scale retail centers are moderate for the Twin Cities as a whole*** – Roughly 1.1 million square feet of space was vacant among neighborhood retail centers in the Twin Cities in the first quarter of 2001, an 8.0% vacancy rate.

- ***The inner city submarkets had better than average occupancy rates in neighborhood centers, but experienced no growth over the past year*** – Minneapolis and St. Paul each had just over 6% vacancy among neighborhood retail centers last quarter, slightly below the Twin Cities rate of 8.0%. Minneapolis declined in the amount of absorbed space by about 13,000 square feet, however.

- ***There is just one retail complex above 30,000 square feet in the Lowry Corridor*** – The 123,000 square foot New Boston Square complex, 3-4 blocks south of Lowry along Central Avenue NE, had zero vacant space last quarter.

[6] A neighborhood center is one with between 30,000 and 180,000 square feet with or without a supermarket anchor tenant.

TABLE 7
RETAIL CENTER SIZE AND VACANCY COMPARISON*
LOWRY CORRIDOR AND TWIN CITIES METRO AREA SUBMARKETS
2001**

Space Type and Submarket	No. of Centers Surveyed	Rentable Area (S.F.)	Average Center S.F.	Vacant S.F.	Vacancy Rate	Absorption 1999-2000
Neighborhood-Scale (ranked by vacancy %)						
Lowry Corridor	***1***	***123,000***	***123,000***	***0***	***0.0%***	***N/A***
Anoka County	22	1,682,820	76,492	107,263	6.4%	127,126
Dakota County	38	2,265,652	59,622	166,847	7.4%	120,424
Minneapolis	9	528,611	58,735	32,521	6.2%	-13,317
Northeast	32	2,158,221	67,444	176,787	8.2%	-34,827
Northwest	21	1,612,700	76,795	288,423	17.9%	-62,665
Scott County	3	258,069	86,023	31,723	12.3%	72,273
Southwest	26	2,017,176	77,584	124,136	6.2%	-99,227
St. Paul	12	732,130	61,011	46,918	6.4%	9,088
Washington County	11	682,019	62,002	33,652	4.9%	76,625
West	32	1,826,461	57,077	108,243	5.9%	40,643
Twin Cities Metro	206	13,505,790	65,562	1,084,789	8.0%	163,870

* Towle surveys multi-tenant retail centers exclusively while Lowry Corridor retail space is mainly found in stand-alone buildings of either single- or multi-tenancy.
** Towle survey is from the 1st quarter of 2001 while the Lowry Corridor survey is from May 2001.

Sources: Colliers Towle, Market Research Partners, Inc., Maxfield Research Inc.

Characteristics of Retail Buildings in the Lowry Corridor

Table 8 presents basic information regarding 94 retail buildings located within the Corridor. We believe this tally, completed by the OCR, represents the vast majority of the retail space in the Corridor.

- ***The base of retail space in the Lowry Corridor is scattered among numerous small, single-user buildings*** – The OCR database counts 94 retail buildings in the Corridor, totaling 660,000 square feet. Just under 71% of this space is found in 87 buildings averaging just 5,400 square feet. This represents a wide dispersion of retail offerings, fitting the pattern with office space in the Corridor.

TABLE 8
BASIC BUILDING INFORMATION
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Bldg. Class*	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy Sq. Ft.	Building Vacancy %	Comments
Buildings With Available Space									
	NONE LISTED IN THE OCR RETAIL DATABASE								
Remainder of Inventory									
New Boston Square	2001-2113 Central Avenue NE	1987	Class B	Multiple	123,000	59,190	0	0%	Part of mixed-use; elevator, covered parking, Top of local market.
Applebaum's Building	3111 Emerson Avenue N	1967	NH	Single	28,000	55,420	0	0%	
2400-2424 University Ave NE Bldg.	2400-2424 University Ave NE	1921	NH	Multiple	22,000	6,780	0	0%	
2354 Central Ave NE Building	2354 Central Ave NE	N/A	NH	Multiple	21,000	N/A	0	0%	
3010 Penn Avenue N Bldg.	3010 Penn Avenue N	1966	NH	Single	15,000	37,500	0	0%	
2201 NE Johnson Street Bldg.	2201 NE Johnson Street	1921	NH	Multiple	14,000	3,830	0	0%	
695 Lowry Avenue NE Bldg.	695 Lowry Avenue NE	1925	NH	Multiple	13,800	12,260	0	0%	
2201-2203 Central Avenue NE Bldg.	2201-2203 Central Avenue NE	1900	NH	Multiple	12,000	7,500	0	0%	
2501 Central Ave NE Building	2501 Central Ave NE	1911	NH	Multiple	12,000	5,110	0	0%	
2600 Central Avenue NE Building	2600 Central Avenue NE	1890	NH	Multiple	12,000	16,330	0	0%	
3115-3117 Penn Avenue N Bldg.	3115-3117 Penn Avenue N	1966	NH	Single	12,000	5,090	0	0%	Sold for $120,000 in 1990.
Rushford Square	2223 Central Avenue NE	1890	NH	Multiple	12,000	14,870	0	0%	2-story building.
1112-1120 Lowry Avenue N Bldg.	1112-1120 Lowry Avenue N	1900	NH	Multiple	10,000	11,200	0	0%	
1201 Lowry Avenue N Building	1201 Lowry Avenue N	N/A	NH	Single	10,000	N/A	0	0%	
3118-3124 Lyndale Avenue N Bldg.	3118-3124 Lyndale Avenue N	1900	NH	Multiple	10,000	10,780	0	0%	
100 Lowry Avenue NE Building	100 Lowry Avenue NE	1906	NH	Multiple	9,000	12,213	0	0%	
2204-2210 Lowry Avenue N Bldg.	2204-2210 Lowry Avenue N	1916	NH	Multiple	9,000	5,040	0	0%	
2620 Central Avenue NE Building	2620 Central Avenue NE	1923	NH	Multiple	9,000	3,900	0	0%	
Blackey Bakery Building	639 22nd Avenue NE	1928	NH	Single	9,000	13,640	0	0%	Sold for $99,000 in 1999.
Rent a Center Building	2423 Central Avenue NE	N/A	NH	Single	9,000	N/A	0	0%	1-story building.
Walgreen's Building	2643 Central Avenue NE	1986	NH	Single	9,000	28,550	0	0%	National retailer.
1115-1119 Lowry Avenue N Bldg.	1115-1119 Lowry Avenue N	N/A	NH	Multiple	8,000	N/A	0	0%	
1217-1225 Lowry Avenue N Bldg.	1217-1225 Lowry Avenue N	N/A	NH	Multiple	8,000	N/A	0	0%	
2222 Central Avenue NE Bldg.	2222 Central Avenue NE	N/A	NH	Multiple	8,000	N/A	0	0%	
2502 Central Ave NE Building	2502 Central Ave NE	N/A	NH	Multiple	8,000	N/A	0	0%	
694 Lowry Avenue NE Bldg.	694 Lowry Avenue NE	1900	NH	Single	8,000	4,200	0	0%	
Twin City Marine and Hardware	2506 Central Avenue NE	1907	NH	Multiple	8,000	8,140	0	0%	3 stories; 12 parking stalls.
1423-1427 Lowry Avenue N Bldg.	1423-1427 Lowry Avenue N	1928	NH	Multiple	7,000	3,090	0	0%	
1501-1507 Lowry Avenue N Bldg.	1501-1507 Lowry Avenue N	1926	NH	Multiple	7,000	10,530	0	0%	30 parking stalls
1823-1825 Lowry Avenue N Bldg.	1823-1825 Lowry Avenue N	N/A	NH	Multiple	7,000	N/A	0	0%	
Champion Auto Building	2601 Central Avenue NE	1968	NH	Single	7,000	16,330	0	0%	Specialty auto repair; sold for $250,000 ('99).
The People's Choice Building	2513 Central Avenue NE	1930	NH	Single	6,600	8,140	0	0%	2 stories; sold for $136,000 in January 2001.
Lowry Pub	2015 Lowry Avenue N	1915	NH	Multiple	6,240	5,947	0	0%	Restaurant with above space; 7 parking.
2211 Central Avenue NE Bldg.	2211 Central Avenue NE	1907	NH	Multiple	6,000	7,480	0	0%	
2406 Central Avenue NE Building	2406 Central Avenue NE	N/A	NH	Multiple	6,000	N/A	0	0%	
2550 Central Avenue NE Building	2550 Central Avenue NE	1923	NH	Multiple	6,000	5,750	0	0%	
2800 Broadway Avenue W Bldg.	2800 Broadway Avenue W	1926	NH	Single	6,000	7,860	0	0%	
3200-3204 Penn Avenue N Bldg.	3200-3204 Penn Avenue N	1949	NH	Single	6,000	15,160	0	0%	Sold for $320,000 in 2000.
3350 Lyndale Avenue N Bldg.	3350 Lyndale Avenue N	1922	NH	Single	6,000	7,220	0	0%	Sold for $177,536 in 1998.
710 Lowry Avenue NE Bldg.	710 Lowry Avenue NE	1922	NH	Multiple	6,000	4,140	0	0%	

TABLE 8 (cont)
BASIC BUILDING INFORMATION
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class*	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy Sq. Ft.	Building Vacancy %	Comments
Salvation Army Building	3000 Broadway Avenue W	N/A	NH	Single	6,000	N/A	0	0%	
2520 Central Building	2520 Central Avenue NE	1917	NH	Multiple	5,264	9,980	0	0%	
2201 University Avenue NE Bldg.	2201 University Avenue NE	1958	NH	Single	5,000	13,510	0	0%	
2500 NE Marshall Street Building	2500 NE Marshall Street	1954	NH	Single	5,000	2,500	0	0%	
2524 Central Avenue NE Building	2524 Central Avenue NE	1886	NH	Single	5,000	8,319	0	0%	
3107-3111 Penn Avenue N Bldg.	3107-3111 Penn Avenue N	1901	NH	Multiple	5,000	10,180	0	0%	
Adelman Engine Building	2632 Central Avenue NE	1907	NH	Single	5,000	8,140	0	0%	Sold for $140,000 in November 2000.
Union Liquor Store Building	3219 Penn Avenue N	1920	NH	Single	5,000	10,080	0	0%	1-story building.
2401 University Ave NE Building	2401 University Ave NE	1900	NH	Single	4,000	4,780	0	0%	
2435 NE Marshall Street Bldg.	2435 NE Marshall Street	1963	NH	Multiple	4,000	18,510	0	0%	
3454-3456 Fremont Avenue N Bldg.	3454-3456 Fremont Avenue N	1925	NH	Multiple	4,000	9,660	0	0%	
Central Avenue Auto Body Bldg.	2628 Central Avenue NE	1946	NH	Single	4,000	8,140	0	0%	
Nefertiti Beauty Boutique Bldg.	3449 Penn Avenue N	1917	NH	Single	4,000	5,420	0	0%	2-story building.
Rapid Oil Change Building	2425 University Avenue NE	1948	NH	Single	4,000	11,840	0	0%	1-story building.
Taste of Color Building	3443 Penn Avenue N	1914	NH	Multiple	4,000	5,420	0	0%	2 stories; sold for $42,000 in 1997.
2616 Central Avenue NE	2616 Central Avenue NE	1903	NH	Multiple	3,660	8,142	0	0%	
2312 Lowry Avenue NE Building	2312 Lowry Avenue NE	N/A	NH	Multiple	3,600	N/A	0	0%	
2217 Central Avenue NE Bldg.	2217 Central Avenue NE	1949	NH	Multiple	3,000	7,520	0	0%	
2600 NE Johnson Street Building	2600 NE Johnson Street	1918	NH	Multiple	3,000	5,500	0	0%	
2800 Johnson Building	2800 Johnson Street NE	1962	NH	Single	3,000	23,870	0	0%	
3125 Loagan Avenue N Bldg.	3125 Logan Avenue N	1936	NH	Single	3,000	5,170	0	0%	
Certified TV Video Building	2509 Central Avenue NE	1924	NH	Single	3,000	5,100	0	0%	Sold for $230,000 in 1999.
Commercial Repair Building	1724 Lowry Avenue N	1941	NH	Single	3,000	10,170	0	0%	1-story building.
Druk Upholstery Building	44 Lowry Avenue N	1948	NH	Single	3,000	5,670	0	0%	1-story building.
Sunrise Floor Building	2514 Central Avenue NE	1903	NH	Single	3,000	8,140	0	0%	1-story building.
Ukranian Gift Shop Building	2422 Central Avenue NE	1900	NH	Single	3,000	4,600	0	0%	1 story; sold for $78,500 in 1998.
3453 Penn Avenue N Bldg.	3453 Penn Avenue N	1921	NH	Single	2,500	5,461	0	0%	Sold for $43,000 in 1998.
Big Stop Foods Building	1800 26th Avenue North	1984	NH	Single	2,500	10,150	0	0%	Sold for $148,000 in 1994.
Central Chiropractic	2544-2546 Central Avenue NE	1907	NH	Multiple	2,500	3,450	0	0%	2 stories; 2 store spaces fronting Central.
White Rental Building	2751 Central Avenue NE	1900	NH	Single	2,500	4,230	0	0%	1-story building.
3100 Lyndale Avenue N Bldg.	100 Lyndale Avenue N	1962	Conven.	Multiple	2,400	17,570	0	0%	
2213-2215 Central Avenue NE Bldg.	2213-2215 Central Avenue NE	1940	NH	Multiple	2,250	7,500	0	0%	Renovated 1993; 120 parking stalls.
2409 Central Avenue NE Building	2409 Central Avenue NE	1901	NH	Multiple	2,200	2,750	0	0%	
1025 Lowry Avenue NE Building	1025 Lowry Avenue NE	1904	NH	Multiple	2,160	3,220	0	0%	
2515 Lowry Ave N Building	2515 Lowry Ave N	N/A	NH	Single	2,000	N/A	0	0%	
3300 Lyndale Avenue N Bldg.	3300 Lyndale Avenue N	1921	NH	Single	2,000	5,610	0	0%	
818 Lowry Avenue NE Bldg.	818 Lowry Avenue NE	1972	NH	Single	2,000	9,870	0	0%	
Blue Star Marketing Building	2312 Central Avenue NE	1900	NH	Single	2,000	5,620	0	0%	Sold for $128,200 in 1989.
Carpets USA Building	2501 University Avenue NE	1934	NH	Single	2,000	6,440	0	0%	Sold for $70,000 in 1998.
Corner Boutique Building	2659 Penn Avneue N	1921	NH	Single	2,000	4,890	0	0%	1-story building.
Gottleib Carpet Furniture Building	2750 NE Johnson Street NE	1923	NH	Single	2,000	4,250	0	0%	1-story building.
Hegdahl Building	2759 Penn Avenue N	1912	NH	Single	2,000	5,120	0	0%	1-story building.

TABLE 8 (cont.)
BASIC BUILDING INFORMATION
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Building Class*	Tenancy	Bldg. Sq. Ft.	Land Sq. Ft.	Building Vacancy Sq. Ft.	Building Vacancy %	Comments
2716 Lowry Avenue N Building	2716 Lowry Avenue N	1959	NH	Single	1,500	10,220	0	0%	Sold for $207,000 in 1998.
Framing Solutions Building	219 NE Johnson Street NE	1924	NH	Single	1,500	5,050	0	0%	1-story building.
Pepper's Catering Building	2200 NE Johnson Street	1905	NH	Single	1,500	3,270	0	0%	1-story building.
Mooney's Pub Building	3221 Penn Avenue N	1923	NH	Single	1,350	5,040	0	0%	Restaurant; sold for $60,000 in June 2000.
Bicycles by Kevin Building	2837 Johnson Streete NE	N/A	NH	Multiple	1,000	N/A	0	0%	
Lady Barbaras Beauty Salon	3213 Penn Avenue N	1949	NH	Single	1,000	5,060	0	0%	1 story; sold for $58,000 in 1995.
Flowers to Go Building	2002 Lowry Avenue N	1929	NH	Single	841	10,220	0	0%	1-story building.
701 Lowry Avenue NE Bldg.	701 Lowry Avenue NE	N/A	NH	Single	800	7,200	0	0%	
Ulrich Motors Building	2650 Central Avenue NE	1948	NH	Single	400	5,797	0	0%	1 story; sold for $95,000 in 1998.
1215 Lowry Avenue N Building	1215 Lowry Avenue N	1915	NH	Single	N/A	3,910	0	0%	
2337-2339 Central Ave NE Bldg.	2337-2339 Central Ave NE	1906	NH	Multiple	N/A	5,350	0	0%	
Comics Building	2407 Central Avenue NE	1926	NH	Single	N/A	2,750	0	0%	1 story; sold for $45,000 in 1996.
Total, All Buildings	**94 Buildings**	--			**660,065**	--	**0**	**0.0%**	
Average, All Buildings		**1927**			**7,253**	**9,673**	--	--	

* Retail classifications: NH=Neighborhood Retail, Conven.=Convenience Center

Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

- ***Virtually all of the retail buildings are at least 30 years old in the Corridor, with most well over 50 years old –*** Certainly, many buildings have been updated, but much of the retail in the Corridor is old, accommodating "mom and pop" retailers who have been established for several decades. In terms of space, about 20% of Corridor retail was built in the 1980s (the most recent construction era); this number is skewed drastically upward because the space total includes New Boston Square (123,000 square feet, built in 1987).

- ***90% of Corridor retail space is located along just 6 main streets (Table 9***) – These include Central (49% of Corridor retail space), Lowry (19%), Penn (9%), University (6%), Johnson Street (4%) and Lyndale (3%).

- ***Nearly 50% of the Corridor retail space is located along Central Avenue Northeast*** – This street was home to 34 buildings totaling 321,374 square feet of space in the past quarter. This further confirms the relative dominance of Central Avenue Northeast for commercial uses, a fact established earlier with the office space analysis.

- ***Two-thirds of the retail supply in the Corridor is located east of the River*** – As with office space, the west side of the River represents a much smaller market than the east side of the River. Buildings are about the same size in both areas (5,500 square feet in the west versus 5,900 in the east), factoring out New Boston Square.

TABLE 9
RETAIL SPACE BY STREET FRONTAGE
LOWRY CORRIDOR STUDY AREA
May 2001

Frontage	Total Retail S.F.	% of Corridor	No. of Bldgs.	Average Bldg. S.F.
Central Ave. NE	321,374	49%	34	9,452
Lowry Ave. (N and NE)	127,941	19%	23	5,563
Penn Ave. N	59,850	9%	12	4,988
University Ave. NE	37,000	6%	5	7,400
Johnson St NE	27,350	4%	7	3,907
Lyndale Ave. N	19,250	3%	4	4,813
	592,765	90%	85	6,974

Note: The average building size along Central Avenue is skewed up because of New Boston Square (123,000 square feet); without this center, the average building size drops to 6,011 square feet.

Sources: Organization of Commercial Realtors (OCR); Market Research Partners, Inc.; Maxfield Research Inc.

Retail Building Valuations in the Lowry Corridor

Table 10 presents land and building valuations for retail buildings located in the Lowry Corridor. Valuations are 2000 assessed values for taxation per City of Minneapolis. Given the lack of available space for lease, we had no market value data to analyze other than assessed values.

- ***Gross assessed values for retail property in the Corridor are low*** – For the 77 retail buildings in the survey with assessed value information in 2000, over 88% had total assessed values (building and land together) of less than $200,000; 55% had total assessed values of less than $100,000. Just two buildings had assessed values of over $400,000. These low prices overall are mainly due to small building size or marginal condition, or both characteristics together.

- Compared to known sales prices of larger, multi-tenant buildings (per Colliers Towle, shown in Table 11 below), ***retail properties in the Lowry Corridor have low to moderate values on a price per-square-foot basis***. Roughly 17% of the retail properties in the Corridor had moderately-high assessed values of $45 per-square-foot or more in 2000, similar to the many of the sale prices shown in Table 11. As well, about 51% of Corridor retail buildings had 2000 assessed values of $22 per-square-foot or higher, equal to or greater than LaSalle Court's (Minneapolis) selling price last year. However, the remaining 49% of Corridor retail buildings had low assessed values in 2000, ranging from just $4 to $22 per-square-foot.

TABLE 10
ASSESSED VALUES (gross and per square foot)
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

Name	Address	Year Built	OCR Bldg. Class*	Bldg. Sq. Ft.	Land Sq. Ft.	Year 2000 Assessed Values: Gross Dollar Amounts: Building	Land	Total	Per Square Foot Amounts: Building	Land	Total***
Buildings With Available Space											
	NONE LISTED IN THE OCR RETAIL DATABASE										
Remainder of Inventory											
New Boston Square	2001-2113 Central Avenue NE	1987	Class B	123,000	59,190	$3,760,000	$240,000	$4,000,000	$30.57	$4.05	$32.52
Walgreen's Building	2643 Central Avenue NE	1986	NH	9,000	28,550	$472,000	$143,000	$615,000	$52.44	$5.01	$68.33
Applebaum's Building	3111 Emerson Avenue N	1967	NH	28,000	55,420	$198,500	$166,000	$364,500	$7.09	$3.00	$13.02
3010 Penn Avenue N Bldg.	3010 Penn Avenue N	1966	NH	15,000	37,500	$221,000	$113,000	$334,000	$14.73	$3.01	$22.27
Rushford Square	2223 Central Avenue NE	1890	NH	12,000	14,870	$186,000	$74,000	$260,000	$15.50	$4.98	$21.67
2201 University Avenue NE Bldg.	2201 University Avenue NE	1958	NH	5,000	13,510	$180,000	$63,000	$243,000	$36.00	$4.66	$48.60
2435 NE Marshall Street Bldg.	2435 NE Marshall Street	1963	NH	4,000	18,510	$139,000	$86,000	$225,000	$34.75	$4.65	$56.25
2201-2203 Central Avenue NE Bldg.	2201-2203 Central Avenue NE	1900	NH	12,000	7,500	$177,000	$38,000	$215,000	$14.75	$5.07	$17.92
Champion Auto Building	2601 Central Avenue NE	1968	NH	7,000	16,330	$121,000	$82,000	$203,000	$17.29	$5.02	$29.00
695 Lowry Avenue NE Bldg.	695 Lowry Avenue NE	1925	NH	13,800	12,260	$165,500	$31,000	$196,500	$11.99	$2.53	$14.24
3200-3204 Penn Avenue N Bldg.	3200-3204 Penn Avenue N	1949	NH	6,000	15,160	$149,000	$46,000	$195,000	$24.83	$3.03	$32.50
Blackey Bakery Building	639 22nd Avenue NE	1928	NH	9,000	13,640	$151,000	$34,000	$185,000	$16.78	$2.49	$20.56
1112-1120 Lowry Avenue N Bldg.	1112-1120 Lowry Avenue N	1900	NH	10,000	11,200	$144,500	$34,000	$178,500	$14.45	$3.04	$17.85
Certified TV Video Building	2509 Central Avenue NE	1924	NH	3,000	5,100	$99,500	$73,500	$173,000	$33.17	$14.41	$57.67
100 Lowry Avenue NE Building	100 Lowry Avenue NE	1906	NH	9,000	12,213	$127,000	$45,000	$172,000	$14.11	$3.68	$19.11
Central Avenue Auto Body Bldg.	2628 Central Avenue NE	1946	NH	4,000	8,140	$122,500	$41,000	$163,500	$30.63	$5.04	$40.88
2501 Central Ave NE Building	2501 Central Ave NE	1911	NH	12,000	5,110	$129,000	$26,000	$155,000	$10.75	$5.09	$12.92
2520 Central Building	2520 Central Avenue NE	1917	NH	5,264	9,980	$105,000	$50,000	$155,000	$19.95	$5.01	$29.45
2600 Central Avenue NE Building	2600 Central Avenue NE	1890	NH	12,000	16,330	$80,000	$75,000	$155,000	$6.67	$4.59	$12.92
2211 Central Avenue NE Bldg.	2211 Central Avenue NE	1907	NH	6,000	7,480	$113,000	$37,000	$150,000	$18.83	$4.95	$25.00
Blue Star Marketing Building	2312 Central Avenue NE	1900	NH	2,000	5,620	$121,500	$28,000	$149,500	$60.75	$4.98	$74.75
2217 Central Avenue NE Bldg.	2217 Central Avenue NE	1949	NH	3,000	7,520	$104,000	$38,000	$142,000	$34.67	$5.05	$47.33
2337-2339 Central Ave NE Bldg.	2337-2339 Central Ave NE	1906	NH	N/A	5,350	$112,000	$27,000	$139,000	N/A	$5.05	N/A
The People's Choice Building	2513 Central Avenue NE	1930	NH	6,600	8,140	$92,500	$41,000	$133,500	$14.02	$5.04	$20.23
Union Liquor Store Building	3219 Penn Avenue N	1920	NH	5,000	10,080	$103,500	$30,000	$133,500	$20.70	$2.98	$26.70
Rapid Oil Change Building	2425 University Avenue NE	1948	NH	4,000	11,840	$67,000	$59,000	$126,000	$16.75	$4.98	$31.50
2800 Broadway Avenue W Bldg.	2800 Broadway Avenue W	1926	NH	6,000	7,860	$101,500	$24,000	$125,500	$16.92	$3.05	$20.92
Big Stop Foods Building	1800 26th Avenue North	1984	NH	2,500	10,150	$95,000	$30,000	$125,000	$38.00	$2.96	$50.00
Carpets USA Building	2501 University Avenue NE	1934	NH	2,000	6,440	$101,000	$24,000	$125,000	$50.50	$3.73	$62.50
2550 Central Avenue NE Building	2550 Central Avenue NE	1923	NH	6,000	5,750	$94,000	$29,000	$123,000	$15.67	$5.04	$20.50
1501-1507 Lowry Avenue N Bldg.	1501-1507 Lowry Avenue N	1926	NH	7,000	10,530	89000	32000	$121,000	$12.71	$3.04	$17.29
Adelman Engine Building	2632 Central Avenue NE	1907	NH	5,000	8,140	$74,000	$41,000	$115,000	$14.80	$5.04	$23.00
818 Lowry Avenue NE Bldg.	818 Lowry Avenue NE	1972	NH	2,000	9,870	$83,000	$30,000	$113,000	$41.50	$3.04	$56.50
3107-3111 Penn Avenue N Bldg.	3107-3111 Penn Avenue N	1901	NH	5,000	10,180	$78,000	$31,000	$109,000	$15.60	$3.05	$21.80
1215 Lowry Avenue N Building	1215 Lowry Avenue N	1915	NH	N/A	3,910	$93,300	$11,700	$105,000	N/A	$2.99	N/A
2201 NE Johnson Street Bldg.	2201 NE Johnson Street	1921	NH	14,000	3,830	$84,000	$15,000	$99,000	$6.00	$3.92	$7.07
2616 Central Avenue NE	2616 Central Avenue NE	1903	NH	3,660	8,142	N/A	N/A	$97,000 **	N/A	N/A	N/A

TABLE 10 (cont.)
ASSESSED VALUES (gross and per square foot)
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

						Year 2000 Assessed Values					
						Gross Dollar Amounts			*Per Square Foot Amounts*		
Name	Address	Year Built	OCR Bldg. Class*	Bldg. Sq. Ft.	Land Sq. Ft.	Building	Land	Total	Building	Land	Total***
Twin City Marine and Hardware	2506 Central Avenue NE	1907	NH	8,000	8,140	$56,000	$41,000	$97,000	$7.00	$5.04	$12.13
Lowry Pub	2015 Lowry Avenue N	1915	NH	6,240	5,947	$77,200	$17,800	$95,000	$12.37	$2.99	$15.22
Ukranian Gift Shop Building	2422 Central Avenue NE	1900	NH	3,000	4,600	$71,000	$23,000	$94,000	$23.67	$5.00	$31.33
Commercial Repair Building	1724 Lowry Avenue N	1941	NH	3,000	10,170	$59,500	$31,000	$90,500	$19.83	$3.05	$30.17
2400-2424 University Ave NE Bldg.	2400-2424 University Ave NE	1921	NH	22,000	6,780	$62,500	$27,000	$89,500	$2.84	$3.98	$4.07
3454-3456 Fremont Avenue N Bldg.	3454-3456 Fremont Avenue N	1925	NH	4,000	9,660	$59,500	$29,000	$88,500	$14.88	$3.00	$22.13
Central Chiropractic	2544-2546 Central Avenue NE	1907	NH	2,500	3,450	$68,200	$17,300	$85,500	$27.28	$5.01	$34.20
1423-1427 Lowry Avenue N Bldg.	1423-1427 Lowry Avenue N	1928	NH	7,000	3,090	$70,700	$9,300	$80,000	$10.10	$3.01	$11.43
Gottleib Carpet Furniture Building	2750 NE Johnson Street NE	1923	NH	2,000	4,250	$58,000	$21,000	$79,000	$29.00	$4.94	$39.50
2500 NE Marshall Street Building	2500 NE Marshall Street	1954	NH	5,000	2,500	$52,000	$25,000	$77,000	$10.40	$10.00	$15.40
2401 University Ave NE Building	2401 University Ave NE	1900	NH	4,000	4,780	$64,300	$10,200	$74,500	$16.08	$2.13	$18.63
Nefertiti Beauty Boutique Bldg.	3449 Penn Avenue N	1917	NH	4,000	5,420	$57,700	$16,300	$74,000	$14.43	$3.01	$18.50
2620 Central Avenue NE Building	2620 Central Avenue NE	1923	NH	9,000	3,900	$53,000	$19,500	$72,500	$5.89	$5.00	$8.06
3300 Lyndale Avenue N Bldg.	3300 Lyndale Avenue N	1921	NH	2,000	5,610	$53,200	$16,800	$70,000	$26.60	$2.99	$35.00
694 Lowry Avenue NE Bldg.	694 Lowry Avenue NE	1900	NH	8,000	4,200	$53,500	$16,000	$69,500	$6.69	$3.81	$8.69
Framing Solutions Building	219 NE Johnson Street NE	1924	NH	1,500	5,050	$50,800	$18,700	$69,500	$33.87	$3.70	$46.33
2600 NE Johnson Street Building	2600 NE Johnson Street	1918	NH	3,000	5,500	$40,500	$28,000	$68,500	$13.50	$5.09	$22.83
2213-2215 Central Avenue NE Bldg.	2213-2215 Central Avenue NE	1940	NH	2,250	7,500	$29,000	$38,000	$67,000	$12.89	$5.07	$29.78
710 Lowry Avenue NE Bldg.	710 Lowry Avenue NE	1922	NH	6,000	4,140	$54,600	$12,400	$67,000	$9.10	$3.00	$11.17
3453 Penn Avenue N Bldg.	3453 Penn Avenue N	1921	NH	2,500	5,461	$48,600	$16,400	$65,000	$19.44	$3.00	$26.00
Mooney's Pub Building	3221 Penn Avenue N	1923	NH	1,350	5,040	$47,900	$15,100	$63,000	$35.48	$3.00	$46.67
2204-2210 Lowry Avenue N Bldg.	2204-2210 Lowry Avenue N	1916	NH	9,000	5,040	$44,900	$15,100	$60,000	$4.99	$3.00	$6.67
2716 Lowry Avenue N Building	2716 Lowry Avenue N	1959	NH	1,500	10,220	$29,000	$31,000	$60,000	$19.33	$3.03	$40.00
Druk Upholstery Building	44 Lowry Avenue N	1948	NH	3,000	5,670	$39,000	$21,000	$60,000	$13.00	$3.70	$20.00
Sunrise Floor Building	2514 Central Avenue NE	1903	NH	3,000	8,140	$18,000	$41,000	$59,000	$6.00	$5.04	$19.67
Corner Boutique Building	2659 Penn Avneue N	1921	NH	2,000	4,890	$45,500	$12,500	$58,000	$22.75	$2.56	$29.00
1025 Lowry Avenue NE Building	1025 Lowry Avenue NE	1904	NH	2,160	3,220	$39,000	$16,000	$55,000	$18.06	$4.97	$25.46
Pepper's Catering Building	2200 NE Johnson Street	1905	NH	1,500	3,270	$44,800	$10,200	$55,000	$29.87	$3.12	$36.67
Taste of Color Building	3443 Penn Avenue N	1914	NH	4,000	5,420	$47,900	$6,800	$54,700	$11.98	$1.25	$13.68
2524 Central Avenue NE Building	2524 Central Avenue NE	1886	NH	5,000	8,319	$18,500	$35,000	$53,500	$3.70	$4.21	$10.70
2409 Central Avenue NE Building	2409 Central Avenue NE	1901	NH	2,200	2,750	$43,600	$9,400	$53,000	$19.82	$3.42	$24.09
3100 Lyndale Avenue N Bldg.	100 Lyndale Avenue N	1962	Conven.	2,400	17,570	$5,000	$45,000	$50,000	$2.08	$2.56	$20.83
Lady Barbaras Beauty Salon	3213 Penn Avenue N	1949	NH	1,000	5,060	$29,800	$15,200	$45,000	$29.80	$3.00	$45.00
Comics Building	2407 Central Avenue NE	1926	NH	N/A	2,750	$27,000	$14,000	$41,000	N/A	$5.09	N/A
White Rental Building	2751 Central Avenue NE	1900	NH	2,500	4,230	$12,000	$21,000	$33,000	$4.80	$4.96	$13.20
Hegdahl Building	2759 Penn Avenue N	1912	NH	2,000	5,120	$16,600	$15,400	$32,000	$8.30	$3.01	$16.00
Ulrich Motors Building	2650 Central Avenue NE	1948	NH	400	5,797	$2,000	$29,000	$31,000	$5.00	$5.00	$77.50
3125 Loagan Avenue N Bldg.	3125 Loagan Avenue N	1936	NH	3,000	5,170	$14,500	$15,500	$30,000	$4.83	$3.00	$10.00
Flowers to Go Building	2002 Lowry Avenue N	1929	NH	841	10,220	$2,000	$28,000	$30,000	$2.38	$2.74	$35.67

TABLE 10 (cont.)
ASSESSED VALUES (gross and per square foot)
RETAIL BUILDINGS LOCATED IN THE LOWRY CORRIDOR
April 2001

						Year 2000 Assessed Values					
						Gross Dollar Amounts			*Per Square Foot Amounts*		
Name	**Address**	**Year Built**	**OCR Bldg. Class***	**Bldg. Sq. Ft.**	**Land Sq. Ft.**	**Building**	**Land**	**Total**	**Building**	**Land**	**Total*** **
701 Lowry Avenue NE Bldg.	701 Lowry Avenue NE	N/A	NH	800	7,200	$0	$22,000	$22,000	$0.00	$3.06	$27.50
3350 Lyndale Avenue N Bldg.	3350 Lyndale Avenue N	1922	NH	6,000	7,220	$65,300	N/A	N/A	N/A	N/A	N/A
1115-1119 Lowry Avenue N Bldg.	1115-1119 Lowry Avenue N	N/A	NH	8,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1201 Lowry Avenue N Building	1201 Lowry Avenue N	N/A	NH	10,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1217-1225 Lowry Avenue N Bldg.	1217-1225 Lowry Avenue N	N/A	NH	8,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1823-1825 Lowry Avenue N Bldg.	1823-1825 Lowry Avenue N	N/A	NH	7,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2222 Central Avenue NE Bldg.	2222 Central Avenue NE	N/A	NH	8,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2312 Lowry Avenue NE Building	2312 Lowry Avenue NE	N/A	NH	3,600	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2354 Central Ave NE Building	2354 Central Ave NE	N/A	NH	21,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2406 Central Avenue NE Building	2406 Central Avenue NE	N/A	NH	6,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2502 Central Ave NE Building	2502 Central Ave NE	N/A	NH	8,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2515 Lowry Ave N Building	2515 Lowry Ave N	N/A	NH	2,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2800 Johnson Building	2800 Johnson Street NE	1962	NH	3,000	23,870	N/A	N/A	N/A	N/A	N/A	N/A
3115-3117 Penn Avenue N Bldg.	3115-3117 Penn Avenue N	1966	NH	12,000	5,090	N/A	N/A	N/A	N/A	N/A	N/A
3118-3124 Lyndale Avenue N Bldg.	3118-3124 Lyndale Avenue N	1900	NH	10,000	10,780	N/A	N/A	N/A	N/A	N/A	N/A
Bicycles by Kevin Building	2837 Johnson Streete NE	N/A	NH	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rent a Center Building	2423 Central Avenue NE	N/A	NH	9,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Salvation Army Building	3000 Broadway Avenue W	N/A	NH	6,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total, All Buildings	**94 Buildings**	**--**		**660,065**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Average, All Buildings		**1927**		**7,253**	**9,673**	**$130,726**	**$37,370**	**$168,022**	**$18.38**	**$4.08**	**$27.83**

* Retail classifications: NH=Neighborhood Retail, Conven.=Convenience Center
** 1997 Sales price.
***Total building and land value per building square foot.

Sources: Organization of Commercial Realtors, Market Research Partners, Inc., Maxfield Research Inc.

TABLE 11
NEIGHBORHOOD RETAIL CENTER SALES PRICES
(per square foot)
TWIN CITIES
2000

Center	Location	Center S.F.	Sales $ per S.F.
Loehman's Plaza	Bloomington	138,738	$62
Cobblestone Court	Burnsville	97,000	$53
Holly Center	Fridley	72,000	$49
Park Square	Brooklyn Park	137,000	$47
La Salle Court	Downtown Minneapolis	42,000	$22

Sources: Colliers Towle
Market Research Partners, Inc.
Maxfield Research Inc.

May 9, 2001

MEMORANDUM

TO: Phil Carlson
Dahlgren, Shardlow and Uban

FROM: Thomas G. O'Neil, Market Research Partners, Inc./Maxfield Research Inc.
Mary Bujold, Maxfield Research Inc.

RE: Development Potential in the Lowry Corridor

Introduction

This memorandum outlines, in broad fashion, our opinion of development potential for five main uses within the Lowry Corridor[7] in the near term (the next 5 to 10 years) and the long term (more than ten years out). We base our opinion on the current market conditions for housing and commercial land uses within the Corridor, as was presented in the two previous memorandums on market conditions.[8]

The statements of development potential contained in this memo are preliminary, as we have not had enough time to complete detailed fieldwork within the Corridor. Instead, this memo serves to help broadly define development alternatives, particularly at the key nodes along Lowry Avenue. At a later point, we will conduct full market feasibility analyses of the broad development concepts, helping to refine the plans within the realities of specific real estate markets. At that point, we will outline price ranges, target markets, amenity packages and other important criteria for each of the development alternatives.

This memo first summarizes development potential within the Corridor in a matrix format, presenting potential according to land use type and Corridor segment (west and east of the River). The memorandum then reviews several overriding principles that we believe will strongly impact development potential in the coming years in and around the Corridor. Finally, we present a detailed discussion of the development potential of each land use type.

[7] Owned housing, rental housing, office, industrial and retail.
[8] "Housing Market Overview: Lowry Corridor," (dated April 9, 2001) and "Office, Industrial and Retail Market Overviews: Lowry Corridor," (dated May 8, 2001).

Figure 1

Development Potential in the Lowry Corridor By Corridor Segment and Land Use Type

May 2001

	West Side of River Segment		East Side of River Segment	
	Short Term (5-10 years)	**Long Term 10+ years)**	**Short Term (5-10 years)**	**Long Term 10+ years)**
Owner-Occupied Housing	***Very strong for affordable*** ; ***moderate for market-rate*** ; numerous, scattered, derelict parcels available for redevelopment; work to fill in vacant parcels and stabilize the area; owner townhomes proposed at Penn/Lowry	***Strong for both affordable and market-rate*** ; area will become more attractive with Upper River developments; large-scale redevelopment at Humboldt and Near North sites near the Corridor should focus attention on Corridor; increasing opportunities for higher-priced, owned housing as area stabilizes.	***Strong for both affordable and market-rate;*** housing sells at a premium on East Side, relative to West Side of River; work to ensure continued neighborhood stabilization, fill in vacant parcles and seek high-density developments along Central, University, Lowry and Marshall.	***Strong for both affordable and market-rate*** ; multifamily, owner development along key arterials (University and Central especially) should be high priority over long run.
Renter-Occupied Housing	***Very strong for affordable*** ; ***moderate for market-rate*** ; unusually tight market conditions now for rental housing; cap on upper price for market-rate rental due to low/moderate incomes of area; affordable housing most in need in this area; senior apartments proposed at Penn/Lowry.	***Strong for both affordable and market-rate*** ; area will become more attractive and rents should increase as large-scale redevelopments in adjacent areas focus more attention on Lowry area; in long run, Riverfornt sites near Lowry River crossing could yield upscale projects.	***Strong for both affordable and market-rate;*** major arterials/Lowry nodes (Central and University especially) have strongest potential for moderate market-rate development.	***Strong for both affordable and market-rate;*** steady improvements and new development in Northeast should help area realize its potential as a well-located, safe neighborhood with character and Riverfront amenties.
Office	***Minimal*** ; virtually no base currently; what little exists is located on Lowry; little potential for return and high risk for new development; market area demographics yield very little demand for modern, multi-tenant space.	***Minimal, unless stimulated with public investment and leadership*** ; could be high near Lowry at the West Bank (River City and Lowry Plaza sites) if Upper River Master Plan is followed.	***Moderate*** ; opportunity for multi-tenant space of any significant scale will most likely emerge along Central, possibly on University or Marshall; Grain Belt Brewery redevelopment should bring interest to area and possibly spur interest in other parcels located on main arterials.	***Moderate;*** potential depends on ultimate development pattern along the River; Upper River Master Plan does not include much commercial development along the East Bank; lacking Riverfront opportunities, Central and University corridors become opportunity sites.
Industrial	***Minimal outside of established industrial areas*** ; reduction of heavy industry along the River is likely; light industrial retrenchment also likely as Riverfront is redeveloped with housing, open space/public amenities and other non-industrial uses.	***Minimal;*** Upper River plans call for some new light industrial, but Riverfornt site redevelopments would still likely represent a net loss relative to current space totals.	***Minimal*** outside of established industrial areas that exist along the River and that will remain after Upper River master plan redevelopment; area west of University in particular is mainly residential, and therefore unsuitable for industrial.	***Minimal*** . Shoreham Yards site could yield light industrial in a large scale depending on ultimate development of this large site.
Retail	***Minimal*** ; little potential for return and high risk for new development; market area demographics support little demand for modern, multi-tenant space; older established micro-businesses may be replaced by new, minority owned shops and small businesses.	***Moderate*** ; as neighborhood turnover stabilizes and new housing is developed, opportunities may emerge at key nodes such as Penn and Fremont/Emerson area; area lacks a neighborhood-scale grocery.	***Moderate;*** retail should expand along Central Avenue, and possibly along University and Marshall as new mixed-use developments are built.	***Moderate to strong;*** steady improvements and new development in Northeast should help area realize its potential, creating new opportunities for neighborhood- and possibly community-scale retail, especially in major corridors.

Key Trends That Will Affect Future Corridor Development

Introduction

There have been several important shifts in the population and character of the Lowry Corridor and its surrounding area in recent years. These changes represent challenges to planning future development in the Corridor, but also potential strengths, if understood and harnessed in the change-planning process. As well, there are some current constraints – most notably the lack of land for development – that will also affect the viability of specific development alternatives.

Rapid Population Turnover

First, ***the western segment of the Corridor has experienced tremendous racial turnover in the past ten years***. According to Census figures, as reported in the Star and Tribune[9], five neighborhoods that abut Lowry Avenue on the north and south collectively experienced a 52% loss in the number of non-Hispanic whites (roughly 9,100 people) while gaining by 163% in the number of minorities (roughly 12,600 people). Such high-volume turnover, at such a rapid pace, presents challenges to the stability of neighborhood institutions and businesses.

We expect that this turnover rate will remain high over the foreseeable future, as immigrants and low and moderate-income minorities will continue to be attracted to the supply of affordable owned and rental housing in this part of the Corridor.

Emergence of Smaller Communities That Are Serving As Change Agents

Second, ***eclectic communities have sprouted within the Corridor***, most recognizable on the east side. Evidence of this includes ethnic restaurants and stores along Central Avenue, "funky" specialty shops along Marshall Street and the growing artists colony in the California Building, the largest "office" building we found in the Corridor. Ethnic and eclectic people and communities could serve as potent agents of positive change, fostering stability and providing incremental investments in the physical and social aspects of the Corridor.

This growing, eclectic nature might serve as the basis for further neighborhood evolution, much in the same way that Grand Avenue was transformed over 20 years by a relatively small base of creative, entrepreneurial people.

[9] "Racial turnover on North Side," Minneapolis Star Tribune, April 25, 2001.

Further supporting these budding communities with new, affordable housing development, improved infrastructure (parks, streetscapes, community amenities, etc.) and public services (transportation, and public safety) is important.

"Age" Turnover

The Camden and Northeast Communities of Minneapolis have long been noted for their high numbers of long-time senior residents. However, many of these ***seniors are moving from the area***, for health and other reasons. As they move out, they are also "disinvesting" from the community – closing or selling businesses and taking their disposable incomes out of the community.

However, this change also has upside potential. As seniors move out, younger singles, couples, immigrants and minorities – many of them entrepreneurial – are moving in. As these new , younger groups move in, the neighborhood can benefit from renewed energy and investment. This will only be realized however if the community is perceived as a good, safe place to work and live. Investments by the City to create housing and commercial development momentum will also be key to realizing this budding potential.

The Lack of a Strong Commercial and Mixed-Use Node in the Western Segment

The western segment of the Corridor has no dominant commercial node along Lowry Avenue. Such a base could have provided the foundation for further retail, high-density housing and mixed-use development. Nodes at Penn, Emerson/Fremont and Lyndale are in transition, arguably decline, and many vacant parcels exist in these areas. Of these, Penn/Lowry has the only substantial developed base currently. Given a current development proposal for senior housing, retail and owner townhomes, Penn/Lowry appears to have the strongest redevelopment momentum of the existing mixed-use nodes on the west side of the River.

Lack of Suitable Land for Development

Very little vacant land is available throughout the Corridor in sizes that could accommodate a development of even modest size. There are numerous vacant parcels on the west side of the River, but most are scattered and sized for just one single-family home (roughly 5,000 square feet). This does not include parcels in the Riverfront industrial areas, which would require substantial cleanup for reutilization for housing or other uses.

Because of this, larger-scale developments in the Corridor will likely occur only through the clearing and assemblage of several tracts of land. This might be undertaken by a private developer, but would more likely occur only after the City of Minneapolis completed the upfront work to create a sizeable development site.

Architectural Quality of Buildings

All throughout the Corridor, especially along Central Avenue and at key Lowry Avenue nodes (i.e. Penn), ***there are buildings with architectural interest and character***. We believe that they have potential for renovation to modern mixed-use buildings. Many of the nodes within the Corridor have the basic characteristics of New Urbanism design so sought after in the suburbs. This includes two-story, mixed-use structures, smaller (human) scale street frontages, and moderate-to high residential densities.

A main obstacle to realizing the potential of these buildings, however, will be the lack of private investment, on its own, without public support. If there is no depth to the markets corresponding to the potential uses of these buildings, they will continue to deteriorate to the point of complete obsolescence.

Housing Development Potential in the Lowry Corridor

Introduction

We believe that there is strong potential for housing development in the Corridor and that there are several opportunity areas in both the east and west segments. As our earlier housing market review showed, the single family home market has been very strong in both the east and west sides of the River, with 10%-12% annual price appreciation, fast market times for sellers and average sales-to-list percentages of 100%. The sales volume in the western segment has increased by nearly 65% in the past six years alone, reflecting out-migration by long-time white residents, but strong interest in owned housing by immigrants and first-time minority homeowners.

The eastern half of the Corridor garners significant price premiums over the western segment, providing a greater opportunity for more-upscale housing development there. However, the west side of the Corridor could see new upscale development along the River in the long run, as industrial sites are cleared and cleaned, parks and parkways are built and the River amenity truly emerges.

Owned Housing

Larger infill parcels could accommodate new owner townhomes, similar to the proposed 9-10 units that are planned by the MCDA for the southeast quadrant of the Penn and Lowry intersection. Infill opportunities are found all throughout the Corridor, but especially in the western segment. Parcels that front Lowry Avenue or other main streets could be mixed-use housing and commercial (retail/service/office), on a small to moderate scale (e.g. 2-3 story buildings with 10-20 residential units and 5,000-20,000 square feet of commercial space). On larger parcels off the main thoroughfares, townhome and single-family product could be built in the moderate to mid price range ($125,000-$175,000)[10].

Single, vacant lots will likely be redeveloped by non-profit developers such as Project for Pride in Living and Habitat, working in conjunction with the MCDA. This process is well underway in the western segment, and several dozen sites are currently in some stage of redevelopment. Converting derelict parcels back to quality housing offerings should be among the highest priorities in the Corridor, as new housing helps stabilize neighborhoods.

We estimate that the market could currently support new, owned housing in the western Corridor segment at prices between roughly $125,000 and $150,000, and new housing for between about $125,000 and $200,000 in the eastern segment, depending on site location, product offering and nearby amenities.

Rental Housing

Rental housing is badly needed in the Twin Cities overall, but especially in the Lowry Corridor. Our analysis of apartment units in a previous memorandum (Apartment Search Profiles data) revealed that little or no new rental product has been built in either segment of the Corridor since the late 1980s, and that vacancies are well under 1% in both areas, extremely low by even Twin Cities standards.

Rents in Northeast Minneapolis, containing the eastern segment of the Corridor appear to be close to the Twin Cities average overall, while rents for units in the western segment fall between 10% and 25% below the Metro average, depending on unit style. This indicates that the rental market in the Corridor follows a similar pattern to the owned housing market, and that the east segment has greater potential at this time for relatively-higher priced product.

We believe that near-term priorities for rental housing should focus on small- to medium-scale developments (5 to 50-unit projects) on infill and re-use sites throughout the Corridor. Clearing

[10] Prices cited in this memo are preliminary. Final price recommendations will come after we have thoroughly surveyed the market in the Feasibility stage.

out blighted housing and stabilizing neighborhoods should be top priority. Affordable housing is most needed in the western segment, where incomes are lowest and neighborhood decline has been more pronounced. We believe that this segment would be ideal for tax-credit rental housing development for working families and singles, in the form of townhomes.

We also believe that the western segment of the Corridor would benefit from new market-rate rental housing development, in the form of new construction or rehabilitation. Prices for these units should be moderate, however, to best serve the neighborhood. In the long term, higher-rent units will likely be developed along the River, in or near the Corridor.

The eastern segment of the Corridor appears to have higher-income residents and market-rate rental housing should be the focus there. Again, infill sites should be a top priority. An excellent example of infill rental development near the Corridor is Bottineau Commons, a complex of roughly 120 apartments and 35-40 townhomes on three infill sites near one another, about 5-6 blocks south of Lowry. One site, along the east side of University, south of 19th Avenue Northeast, is a full-block parcel, and can accommodate a 4-story apartment building with 120+ units as well as 13 townhome units. Two other nearby sites, both smaller, partial-block infill sites, will house roughly 6 and 13 townhome units.

Office Space Development Potential in the Lowry Corridor

There is little depth to the office market in the Lowry Corridor, at least for the professional space classes of A, B and Renovated. There is no noticeable office "district" of any kind throughout the Corridor, other than the linear array of pre-WWII mixed-use buildings fronting Central Avenue. We do not expect a strong office market to emerge within the next 5 to 10 years, and possibly for much longer, without a dramatic change in land availability, developer interest or office market demand in both segments of the Corridor.

Historically (and currently), the Lowry Corridor office market has been small in total size and made up of older, single-user/single-owner buildings on scattered sites. "Mom and pop" office/service establishments, covering such businesses as real estate, accounting and legal services, have been the mainstay for office use in the Corridor. This is particularly true in the western side of the Corridor, where there are fewer office uses and a very small overall office base. This area has also seen substantial decline in the number of businesses as older white residents have retired, sold or closed businesses and moved from the area.

We believe that the Lowry office market will evolve incrementally, in small steps. The pace, slow overall, will likely be faster on the east side of the River, as there appears to be momentum along Central and University Avenues, possibly stimulated by activity south of the Corridor at the former Grain Belt Brewery.

The western segment of the Corridor seems to have very limited potential without significant intervention by the City. Office and retail opportunities are likely limited in this area until there exists more residential stability or leadership from the City in establishing commercial enterprise zones. The Upper River Master Plan could provide the exception to this rule, as office developments are outlined for sites near where Lowry Avenue approaches the West Bank.

In terms of future potential, and the effort that should be made by government to stimulate office market evolution in the Corridor, we believe that primary emphasis should be placed on the Central Avenue Corridor, on and near Lowry Avenue Northeast. This area is the most evolved commercial district in the Corridor, and demand for larger-scale office development will most likely emerge here first, if at all, although a development on available land on a stand-alone site near the River or I-94 could also possibly emerge.

The small, scattered nature of the Lowry Corridor office market has the potential, however, to serve as an incubator of new, small, locally-owned businesses. Many of the smaller, older buildings used for office space in the Corridor have architectural character as well. We believe that the City and other government bodies should work to preserve this unique base of buildings, and encourage further creative office uses by immigrant and minority business owners. In the long run, the residents of the area present the best potential for economic stability through their local-scale businesses.

We would like to see the development of higher-quality office space over time in the Corridor. This would allow local, growing, professional businesses an alternative to moving from the local area, as well as providing an opportunity for new businesses to consider moving into the area. We believe that a multi-tenant building of roughly 40,000-60,000 square feet could be supported over the next ten years, perhaps an historic renovation within the Central or University Corridors. A building renovation would fit the character of the Corridor quite well, and may spur retail development.

Industrial Space Development Potential in the Lowry Corridor

The Lowry Corridor is home to a vast amount of industrial uses, mostly situated ½ mile of the River on both sides. However, continued industrial development appears limited, and the total base will likely retrench substantially over the long run. The Master Plan for the Upper River calls for the phasing out of heavy industrial uses in the Upper River Corridor, and the creation of parkland, housing, office and light-industrial uses near Lowry Avenue, on both sides of the River (particularly the West Bank). If this vision were to be achieved, many existing industrial sites would be eliminated.

Vacant land still exists for new industrial development in or very near the Corridor, and re-development opportunities could come about on parcels with market-obsolete buildings. The

realization of these opportunities, however, depends on the will of the City and local neighborhoods to allow the area to continue with industrial development.

We see no reason to encourage additional industrial development within the Corridor, outside of the established industrial zones that will survive Riverfront redevelopment. If further industrial development were to be encouraged near the river, in the current industrial zone, it would likely fare well, as the area has excellent freeway access, is centrally located within the Twin Cities, and has a well-established industrial infrastructure.

Retail Space Development in the Lowry Corridor

The retail development pattern in the Corridor mirrors the office development pattern. The overall retail base is relatively small and scattered among numerous older, single-user/single-owner buildings. The only significant concentration of retail in the Corridor is on Central Avenue Northeast, where about 50% of all Corridor retail exists within a six-block stretch north and south of Lowry Avenue Northeast.

Retail development opportunities depend on new housing development, growing household incomes and a neighborhood image that is on the upswing.

We believe that current retail opportunities along Lowry are limited to just a few main nodes, including (in order of priority) Central, University and Marshall on the east side of the River and Penn and Emerson/Fremont in the western segment. The western segment can likely only support small-scale neighborhood retail such as that being proposed as part of the mixed-use development at Penn and Lowry (17,000 square feet of first floor retail to accompany 54 housing units above). The eastern segment may be able to accommodate higher development levels, but likely only in the context of a larger mixed-use housing or major commercial redevelopment project.

Given the large base of immigrants and minorities, particularly in the western segment of the Corridor, we believe that there is strong potential for the Corridor to evolve into a flavorful, mix of ethnic shops. We would like to see government embrace this opportunity and create formal programs to help residents start and grow their businesses. Small business loans, education programs, community daycare and community-building support would help foster retail growth in the Corridor, especially on the west side of the River.

Over time, as turnover in the Corridor neighborhoods settles down and peripheral neighborhoods change, larger-scale retail opportunities may emerge. For example, redevelopment in the Holman public housing area along Highway 55 in Near North may alter the nature of the Emerson/Fremont transit corridor, spurring transit ridership to the amenities in Downtown Minneapolis, and the Guthrie/Walker area.

Meyer, Mohaddes Associates, Inc.
An Iteris Company

MEMORANDUM TO: Mr. Philip Carlson, AICP
Senior Planner
300 First Avenue North, Suite 210
Minneapolis, MN 55401

FROM: Fred Dock
Jaimison Sloboden

DATE: August 16, 2001

SUBJECT: Lowry Avenue Corridor Study
Traffic Forecasts J#: J00-073

This memorandum is the first in a series of memoranda, documenting the transportation components to the Lowry Avenue Corridor Study. The traffic forecasts that have been prepared will serve as the backbone of the decision making process for the cross-sectional requirements and concept design.

The traffic forecasts were prepared using historical traffic counts, population and employment data, and redevelopment potential as a basis for determining an appropriate annual growth rate to be applied to the existing traffic counts. In other nearby corridors in the City of Minneapolis, growth trends have ranged between 0.5% per year to 1% per year.

Existing Traffic Counts

Turning movement traffic counts at most intersections in the corridor were collected by the City of Minneapolis in 1998 and 1999 and the City collected daily link traffic counts in 2001. **Figure 1** illustrates 'balanced' (balancing of traffic volumes reconciles any significant differences between intersection counts that may occur as a result of variations in traffic from one day to the next) P.M. peak hour turning movement counts and represents a composite existing peak hour. The composite peak represents the highest count hours within the evening commute period for each intersection. Raw count data is contained in a technical appendix under separate cover.

A review of City of Minneapolis 2001 daily count data was conducted to provide further understanding of traffic operating conditions along the corridor. **Table 1** is a summary of the 2001 traffic count data, with daily traffic converted to Average Annual Daily Traffic (AADT), the two-way peak hour volume, and the percentage of peak hour traffic with respect to AADT (K factor). The average K factor (percentage of peak hour traffic with respect to daily traffic) for all data stations was 9.1%. Fast growing areas and rural areas may experience K factors as high as 13%-15%, whereas fully developed and or congested areas typically experience K factors in the range of 8%-9%.

The significance of the average value for Lowry is that it indicates a mature corridor that will not likely experience very different K factors in the future. This eliminates the need for developing a peak hour forecast that deviates from the daily forecast.

Table 1 Peak Hour Percent of Daily (K Factors)

Description			2001 AADT	Peak Hour	K factor
Lowry Avenue between:					
	McKinley	Stinson	8,526	908	10.6%
	Johnson	Lincoln	11,770	1,066	9.1%
	Monroe	Quincy	13,884	1,249	9.0%
	6th N.E.	7th N.E.	14,602	1,306	8.9%
	2nd St N.E.	3rd St N.E.	14,867	1,314	8.8%
	Lowry Ave Bridge		17,921	1,666	9.3%
	3rd St N	4th St N	13,371	1,310	9.8%
	Bryant	Colfax	15,936	1,406	8.8%
Lyndale Avenue between:					
	Lowry Ave	33rd Ave	8,171	739	9.0%
	21st Ave	22nd Ave	11,023	896	8.1%
University Ave from	Lowry Ave	26th	14,718	1,297	8.8%
Central Avenue from	Lowry Ave	26th	16,600	1,664	10.0%
				Average	**9.1%**

Existing Counts

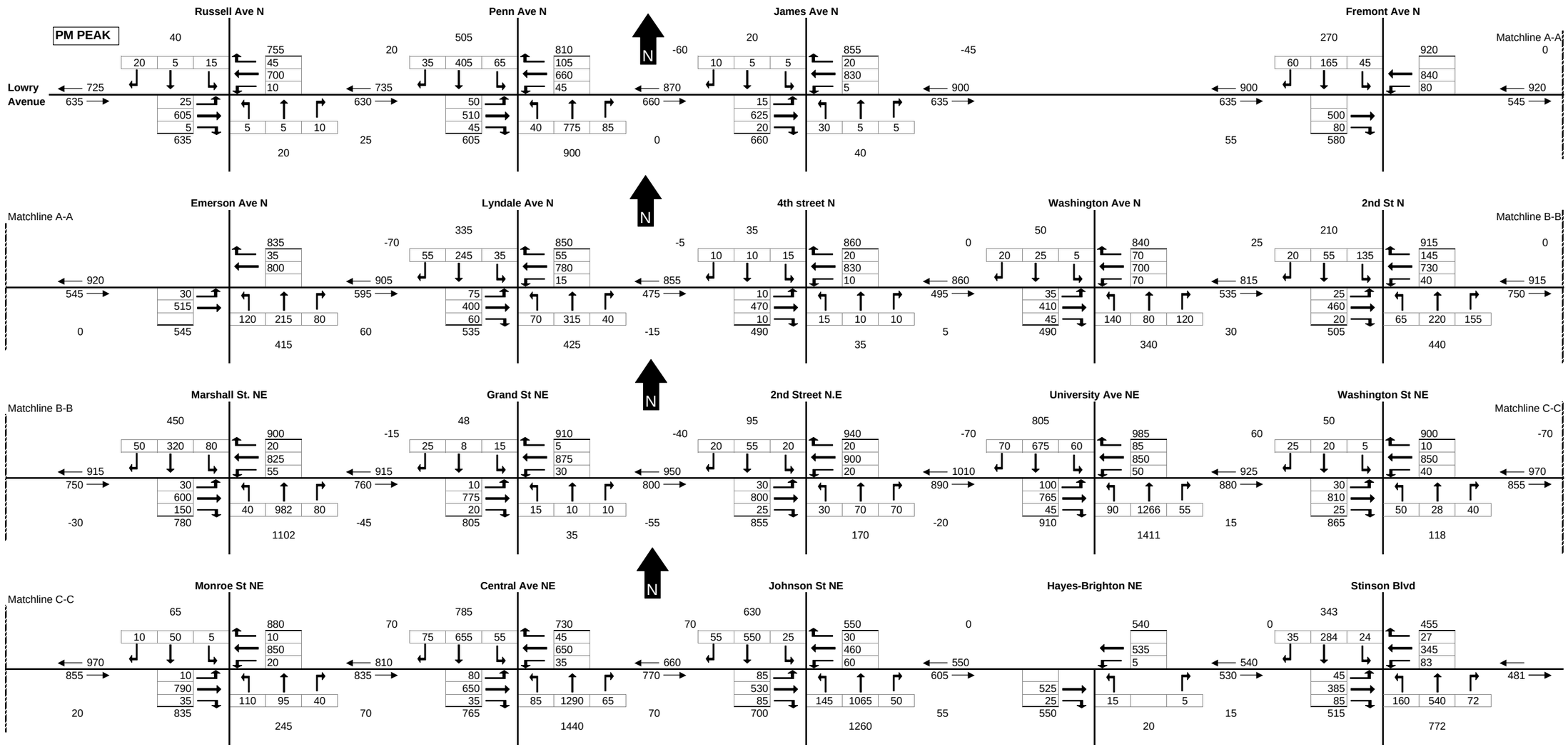


Figure 1 Existing PM Peak Hour Traffic Counts

Historical Traffic Trends

Historical daily traffic volumes along the Lowry Avenue Corridor were available for a 40-year period. For this project, four count stations are used to identify historical traffic patterns. The station numbers and there locations are:

- M213-Lowry Avenue immediately east of Central Avenue
- M24-Lowry Avenue immediately east of University Avenue
- M20-Lowry Avenue Immediately west of Marshall Avenue
- M303-Lowry Avenue Immediately west of Freemont Avenue

Generally, the 40-year history of traffic volumes along Lowry Avenue can be characterized by minimal growth or limited change in traffic. There were, however, two notable points in time where traffic volumes 'spiked' considerably above the average. In the early 1970's (1972-74) traffic volumes were noticeably higher; this fluctuation coincides with the construction of a segment of I-35W near downtown Minneapolis. During the construction of this segment of freeway I-35W was completely closed, which forced traffic to alternate routes. It seems that Lowry Avenue absorbed some of this diverted traffic.

The second fluctuation of traffic occurred in 1988 and 1989. This fluctuation is not as easily explained. However, during that time, TH 12 was being reconstructed into I-394. The re-construction was completed while maintaining traffic around the construction and was completed in 1991. It is possible that the congestion caused by the re-construction resulted in a temporary shift in traffic. **Table 2** summarizes the 1999 traffic count, the 40-year average daily traffic and the highest count volume during those 40 years for each station.

Table 2 ***Historical Count Statistics***

Station #	*Location*	*Vehicles per Day*			
		1999 count	*Highest Count*	*40 year average**	*Standard Deviation +/-*
M213	Lowry E of Central	10,200	12,360	10,662	1,205
M24	Lowry E of University	13,100	15,130	12,831	1,462
M20	Lowry W of Marshall	14,700	19,160	16,666	1,478
M303	Lowry W of Fremont	12,900	15,254	12,629	1,630

*Forty-year Average includes high-count years

Figures 2-5 are plots of the historical traffic counts for the four count stations listed in **Table 2**. A linear regression trend line of the data is plotted for each station. The trend lines are generalized but do indicate declining traffic volumes at the Marshall and Central Avenue stations (**Figures 2 & 3**) and nearly flat growth at the University and Fremont stations (**Figures 4 & 5**)

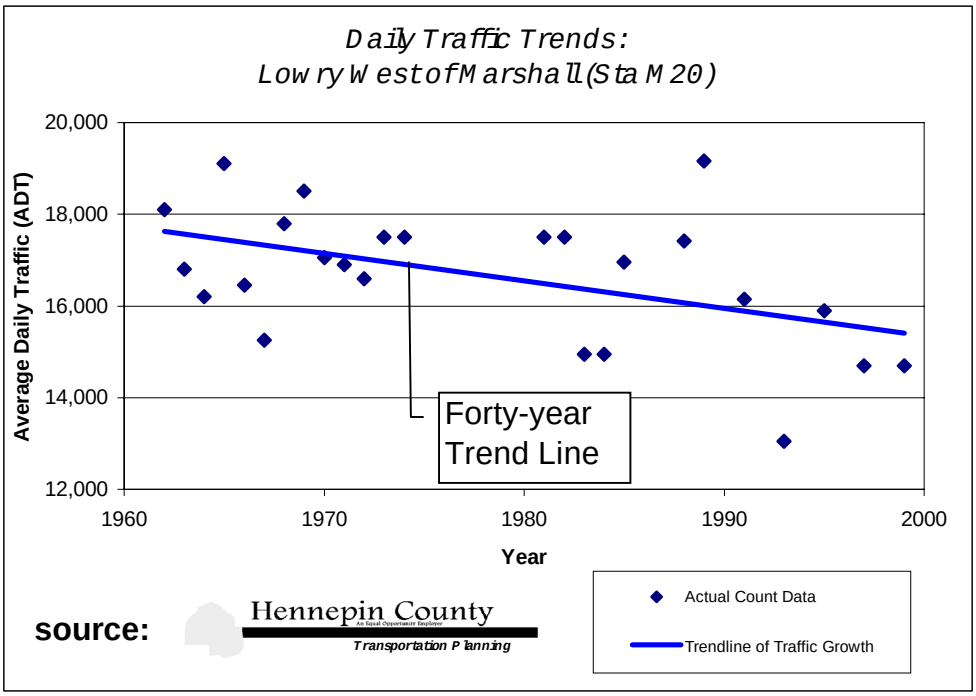


Figure 2 Traffic Trends West of Marshall Avenue

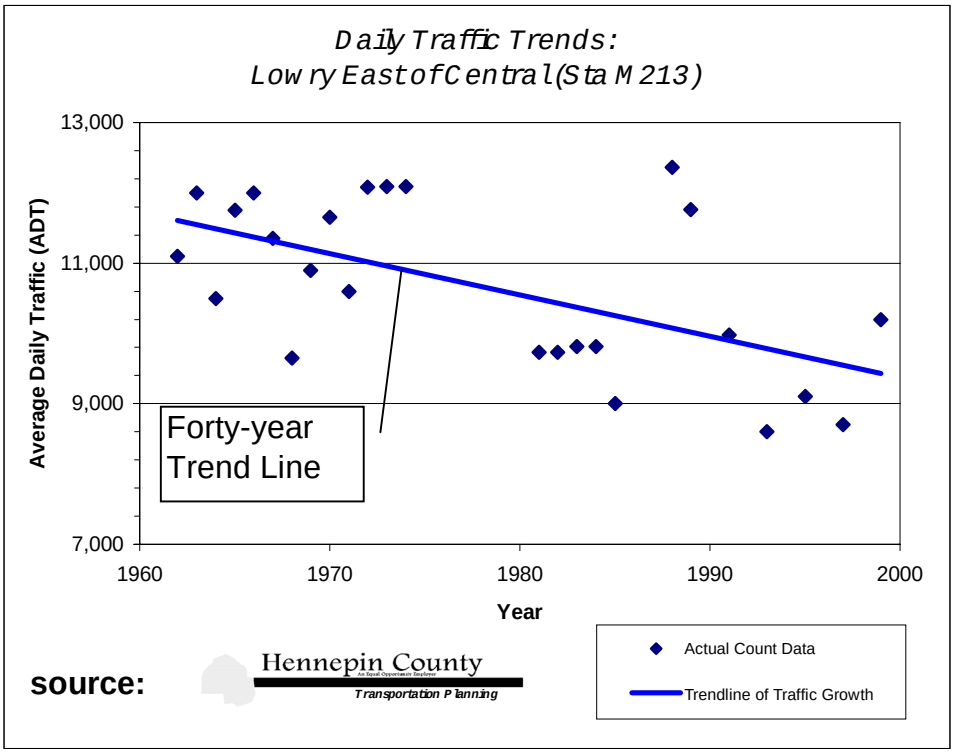


Figure 3 Traffic Trends East of Central

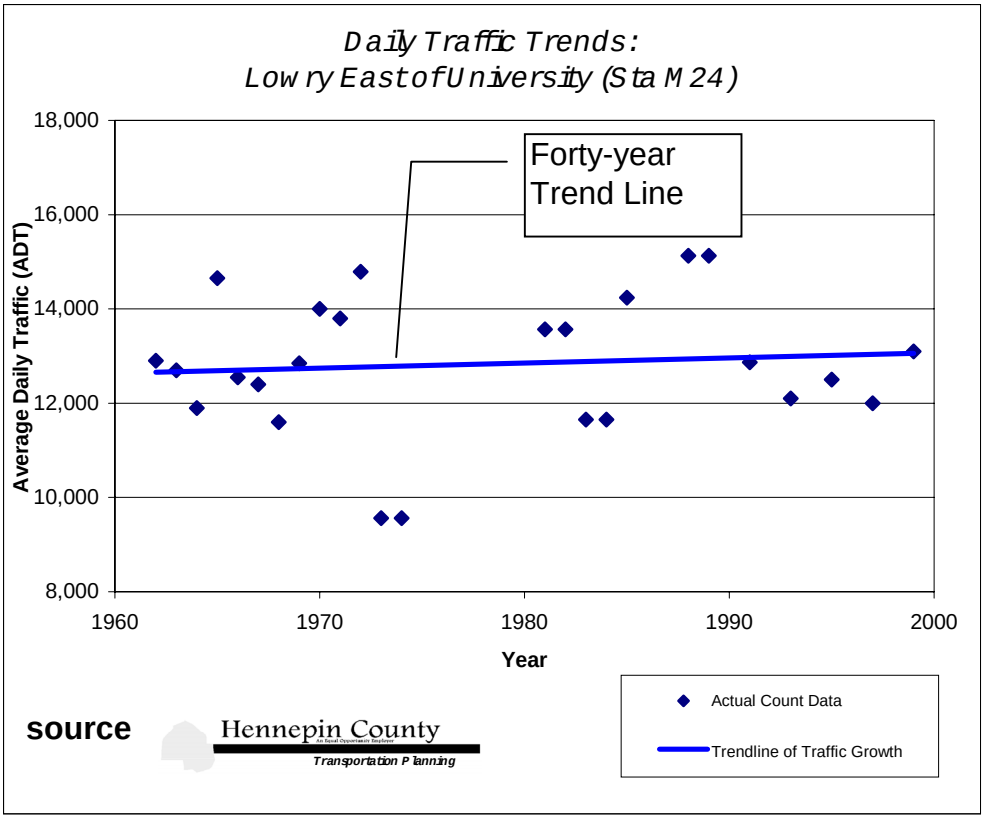


Figure 4 Traffic Trends East of University

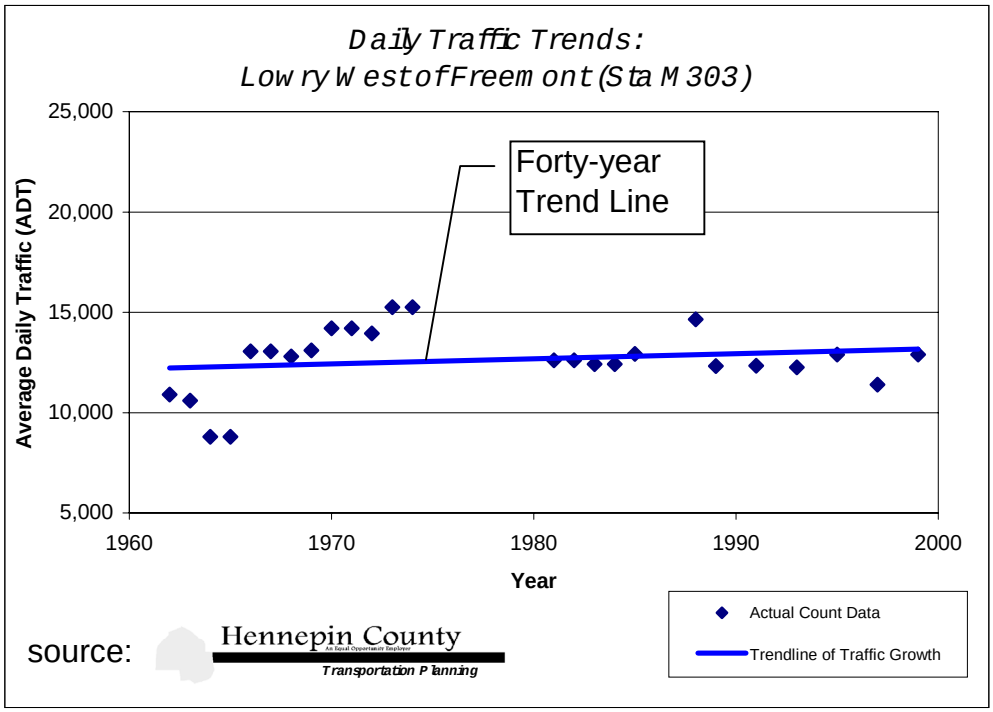


Figure 5 Traffic Count Trends at Lowry Avenue West of Freemont Ave

Historical traffic volumes indicate that traffic volumes have changed very little along the corridor in the last 40 years. The 40-year average seems to be a reasonable representation of the future design conditions along the corridor.

Population Trends

The population around the Lowry Avenue Corridor is calculated within the census tracts illustrated in **Figure 6.** The most meaningful data for the corridor begins 1980, by the mid 1970's, the effects of the construction of the interstate freeway system had been realized, and the neighborhoods surrounding the freeway stabilized into the current configuration. In the last 20 years, the population surrounding the corridor has decreased from 39,500 to 36,500 people. **Table 3** summarizes the change in population over time. The maximum population levels along the corridor provide a benchmark with the historical traffic volume patterns. Population is not expected to increase significantly, therefore traffic representative of the highest population levels provides a threshold for growth in traffic.

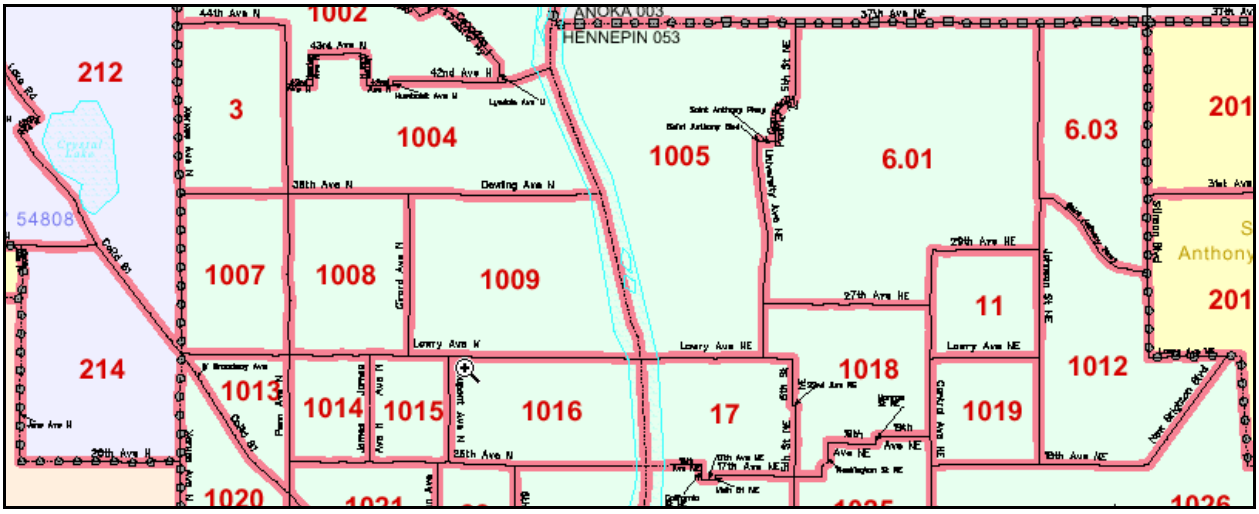


Figure 6 Census Tracts Along Lowry Avenue

Table 3 Population Growth Trends		
Year	Population	% change
1980	39,554	
1990	39,182	-1%
2000	36,491	-6%

Land Use And Redevelopment Potential

As part of the overall corridor study, a review of current and future land use and a market research analysis was conducted by Maxfield Research Inc. The market analysis concluded the following:

- Land use along the corridor is mostly residential with mixed pockets of commercial, but there is a significant industrial core as well.
- The future market forces will likely re-direct commercial development towards nodes and convert properties back to residential uses.

The Upper River Master Plan

The Upper River Master Plan is a reclamation effort by the City of Minneapolis and Hennepin County, which will convert the heavy industrial uses along the Mississippi River, between the Plymouth Bridge (near downtown) and the Camden Bridge at the city limit, back to a public amenity. The amenities will include park space and trails along the river, new housing, and some mixed development. **Figure 7** is a copy of the Upper River Master Plan. A total of 2,500 housing units are estimated for the project and will be located on the west bank of the river. Because the planned residential areas will be spread out north and south for some distance, it is not likely that all the new traffic generated by the development will use Lowry Avenue. Most traffic will likely orient away from Lowry Avenue to the streets that access the freeway (i.e., Dowling Avenue and West Broadway). This will leave a small portion of the new traffic using Lowry Avenue.

The schedule of implementation of this Master Plan is long term and will likely be active over 20 years from now. The new development patterns will not significantly alter the needs on Lowry Avenue as a whole; however, at the time of development, the intersection of 2nd Avenue North may require investigation.

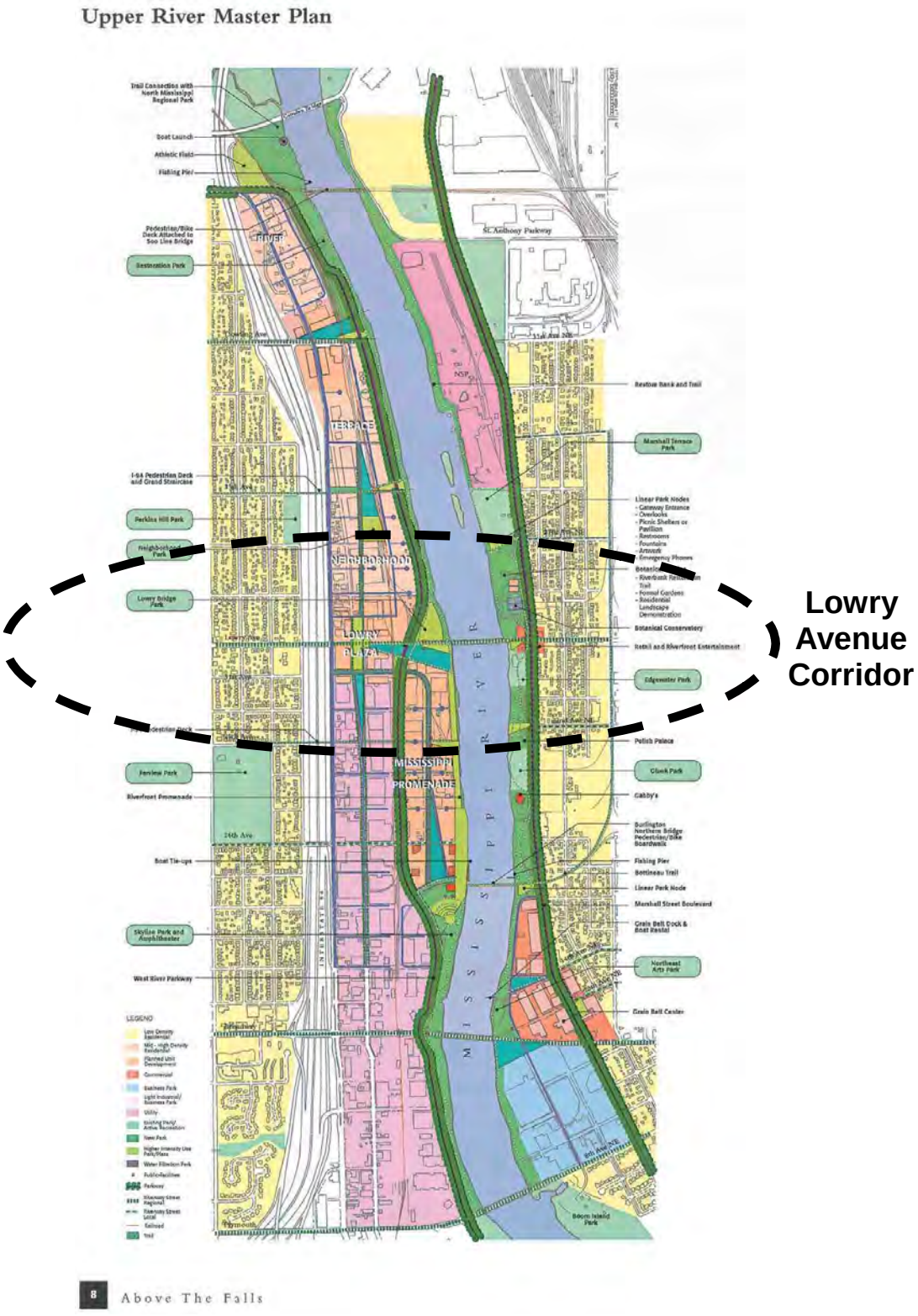


Figure 7 The Upper River Master Plan[1]

[1] Above the Falls- A Master Plan for the Upper River in Minneapolis, 1999

Conclusions

The Lowry Avenue corridor is a stable corridor with respect to increases in population, commercial development, and traffic. Based on the evaluation of historical information and projected plans for these areas of consideration, it can be concluded that traffic conditions for design purposes will not exceed the 40-year averages. The historical traffic conditions that exceeded the 40-year average were aberrations at a larger regional scale and should not be considered as relevant to projecting traffic. When the 40-year average is converted to a trend, it is approximately 0.5% per year growth along the corridor. Therefore, the percentage growth increase that will be applied to the daily and peak hour traffic volumes is **0.5%** per year. **Table 4** compares the 2022 daily forecast at the four count stations with the 40-year average. In most cases, the forecast exceeds the average. The value at the Marshall station is within 70 vehicles per day of the average.

Table 4 ***Daily Traffic Forecasts***

Station #	*Location*	*Vehicles per Day*		
		1999 count	*2022 Forecast*	*40 year average**
M213	Lowry E of Central	10,200	11,500	10,660
M24	Lowry E of University	13,100	14,800	12,830
M20	Lowry W of Marshall	14,700	16,600	16,670
M303	Lowry W of Fremont	12,900	14,500	12,630

Peak hour traffic forecasts were prepared similar to the daily forecasts and are illustrated in Figure 8. Since the base year for peak hour forecasts was 1998, the growth rate of 0.5% was applied for 24 years to obtain the 2022 forecast.

2022 PM Peak Hour

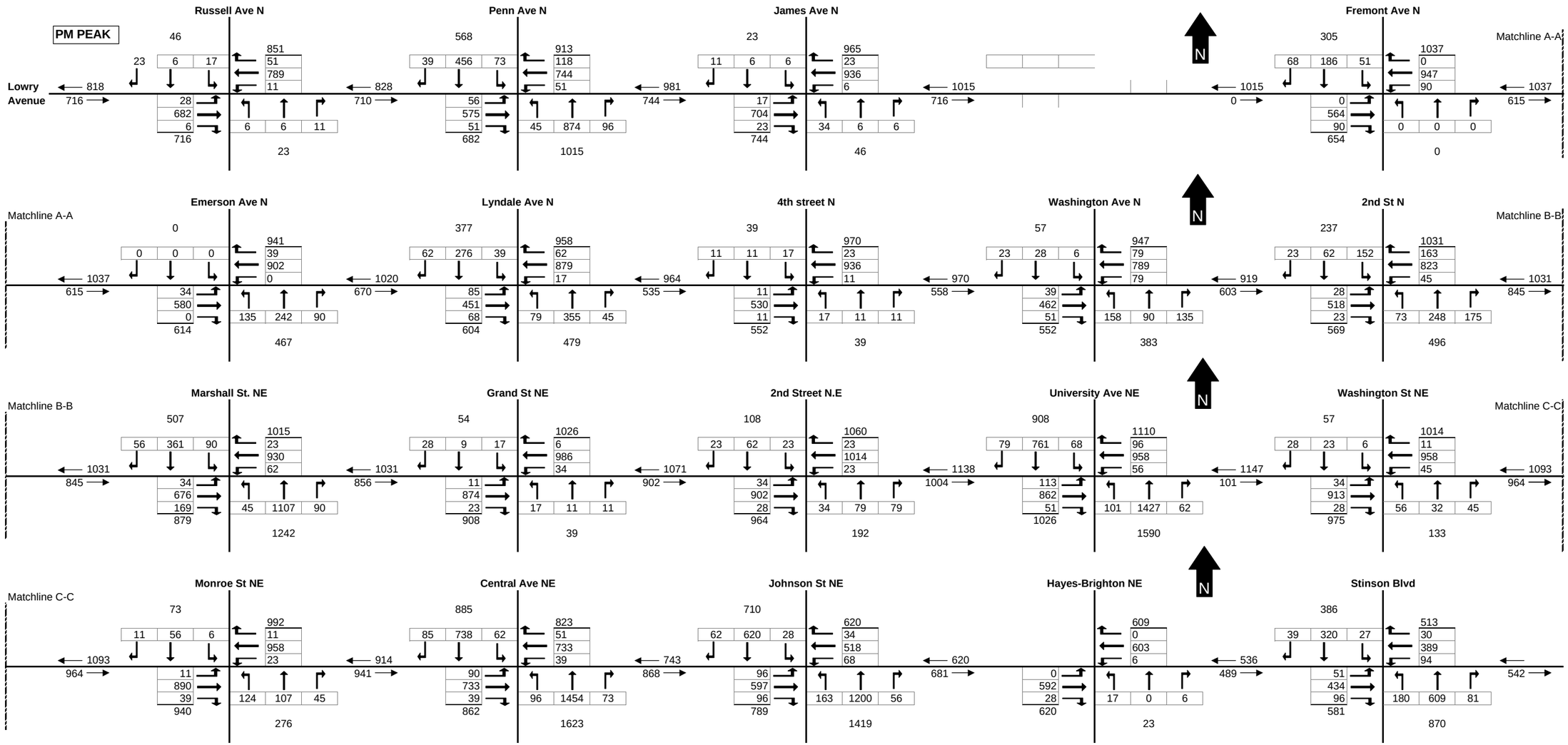


Figure 8 2020 PM Peak Traffic Volumes

MEMORANDUM TO: Mr. Philip Carlson, AICP
Senior Planner
300 First Avenue North, Suite 210
Minneapolis, MN 55401

FROM: Fred Dock
Jaimison Sloboden

DATE: August 17, 2001

SUBJECT: Lowry Avenue Corridor Study
Basic Sizing Requirements J#: J00-073

This memorandum is the second in a series of memoranda that document the transportation components of the Lowry Avenue Corridor Study. The purpose of this memorandum is to identify the basic sizing requirements for the corridor, (i.e., the number of through lanes required) in relation to the 2022 traffic forecasts prepared in the first memorandum and to identify any needs for left turn lanes at signalized intersections. Additional intersection design requirements, which may include additional turn lanes not initially identified in this memorandum, will be addressed as the concept plans are developed.

Approach

The general sizing of the width of the corridor was conducted at a planning level of detail to provide an understanding of the characteristics of the corridor and to narrow the focus of the detailed operations analysis.

Lane capacity and level of service are the two primary determinants in sizing basic lane requirements on roadways. Level of Service D is used as the primary cutoff for operations in urban conditions. Lane capacity and traffic volumes are used to determine Level of Service. Lane capacity is determined through methods described in the Highway Capacity Manual (Transportation Research Board, 2000), primarily in Chapters 10, 20, and 21. Arterial capacity is a mixture of intersection and basic lane operating characteristics and can be quite complicated to calculate. The Florida Department of Transportation (FDOT) has developed a program that applies the arterial criteria of the HCM as a series of worksheets to calculate service volumes for a segment of roadway. The FDOT program is visual basic program called ART TAB which uses a number of inputs to calculate service volume capacities, the inputs include: the physical characteristics of the roadway such as signal spacing, directional distribution, percent left turns, and percent green time. By comparing traffic volumes to the calculated service volumes, the number of basic through lanes required can be determined.

Finally, cross sectional recommendations were made incorporating other factors that were not capacity related such as: heavy truck patterns, crash patterns, parking requirements, and the needs for other modes. These factors were combined to determine what the minimum required basic section should be for Lowry Avenue as a whole or by segments. Segmentation of the cross section introduces another design element, transitions. Allowing for adequate linear distance of transition is a necessity.

The cross-sectional recommendations have been used to inform the urban design as to what space within the right of way may be available for reclamation or if property acquisitions might be required. A more thorough operations analysis using the microscopic simulation program CORSIM; will provide intersection level of detail, which will supplement the cross-sectional analysis for the concept plan.

Current Roadway Cross-section

Lowry Avenue has two different cross-sections. The first cross-section has two travel lanes in each direction with curb-to-curb dimensions that vary from 46 feet to 54 feet. This section of Lowry includes most of the corridor from Theodore Wirth Parkway to Polk Avenue (immediately east of Central Avenue). There are no additional turn lanes constructed at intersections, which causes left and right turns to occur from the basic through lanes and through traffic must maneuver around vehicles making turns. Parking is allowed in the outside through lane in each direction throughout this section with varying time-of-day and direction restrictions, except for the section between 2nd Avenue North and Marshall Avenue, where parking is prohibited at all times.

The second section, from Polk Avenue to Stinson Boulevard, is a 44-foot wide section with one travel lane and a parking lane in each direction. Curb parking is allowed at all times.

Capacity-Based Lane Requirements

Lowry Avenue is a unique arterial with multiple trip purposes of varying lengths. It is crossed by a number of north-south routes that have greater emphasis of movement and receive a larger percentage of the green time. Signal spacing along the corridor is irregular, while the block spacing falls into a mostly uniform grid pattern of 300 foot block spacing.

If the entire corridor were uniform in design and traffic demands, then the application of the Florida worksheets would be simple and the basic capacity of the average statistics would be applicable to the entire corridor. However, irregularities in the travel patterns and the effect of crossing arterials led to an analysis of patterns that would group segments of Lowry Avenue into logical pieces to more accurately reflect operating capacities along the Lowry Corridor.

The following elements were reviewed to identify segmentation of the corridor to apply the ART TAB calculation sheets. Detailed calculations for each segment and an explanation of the ART TAB inputs are found in the appendix.

Directionality

The nature of Lowry Avenue and its position in the regional transportation system tend to minimize the propensity for long distance directional travel on the street. Because Lowry is crossed by a number of north-south arterials, travel patterns on Lowry tend to be “Z” shaped with turns onto the corridor for short trips followed by another turn off the corridor (e.g., on at Marshall and off at Lyndale). Directionality refers to the prevailing direction of travel along the roadway and can be biased in one direction or the other, or can be balanced. Table A-1 shows an analysis of directionality in the corridor and indicates that from Central Avenue to the east, traffic flow is higher in the eastbound direction (53%) than westbound (47%), while west of

Central Avenue, the weighted direction is the opposite (42-44%) eastbound and (56-58%) westbound. This suggests a section break at or near Central Avenue.

Percentage of Green Time

The second largest factor affecting the prevailing service volume calculations on Lowry Avenue is the percentage of green signal time allocated to east-west movements. In many cases, the north-south arterials receive more green signal time than east-west Lowry Avenue movements. Table A-2 shows the variation in arterial green time and because of the number of north south arterials in the middle segment and the balanced green time at Lyndale Avenue suggests a second section break at or near Lyndale Avenue.

Signal Spacing

Signal spacing along the corridor is irregular and does not fall into a pattern that would significantly affect the operating performance of the corridor as a whole or in segments. Table A-3 shows the signal spacing, which varies from 310 feet to 2,640 feet.

Signal Control Type

The 19 signalized intersections along Lowry Avenue are currently operating with pre-timed signal controllers. To reflect future technology improvements in the design concepts, the use of semi-actuated controllers was assumed.

Percentage of Left Turns

The percentage of left turns along the corridor at signalized intersections is uniformly low (on average only 5%). The two factors contributing to the lower percentages are the lack of turn lanes and the extensive grid system that allows for left turns to take place at intervening unsignalized intersections.

Left Turn Bays

The operational service volumes calculated by ART TAB are highly sensitive to the use of channelized left turn lanes. The service volumes calculated without left turn bays are significantly lower then when they are included. The intial analysis of the Lowry Corridor Assumed no Left Turn Bays.

Other Parameters

Additional parameters for the ART TAB inputs that were held constant for all segments included the cycle length (80 seconds), the arterial type (type 3-low speed urban arterial), the arrival type (type 3-random arrivals), the posted speed (30 mph) and median (no median).

Segment Characteristics

Based on the assessment of the above characteristics, Lowry Avenue was broken into three segments for the ART TAB analysis. The first segment includes Russell Avenue To Lyndale Avenue (west segment), the basic lane requirements are intended to extend west of Russell to

Victory Memorial Drive at the western terminus of Lowry Avenue. The second segment is from Lyndale Avenue to Central Avenue (middle segment). The third segment is from Central Avenue to Stinson Boulevard. **Table 1** is a summary of the physical and traffic characteristics of the three segments characteristics and the service volume thresholds for a Level of Service D operations for both two-lane and four-lane facility. (e.g., From Central to Stinson Blvd a two-lane facility would operate with demand volumes as high as 1,500 vph, above 1,500 vph a four lane facility would be required.)

Table 5 Lowry Segment Sizing Volume Thresholds

Segment	No. of Signals	Length (miles)	g/C %	Left Turn %	With left turn Bays	Peak Direction %	Peak hour Two-way Volume Thresholds LOS D	
							2 through Lanes	4 through Lanes
Russell to Lyndale	5	1.8	58%	5.0%	N	58% (WB)	1,400	2,820
Russell to Lyndale*	**5**	**1.8**	**58%**	**5.0%**	**Y**	**58% (WB)**	**1,770**	**3,580**
Lyndale to Central	11	3.2	54%	5.0%	N	56% (WB)	1,210	2,490
Central to Stinson	3	1.6	55%	7.0%	N	53% (EB)	1,500	3,030

To determine the basic through lane needs along Lowry Avenue the forecasted two-way peak hour traffic volumes at each intersection were compared against the service volume thresholds listed in **Table 1**. The comparison is summarized in **Table 2**, the dark shaded cells are where forecasted traffic volumes exceeded the capacity of a two-lane facility, which indicates a need for four basic through lanes (two lanes in each direction). The existing traffic volumes were also compared to the volume thresholds and are included as a reference.

Due to right of way constraints and the desire to add non vehicle amenities within the corridor, this study is intended to identify segments along Lowry Avenue that can be constructed with fewer vehicle lanes, which will allow room for the non-vehicle amenities. Due to the traffic conditions on the west segment the potential for narrowing seemed likely, however, the ART TAB analysis using no left turn bays had a two-lane facility volume threshold of 1,400 vph, which resulted in a the entire west segment requiring four lanes. The ART TAB analysis for this segment was re-done including left turn bays and the volume threshold increased to 1,770 vph for a two-lane facility, which would allow for a two-lane facility on the entire western segment. **Table 2** includes the analysis with left turn bays for the west segment.

The preliminary conclusions that can be drawn from **Table 2** include the following:

- The basic number of lanes on Lowry between Victory Memorial Drive and Emerson may be reduced to one travel lane in each direction, including left turn lanes at all signalized intersections.

- The basic number of through lanes between Lyndale and Central must remain as two in each direction.
- The basic number of lanes from Central to Stinson may remain as one lane in each direction.

Table 6 Basic Through Lane Requirements for Lowry Avenue Corridor

Segment	Lowry Avenue Intersection	Existing	2022 Forecast	Two-way peak hour volume Thresholds (total number of through lane both directions)
West	Russell Ave N	**1390**	**1567**	
	Penn Ave N	**1415**	**1595**	**1770** 2 through lanes*
	James Ave N	**1515**	**1709**	**3580** 4 through lanes*
	Fremont Ave N	**1500**	**1691**	
	Emerson Ave N	**1380**	**1555**	
Middle	Lyndale Ave N	**1385**	**1562**	
	4th street N	**1350**	**1522**	
	Washington Ave N	**1330**	**1499**	
	2nd St N	**1420**	**1600**	**1210** 2 through lanes
	Marshall St. NE	**1680**	**1894**	**2490** 4 through lanes
	Grand Ave NE	**1715**	**1934**	
	2nd Street N.E	**1795**	**2024**	
	University Ave NE	**1895**	**2136**	
	Washington St NE	**1765**	**1989**	
	Monroe St NE	**1715**	**1932**	
	Central Ave NE	**1495**	**1685**	
East	Johnson St NE	**1250**	**1409**	
	Hayes-Brighton NE	**1090**	**1229**	**1500** 2 through lanes
	Stinson Blvd	**970**	**1094**	**3030** 4 through lanes

* West Segment analysis assumes exclusive left turn lanes at signals

Non-Capacity-Based Lane Requirements

Building on the capacity-based lane requirement findings, non-capacity-based lane requirements were investigated to address lane needs that do not show themselves in theoretical capacity calculations. These factors include turning and storage of heavy trucks, mitigation of high crash locations, and other modes.

Heavy Truck Patterns

The State Trunk Highway system and the County State Aid Highway system, by design, provide for the movement of heavy vehicle traffic. The state aid contribution provides for adequate depth of pavement structure that will support the axle loads of heavy trucks. There are a number of north-south arterials that serve heavy trucks in the north and northeast parts of Minneapolis. However, Lowry Avenue is the only arterial that provides east-west access for some distance north or south. Lowry is also one of a handful of Mississippi River crossings. **Figure 1** indicates the heavy truck routes in the area.

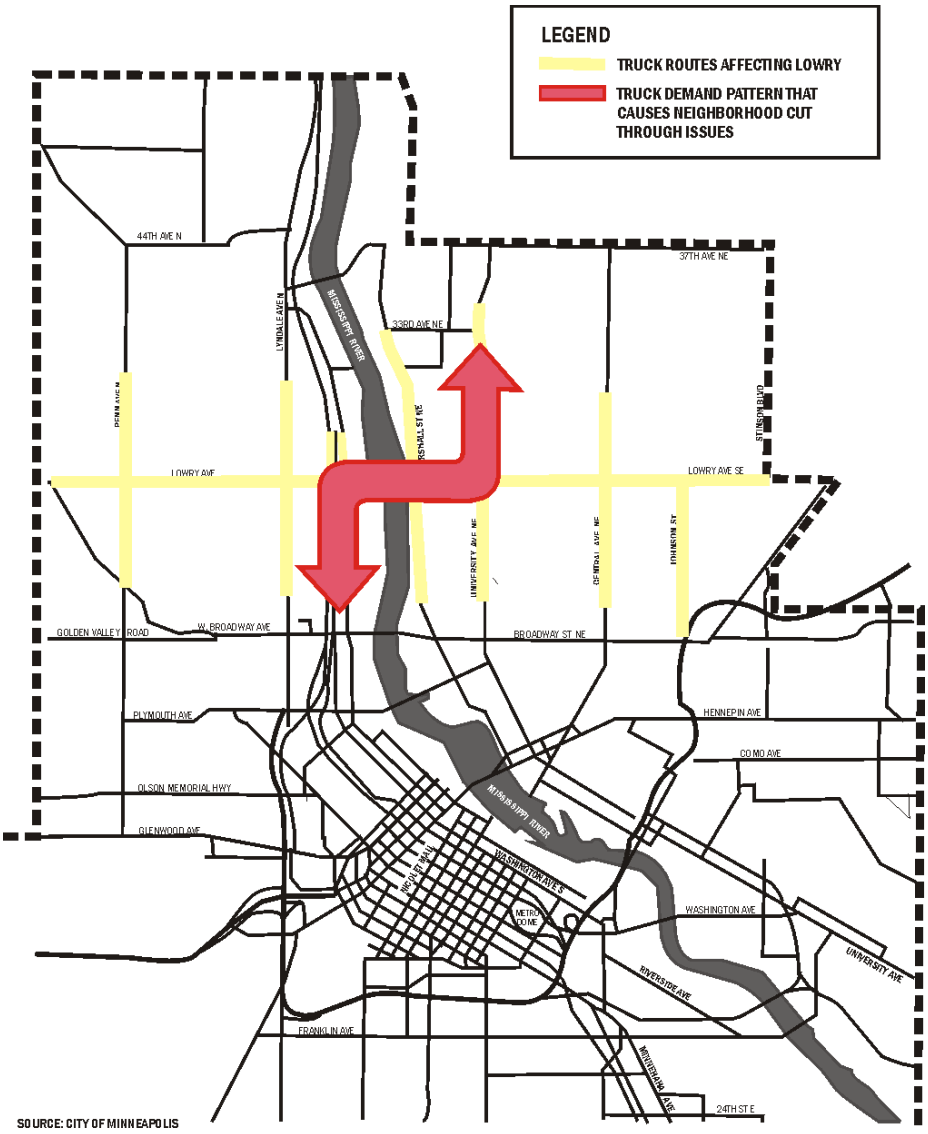


Figure 1 Heavy Truck Patterns

Inadequate turning radii at intersections on truck routes result in turning difficulties that have forced truck drivers to either occupy both moving lanes to perform the turning maneuver (see **Figure 2**) or to drive on non-truck routes. Because the non-truck routes have lower traffic volumes, there are fewer vehicles to interfere with the out-of-lane maneuvers. This pattern has been identified in **Figure 1** with the large arrow. The preponderance of this problem exists between University and Marshall Avenues and appears to be a function of proximity to the

railroad yards and access to I-94. Because re-routing alternatives do not exist in this segment, additional design requirements must be employed and this section of Lowry will require an additional turn lane and intersection curb radii improvements to safely accommodate truck traffic on the designated routes.

Figure 2 Out of Lane Truck Maneuvers

Crash Patterns

Analysis of crash patterns was used to identify additional design considerations, to reinforce the initial basic lane needs, and to identify locations where additional left turn lanes may be required. Two types of criteria were used in the analysis. The first is the crash rate (crashes per million entering vehicles). The crash rate for a location was checked against a critical rate of 2.5 for each particular intersection type. The second was clustering of crashes by type to see if any location exceeded five crashes of a single type in the analysis period.

Table 3 shows the findings from the analysis. Three of the locations (Penn, Lyndale, and University) had crash patterns that exceeded the average for other locations in the corridor. However, only University Avenue exceeds the critical rate of 2.5. Both University and Lyndale show high occurrences of left-turn crashes, which indicates that left-turn lanes are likely necessary. This suggests that the four-lane basic section needs to extend to the west of Lyndale Avenue to accommodate adequate room for development of a left-turn lane.

Topography

The topography of the Lowry Avenue Corridor is generally not an issue except for the area between the I-94 bridge and Lyndale Avenue. This area has a gradient that seems to be a contributor to the crash pattern at Lyndale. Any transitions between different cross-section should not occur on such a grade, which reinforces that the change in number of lanes should occur west of Lyndale Avenue.

Table 7 1998 Crash Statistics Summary

Lowry Avenue at:	Traffic Control	Crash Types						Intersection Totals	
		Rear end	Side swipe	Right Angle	Left Turn	Off-Road	Other	Number of Crashes	Crash Rate Draft
Russell	signal							0	0.00
Penn	**signal**							**20**	**1.83**
James	signal							0	0.00
Newton Ave. No.	un-signal.	1	2	1				4	0.37
Logan Ave. No.	un-signal.	2	1		1			4	0.37
Girard Ave. No.	un-signal.			4				4	0.37
Fremont Ave. No.	signal	1		6			1	**9**	0.82
Emerson Ave. No.	signal	2	4	1	1			9	0.82
Colfax Ave. No.	un-signal.	1				2		3	0.27
Aldrich Ave. No.	un-signal.					3		3	0.27
Lyndale Ave. No.	**signal**	**5**	**4**		**10***	**2**		**22**	**2.01**
6th St. No.	un-signal.		1	1			1	3	0.27
Washington Ave. No.	signal	4	2	2	3		7	16	1.46
2nd St. No.	signal	1	1	1			1	4	0.37
Grand St. NE	signal	1	1	1				3	0.27
California St. No.	un-signal.	1	1	1				4	0.37
2nd St. NE	signal		1		2		1	4	0.37
University Ave. NE	**signal**	**1**	**4**	**3**	**10***		**1**	**19**	**2.60**
Washington St NE	signal							0	0.00
Monroe St. NE	signal	2	2				2	6	0.55
Jackson St. NE	un-signal.	1		2				3	0.27
Central Ave. NE	signal	4	2		3		2	11	1.00
Taylor St. NE	un-signal.	1	1	1				3	0.27
Lincoln St. NE	un-signal.		2	1				3	0.27
Johnson St. NE	signal	2	3	4	1		2	11	1.00
Hayes-Brighton	signal							0	0.00
Stinson	un-signal.							0	0.00
		High Crash Location			* High Occurrence of Left Turn Crashes				

cc: File

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Other Mode Requirements

In addition to auto and truck traffic, Lowry Avenue also carries transit, bicycle, and pedestrian traffic. Each of these modes places special requirements on the roadway corridor that affect the cross-section width. Similarly, on-street parking and how it is accommodated affects the roadway edge environment and cross-section width.

Pedestrians

Accommodation of pedestrian movements is currently accomplished with sidewalks adjacent to the travel lanes. In the segment east of Central Avenue, the on-street parking provides a buffer from the travel lane and makes for a friendlier pedestrian environment. Community connections that intersect the corridor (routes to parks, schools, transit stops) are being integrated into a corridor pedestrian plan. For those connections, enhanced pedestrian accommodation is desired through the development of wider sidewalks, more separation from traffic (via curb parking or wider boulevard plantings) and the introduction of center median refuges where left turn lanes are determined to be necessary. The sidewalk needs are being integrated into overall cross-section requirements. Because the available right-of-way in the corridor varies from 60 to 92 feet, depending upon location, the effects of any sidewalk needs on corridor right-of-way needs will be evaluated on a case-by-case basis as the corridor plan is completed.

Bicycles

Lowry Avenue is designated as a future bicycle route over the length of the corridor in the city's bike plan (as of June 2001). While the degree of accommodation is not yet determined, it is apparent that the existing right-of-way is not sufficient to accommodate the required basic lanes *and* a marked bicycle lane on the roadway. To accommodate bicycle lanes and needed traffic lanes widening would be required throughout the corridor. The plan recommends on-street bike lanes along the entire Lowry Avenue corridor. The river bridge is being addressed for both pedestrians and bicycles to determine what level of accommodation is possible with the sidewalk system that exists on the bridge.

Transit

While the Lowry Corridor is predominantly served by north-south transit routes, east-west routes (the 18 and 32) do operate on Lowry Avenue, which introduces the requirement for curbside stops and waiting. In the current condition, buses stop in the moving lane. This would continue into the future, regardless of configuration. The corridor plan is focusing on the interfaces with major north-south routes to address where additional space may be necessary adjacent to Lowry. East-west transit movement is being reviewed and stop patterns are being integrated into pedestrian planning.

Parking

Curbside parking is allowed on most segments of Lowry Avenue, either as managed parking that shares the curb lane or in a parking lane adjacent to the roadway (east of Central Avenue). The managed parking is prohibited during peak commute periods by direction to provide for additional lanes for traffic movement. The introduction of left-turn lanes may remove some of the locations where managed parking is allowed today. Redevelopment of the corridor may remove some of the businesses that are using on-street parking today. Similarly, opportunities for off-street parking may be provided by redevelopment. The corridor plan is addressing parking needs and will continue to explore alternatives to time-managed on-street parking where feasible.

Recommended Cross-sections

From the above analyses, the recommended basic lane cross-sections for Lowry Avenue are the following (as illustrated in Figure 3):

- Western Limit to west of Lyndale Avenue—one travel lane in each direction with a parking lane on either side of the roadway. Parking prohibited adjacent to intersections. Channelized left turn lanes will be necessary at all signalized intersections.
- West of Lyndale Avenue to west of Marshall Street—two travel lanes in each direction. Consideration of time-managed parking between intersections.
- West of Marshall Street to east of University—five-lane section (two travel lanes in each direction with left turn lanes) with parking prohibited.
- East of University to East of Central— two travel lanes in each direction. Consideration of time-managed parking between intersections.
- East of Central to Eastern Limit-- one travel lane in each direction with a parking lane on either side of the roadway. Parking prohibited adjacent to intersections.

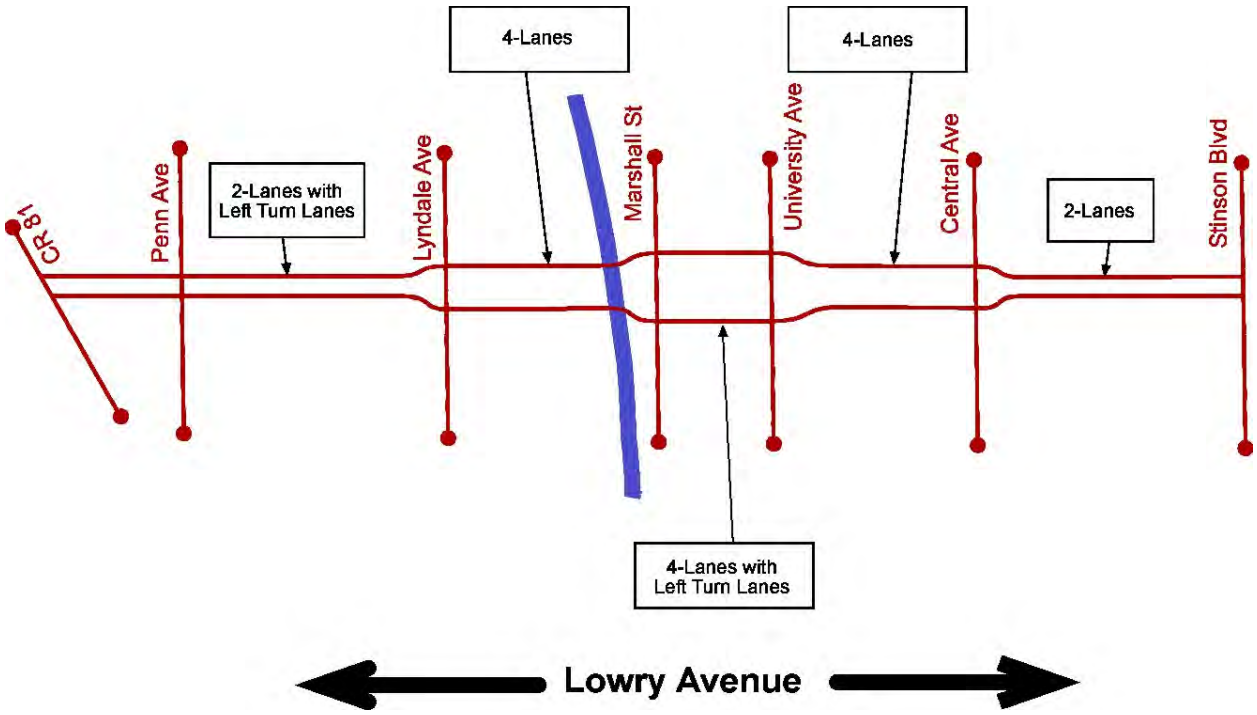

Figure 3 Basic Lane Recommendation

The recommended cross-sections are intended to inform the corridor planning process about minimum curb-to-curb widths and to identify where width may be available for other modes or where additional width may be needed to accommodate other modes. In that context, the basic lane recommendations in relation to the existing width pattern show that insufficient width is present between Lyndale and University to adequately accommodate other modes. Similarly, in the segment between Marshall and University, the right-of-way is not wide enough to accommodate the required turn lanes.

Appendix D-1

Lowry Avenue Corridor
Operations Characteristics

Traffic Operations Characteristics

The information provided in the following tables were obtained from the City of Minneapolis Traffic Engineering Department and reflect current signal operations and 2022 P.M. peak traffic forecasts.

Traffic Volume Patterns

The traffic volume patterns below in Table A-1 include the 5 directional distribution at each intersection and the percentage of left turns for the eastbound and westbound directions for the 2022 P.M. Peak hour. The percentage right turns are not included based on the assumption that right turns will occur from a shared through right lane.

Table A-1 Peak Hour Traffic Volume Percentages

		Directional Distribution				Left Turn Percentages			
		Intersection Percentages		Segment Average		Intersection Percentages		Segment Average	
Segment	**Lowry Avenue at:**	EB %	WB %	EB	WB	EB Left Turn %	WB Left Turn %	EB	WB
West Segment	Russell Ave N	46%	54%	42%	58%	4%	1%	4%	3%
	Penn Ave N	43%	57%			8%	6%		
	James Ave N	44%	56%			2%	1%		
	Fremont Ave N	39%	61%			0%	9%		
	Emerson Ave N	39%	61%			6%	0%		
Central Segment	Lyndale Ave N	39%	61%	44%	56%	14%	2%	6%	4%
	4th street N	36%	64%			2%	1%		
	Washington Ave N	37%	63%			7%	8%		
	2nd St N	36%	64%			5%	4%		
	Marshall St. NE	46%	54%			4%	6%		
	Grand St NE	47%	53%			1%	3%		
	2nd Street N.E.	48%	52%			4%	2%		
	University Ave NE	48%	52%			11%	5%		
	Washington St NE	49%	51%			3%	4%		
	Monroe St NE	49%	51%			1%	2%		
	Central Ave NE	53%	47%			10%	5%		
East Segment	Johnson St NE	56%	44%	53%	47%	12%	11%	7%	10%
	Hayes-Brighton NE	50%	50%			0%	1%		
	Stinson Blvd	53%	47%			9%	18%		
	Corridor Average	**45%**	**55%**			**5%**	**5%**		

Signal Operations

Table A-2 PM Peak Hour Green Time				
		% of Cycle Length on Lowry Movements		
Segment	**Lowry Avenue at:**	% of Cycle by Intersection	Average % by Segment	Existing Cycle Length (sec)
West Segment	Russell Ave N	70%	**58%**	80
	Penn Ave N	**40%**		80
	James Ave N	61%		80
	Fremont Ave N	60%		80
	Emerson Ave N	58%		80
Central Segment	Lyndale Ave N	50%	**54%**	80
	4th street N	55%		80
	Washington Ave N	**40%**		80
	2nd St N	65%		80
	Marshall St. NE	**40%**		80
	Grand St NE	60%		80
	2nd Street N.E	60%		80
	University Ave NE	51%		80
	Washington St NE	64%		80
	Monroe St NE	70%		80
	Central Ave NE	**44%**		80
East Segment	Johnson St NE	**40%**	**55%**	90
	Hayes-Brighton NE	70%		90
	Stinson Blvd	-		-
	Corridor Average	**55%**		

x% Priority of movement on cross-street (Lowry <50%)

Signal Spacing

The number of signals and the spacing between them directly affects traffic operations along any corridor.

Table D-1-3 Existing Signalized Intersection Spacing

	From	To	Distance Between Intersection Feet	Segment feet	Segment miles
West Segment	Russell Ave N	Penn Ave N	655	5,890	1.1
	Penn Ave N	James Ave N	1,960		
	James Ave N	Fremont Ave N	1,310		
	Fremont Ave N	Emerson Ave N	330		
	Emerson Ave N	Lyndale Ave N	1,635		
Central Segment	Lyndale Ave N	4th street N	800	10,515	2.0
	4th street N	Washington Ave N	790		
	Washington Ave N	2nd St N	310		
	2nd St N	Marshall St. NE	2,315		
	Marshall St. NE	Grand St NE	415		
	Grand St NE	2nd Street N.E	1,020		
	2nd Street N.E	University Ave NE	790		
	University Ave NE	Washington St NE	1,660		
	Washington St NE	Monroe St NE	1,100		
	Monroe St NE	Central Ave NE	1,315		
East Segment	Central Ave NE	Johnson St NE	2,640	5,330	1.0
	Johnson St NE	Hayes-Brighton NE	660		
	Hayes-Brighton NE	Stinson Blvd	2,030		
		Total		21,735	4.1

Appendix D-2
ART TAB Calculations

ART TAB Worksheet Overview

The art tab worksheets calculate peak hour service volumes based on a number of inputs that include arterial physical and traffic operations characteristics. The worksheets following this discussion include a box in the upper third, which identifies all inputs and assumptions; the bottom two thirds of the worksheet are service volume outputs. The following discussion is a description of each input item included in the top third of the worksheet.

Traffic Characteristics

K factor: The K factor is the percentage relationship between peak hour traffic and daily traffic, ART TAB uses the input value to convert the peak hour service volume to a daily service volume. (e.g. if the peak hour service volume is 900 vph, and the k factor is 10%, the daily volume is 900/.10 = 9,000 vpd.) The K factor is informative but it is not relevant to the actual capacity calculation.

D Factor: The D factor is the average directional distribution of traffic along an arterial. For example, on an east-west corridor 55% of the traffic is traveling EB. The effect of higher directionality is the two-way service volume is lower.

PHF: PHF stands for the Peak Hour Factor. Using Highway Capacity Manual techniques, traffic operations are evaluated on the basis of the peak 15 minutes of traffic flow within the peak hour. Traffic data is reported in terms of vehicles per hour, the peak hour factor is a percentage that converts the hourly rate into the peak 15 minute rate. In developed Urban areas 0.95 is a typical peak hour factor. The smaller the PHF, the lower the service volumes.

Adjusted Saturation Flow Rate: This is an input value used as the basis for calculating capacity. The adjusted flow rate is the volume in a through lane that would flow through an intersection if there were only a green light. 1,850 vehicles per lane per hour is a typical rate for an urban arterial. The lower the saturation flow rate the lower the service volume calculation.

% Turns: Percent turns, is the percentage of vehicles making right or left turns from lanes solely dedicated to turning movements. The higher the % turns, the higher the service volumes to a point. When the % turns exceeds the g/C ratio then the % turns lowers the capacity calaculations.

Roadway Characteristics

Posted Speed: The methodology in ART TAB uses the prevailing free flow speed in miles per hour for calculating capacity. To simplify the process, the program suggests using the posted speed limit. The difference between the free flow speed and the posted speed limit on arterials is typically no more than 10 mph, the sensitivity of ART TAB within 10 mph is small.

Arterial Type: The type of arterial is based on the surrounding environment. The options include: Urbanized, Transitional (suburban), or Rural. Rural roads have the worst effect on capacity.

Medians: This input allows the user to identify a median separation on the arterial. Including a median results in a higher capacity calculation.

Left Turn Bays: This input identifies if the majority of all signalized intersections included an exclusive left turn lane. Including left turn lanes increases the capacity calculation.

Length of Arterial: The length of the arterial is input in miles and is used in calculating intersections per mile.

Control Characteristics

No. of Signalized Intersections: The number of signalized intersection within the length of the arterial.

Signal Type: The signal type is the type of controller technology; the types include pre-timed, actuated, and semi-actuated. There are small increments of improvement assumed by ART TAB with pre-timed being the lowest capacity and actuated having the highest capacity.

Arrival Type: The arrival type takes into account progression of traffic between signals and any mid-block access that may disrupt progression. Arrival type 1 is the worst condition and assumes that most traffic on the arterial stops at each intersection, Type 6 is the best and assumes that most traffic arrives on green at an intersection. Arrival type 3 assumes random arrivals.

Cycle

Length: The total time for a signal to complete a sequence of signal indications. The affect of cycle length in the capacity calculations is highly dependent on the spacing of signals and the g/C ratio.

g/C: g/C is the ratio of mainline through green time to the cycle length. The higher the g/C ratio the higher the capacity calculations by ART TAB.

ART TAB Calculation for East Segment Central Avenue to Stinson Blvd

ART-TAB 4.0

Arterial Level of Service Tables
Based on Chapter 11 of the 1997 Highway Capacity Manual
Florida Department of Transportation
Systems Planning Office - May 2000

Road Name: **Lowry Avenue** From/To: **Central to Stinson**

User Notes: **semiactuated -random arrivals** Study Period: **PM PEAK**

Traffic Characteristics	*Roadway Characteristics*	*Control Characteristics*
K Factor: **0.091**	Posted Speed(mph): **30**	No. Signalized Intersections: **3**
D Factor: **0.530**	Area Type: **Urbanized**	Signal Type: **Semiactuated**
PHF: **0.950**	Arterial Class: **3**	Arrival Type: **3**
Adj. Sat. Flow Rate: **1,850**	Medians: **No**	Cycle Length: **80** sec.
% Turns from Exclusive Lanes: **7.0**	Left Turn Bays: **No**	g/C: **0.55**
	Length of Arterial: **1.00** mi.	

PEAK HOUR PEAK DIRECTION VOLUME

Level of Service

LANES	A	B	C	D	E
1	N/A	130	700	800	820
2	N/A	300	1,440	1,600	1,640
3	N/A	470	2,180	2,420	2,460
4	N/A	640	2,940	3,230	3,280

PEAK HOUR VOLUME (BOTH DIRECTIONS)

Level of Service

LANES	A	B	C	D	E
2	N/A	250	1,320	1,500	1,550
4	N/A	570	2,710	3,030	3,100
6	N/A	890	4,120	4,560	4,640
8	N/A	1,200	5,540	6,090	6,190

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

Level of Service

LANES	A	B	C	D	E
2	N/A	2,700	14,500	16,500	17,000
4	N/A	6,300	29,800	33,300	34,000
6	N/A	9,800	45,300	50,100	51,000
8	N/A	13,200	60,900	66,900	68,100

PEAK HOUR PEAK DIRECTION Through/Right v/c Ratio

Level of Service

LANES	A	B	C	D	E
1	N/A	0.16	0.85	0.96	1.00
2	N/A	0.18	0.87	0.97	1.00
3	N/A	0.19	0.88	0.98	1.00
4	N/A	0.19	0.89	0.98	1.00

ART TAB Calculation for Middle Segment Central Avenue to Lyndale

ART-TAB 4.0

Arterial Level of Service Tables
Based on Chapter 11 of the 1997 Highway Capacity Manual
Florida Department of Transportation
Systems Planning Office - May 2000

Road Name: **Lowry Avenue** From/To: **Lyndale to Central**

User Notes: **semiactuated-random arrivals** Study Period: **PM PEAK**

Traffic Characteristics

K Factor: **0.091**
D Factor: **0.560**
PHF: **0.950**
Adj. Sat. Flow Rate: **1,850**
% Turns from Exclusive Lanes: **5.0**

Roadway Characteristics

Posted Speed(mph): **30**
Area Type: **Urbanized**
Arterial Class: **3**
Medians: **No**
Left Turn Bays: **No**
Length of Arterial: **2.00** mi.

Control Characteristics

No. Signalized Intersections: **11**
Signal Type: **Semiactuated**
Arrival Type: **3**
Cycle Length: **80** sec.
g/C: **0.54**

PEAK HOUR PEAK DIRECTION VOLUME

Level of Service

LANES	A	B	C	D	E
1	N/A	N/A	350	680	770
2	N/A	N/A	770	1,390	1,540
3	N/A	N/A	1,200	2,120	2,320
4	N/A	N/A	1,640	2,850	3,100

PEAK HOUR VOLUME (BOTH DIRECTIONS)

Level of Service

LANES	A	B	C	D	E
2	N/A	N/A	630	1,210	1,370
4	N/A	N/A	1,380	2,490	2,760
6	N/A	N/A	2,150	3,780	4,150
8	N/A	N/A	2,920	5,090	5,540

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

Level of Service

LANES	A	B	C	D	E
2	N/A	N/A	6,900	13,300	15,000
4	N/A	N/A	15,200	27,300	30,300
6	N/A	N/A	23,600	41,600	45,600
8	N/A	N/A	32,100	55,900	60,900

PEAK HOUR PEAK DIRECTION Through/Right v/c Ratio

Level of Service

LANES	A	B	C	D	E
1	N/A	N/A	0.44	0.85	0.97
2	N/A	N/A	0.49	0.88	0.97
3	N/A	N/A	0.50	0.89	0.98
4	N/A	N/A	0.51	0.90	0.98

ART TAB Calculation for West Segment Lyndale Avenue to Russell (With No left Turn Lanes)

ART-TAB 4.0

Arterial Level of Service Tables
Based on Chapter 11 of the 1997 Highway Capacity Manual
Florida Department of Transportation
Systems Planning Office - May 2000

Road Name: **Lowry Avenue** From/To: **Russell to Lyndale**

User Notes: **semiactuated-random arrivals** Study Period: **PM PEAK**

Traffic Characteristics

K Factor: **0.091**
D Factor: **0.580**
PHF: **0.950**
Adj. Sat. Flow Rate: **1,850**
% Turns from Exclusive Lanes: **5.0**

Roadway Characteristics

Posted Speed(mph): **30**
Area Type: **Urbanized**
Arterial Class: **3**
Medians: **No**
Left Turn Bays: **No**
Length of Arterial: **1.40** mi.

Control Characteristics

No. Signalized Intersections: **5**
Signal Type: **Semiactuated**
Arrival Type: **3**
Cycle Length: **80** sec.
g/C: **0.58**

PEAK HOUR PEAK DIRECTION VOLUME

LANES	Level of Service A	B	C	D	E
1	N/A	N/A	670	810	850
2	N/A	180	1,450	1,640	1,690
3	N/A	280	2,200	2,460	2,540
4	N/A	380	2,950	3,290	3,390

PEAK HOUR VOLUME (BOTH DIRECTIONS)

LANES	Level of Service A	B	C	D	E
2	N/A	N/A	1,160	1,400	1,460
4	N/A	310	2,500	2,820	2,920
6	N/A	480	3,780	4,250	4,380
8	N/A	660	5,080	5,680	5,840

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

LANES	Level of Service A	B	C	D	E
2	N/A	N/A	12,700	15,400	16,000
4	N/A	3,400	27,500	31,000	32,100
6	N/A	5,300	41,600	46,700	48,100
8	N/A	7,200	55,800	62,400	64,200

PEAK HOUR PEAK DIRECTION Through/Right v/c Ratio

LANES	Level of Service A	B	C	D	E
1	N/A	N/A	0.79	0.95	1.00
2	N/A	0.10	0.85	0.96	1.00
3	N/A	0.10	0.86	0.96	1.00
4	N/A	0.11	0.86	0.97	1.00

ART TAB Calculation for West Segment Lyndale Avenue to Russell (With Left Turn Lanes)

ART-TAB 4.0

Arterial Level of Service Tables
Based on Chapter 11 of the 1997 Highway Capacity Manual
Florida Department of Transportation
Systems Planning Office - May 2000

Road Name: **Lowry Avenue** From/To: **Russell to Lyndale**

User Notes: **semi-random arrivals-LT lanes** Study Period: **PM PEAK**

Traffic Characteristics	***Roadway Characteristics***	***Control Characteristics***
K Factor: **0.091**	Posted Speed(mph): **30**	No. Signalized Intersections: **5**
D Factor: **0.580**	Area Type: **Urbanized**	Signal Type: **Semiactuated**
PHF: **0.950**	Arterial Class: **3**	Arrival Type: **3**
Adj. Sat. Flow Rate: **1,850**	Medians: **No**	Cycle Length: **80** sec.
% Turns from Exclusive Lanes: **5.0**	Left Turn Bays: **Yes**	g/C: **0.58**
	Length of Arterial: **1.40** mi.	

PEAK HOUR PEAK DIRECTION VOLUME

Level of Service

LANES	A	B	C	D	E
1	N/A	N/A	850	1,030	1,070
2	N/A	220	1,840	2,070	2,150
3	N/A	350	2,780	3,120	3,220
4	N/A	480	3,730	4,170	4,290

PEAK HOUR VOLUME (BOTH DIRECTIONS)

Level of Service

LANES	A	B	C	D	E
2	N/A	N/A	1,470	1,770	1,850
4	N/A	390	3,160	3,580	3,700
6	N/A	610	4,790	5,380	5,550
8	N/A	830	6,430	7,190	7,400

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

Level of Service

LANES	A	B	C	D	E
2	N/A	N/A	16,100	19,500	20,300
4	N/A	4,300	34,800	39,300	40,700
6	N/A	6,700	52,700	59,100	61,000
8	N/A	9,100	70,700	79,000	81,300

PEAK HOUR PEAK DIRECTION Through/Right v/c Ratio

Level of Service

LANES	A	B	C	D	E
1	N/A	N/A	0.79	0.95	1.00
2	N/A	0.10	0.85	0.96	1.00
3	N/A	0.10	0.86	0.96	1.00
4	N/A	0.11	0.86	0.97	1.00

MEMORANDUM

TO: Mr. Philip Carlson, AICP
Senior Planner
300 First Avenue North, Suite 210
Minneapolis, MN 55401

FROM: Fred Dock
Jaimison Sloboden

DATE: October 12, 2001

SUBJECT: Lowry Avenue Corridor Study
Traffic Simulation Findings J#: 17-J00-0073

This memorandum is the third in a series of memoranda that document the results of the transportation analysis of the Lowry Avenue Corridor redevelopment project. This memorandum builds upon the previously reported traffic forecasts and basic roadway sizing, which was conducted at a planning level of detail. This memorandum presents the findings of a traffic simulation performed for the Lowry Avenue study corridor at a greater level of detail and suggests modified roadway sizing where appropriate, while validating the previously suggested roadway sizing design. This analysis also incorporates non-capacity elements within the cross-section into the operational design.

1. Approach

A systematic technical approach was applied to this analysis and included the following items.

1. *Development of intersection design templates*. Intersection designs for the signalized intersections along the Lowry corridor were prepared on the basis of findings from the basic sizing analysis (number of through lanes and left turn lane recommendations) and on the typical mid-block cross-section templates.

2. *Traffic operations modeling.* CORSIM models were prepared for the entire Lowry Corridor and used to test different volume patterns scenarios. The scenarios tested included: existing traffic with existing geometry (Existing); future traffic with existing geometry (Future Baseline); and future traffic with proposed geometry (Proposed).

3. *Refinement of intersection designs.* Deficiencies at isolated locations were identified through the scenario testing and used to develop appropriate geometric and operational recommendations that were incorporated in the Proposed condition.

Traffic Operations Modeling

Traffic operations' modeling was conducted using Synchro and CORSIM software. Synchro is a signal timing optimization program widely used in the industry for developing signal timing settings. It was used to refine existing signal timing settings for the future scenarios. The signal timing settings were used in CORSIM (CORridor SIMulation) for the final analysis. CORSIM is microscopic simulation software that provides results both on a local intersection basis and a corridor-wide basis. CORSIM simulates individual vehicles on second by second basis over a network that represents the Lowry Corridor and replicates signal and stop control of intersections along the corridor. Within the simulation, driver behavior and vehicle performance characteristics are incorporated, which allows the simulation to reflect real world conditions. The simulation provides a more accurate representation of the effects of vehicle queuing and traffic progression.

Operations statistics are accumulated over the analysis period and are compared to measure of effectiveness (MOE) thresholds that are defined in the Highway Capacity Manual[2]. The primary MOE for intersections is Level of Service (LOS). Level of Service is a scale that ranges from A to F and is used to describe free flow to jammed conditions, respectively, as shown in Table 1. The thresholds for LOS are identified on the basis of vehicle delay and are applied both to the intersection as whole and to individual intersection approaches. Hennepin County uses LOS D as the upper limit for design on urban roadway, which is typical for urban conditions elsewhere in the country.

Table 8 Intersection Level of Service Criteria

Level of Service (LOS)	Description	Avg Range of Vehicle Delay (sec/veh)
A	Traffic moves freely. The free flow condition is accompanied by low volumes. All waiting vehicles clear on one green phase. The major movements have a low percentage of stops	**0 to 10 sec/veh**
B	Traffic Moves fairly freely. Volumes are somewhat low. Waiting vehicles will still probably clear on one green phase. Traffic on this major movement can expect less than a 50 percent chance of stopping	**>10 to 20 sec/veh**
C	Traffic moves smoothly. Volumes are beginning to increase. Some minor movements may clear on one green phase. Traffic on the major movement can expect 50 percent chance of stopping.	**> 20 to 35 sec/veh**
D	Traffic approaching unstable flow. Acceptable intersection operation for peak periods. Many intersection movements may not clear on one green phase. Traffic on the major movement can expect a greater than 50 percent chance of stopping.	**>35 to 55 sec/veh**
E	Unstable traffic flow. Volumes at or near capacity. No vehicles are able to go through the intersection without having to stop.	**> 55 to 80 sec/veh**
F	Saturation Condition. Volumes are over capacity. All vehicles will stop and probably require more than one green phase.	**Over 80 sec/veh**

[2] *HCM2000,*Transportation Research Board, 2000.

West Segment

The west segment was identified as the segment from Theodore Wirth Parkway to Lyndale Avenue. Based on the basic sizing analysis it was determined that reducing Lowry Avenue to one lane in each direction with channelized left turn lanes at signalized intersections was feasible. Based on this determination and on the other design considerations such as on-street parking and bicycle lanes and on the physical right-of-way dimension, typical cross-section options were prepared. Figure 1, following page, illustrates the existing cross-section and cross-section scenarios for the western segment. The right-of-way of 80 feet provides for flexibility of re-construction. The proposed sections represent typical mid-block conditions and include parallel on-street parking on both sides. Scenario B includes on-street bike lanes while scenario C has no bike lanes and a center median. Regardless, of the selected cross-section, the intersection design templates will be similar.

Figure 2 illustrates a typical intersection design for the intersections in the west segment. The intersection design includes channelized left turn lanes and bumpouts at the throat of the intersection. The bumpouts are intended to enhance the pedestrian amenities along the corridor by shortening the crossing distance. Cross street geometry has been assumed to remain unchanged.

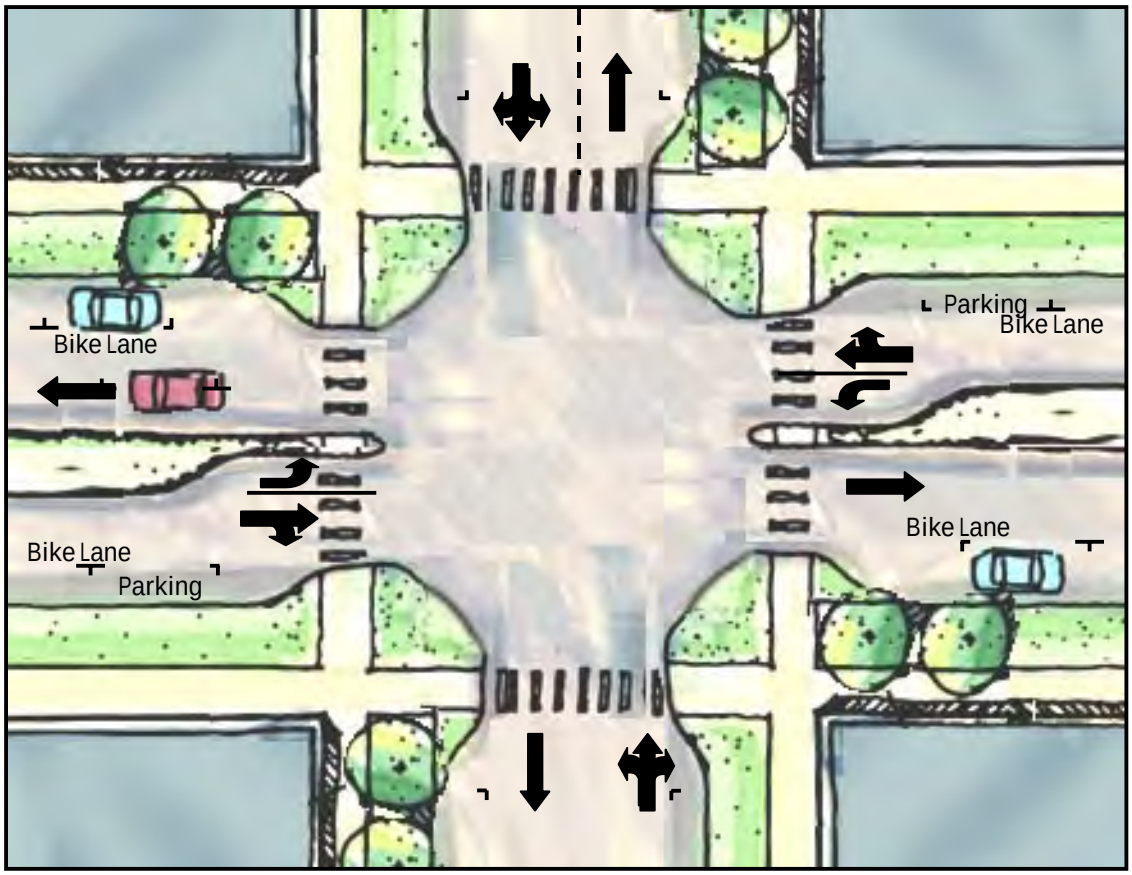

Figure 2. Intersection Design Template Western and Eastern Segments

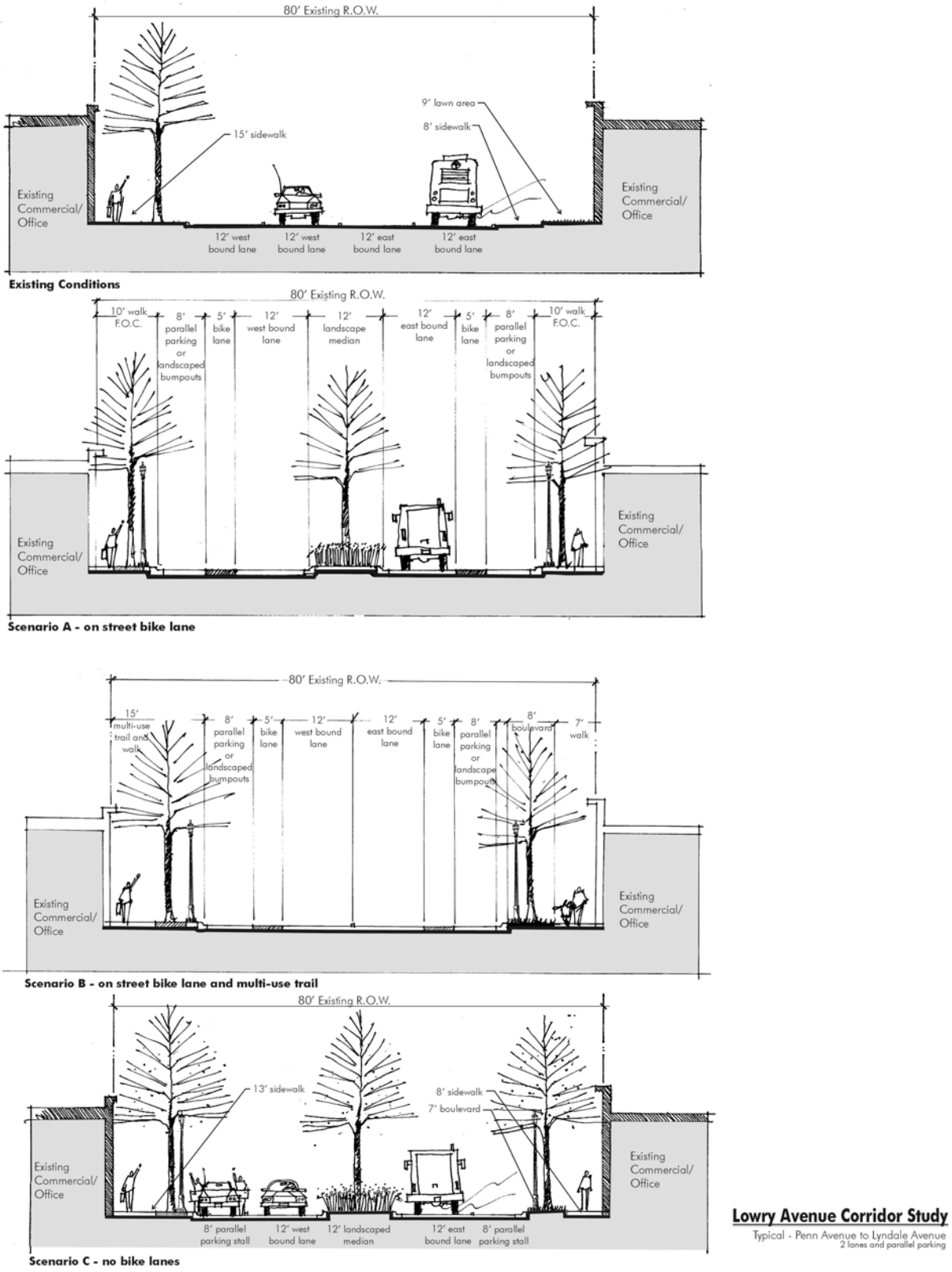

Figure 1. Cross-Section Scenarios for Western Segment (Graphic by DSU, Inc.)

Operational Analysis

The operational analysis conducted in CORSIM used current signal timing parameters provided by City of Minneapolis Public Works. Each signal in the west section operates with two phases (one green indication for east-west and one green indication for north-south traffic) and a cycle length of 90 seconds. Signals were optimized for the Future Baseline and Proposed conditions, but the number of phases and the overall cycle length were preserved, as was prevailing priority for north-south streets. Table 9 below shows the LOS by approach and by intersection as well as the traffic spillback (queue) in feet. Blocks along Lowry are nominally 300 feet in length. With the exception of Penn Avenue, the intersections have a shared through-right lane and an exclusive left turn lane on the Lowry approaches per Figure 2.

Table 9 West Segment Operations Summary

Lowry Avenue@	Description	Existing Conditions		Future Baseline		Proposed Geometry	
		LOS	Queue (ft)	LOS	Queue (ft)	LOS	Queue (ft)
Russell Avenue	**Total Intersection**	**A**	**-**	**B**	**-**	**A**	**-**
	EB Approach	A	80	B	120	A	160
	WB Approach	A	60	B	240	A	180
	SB Approach	B	20	B	20	B	20
	NB Approach	B	20	B	20	C	20
Penn Avenue	**Total Intersection**	**C**	**-**	**C**	**-**	**C**	**-**
	EB Approach	B	120	C	200	B	200
	WB Approach	D	340	C	280	D	500
	SB Approach	C	180	D	160	D	260
	NB Approach	B	160	C	200	C	240
James Avenue	**Total Intersection**	**C**	**-**	**B**	**-**	**B**	**-**
	EB Approach	A	120	B	160	B	260
	WB Approach	A	180	A	100	A	120
	SB Approach	A	20	A	20	B	20
	NB Approach	B	20	B	20	C	40
Fremont Avenue	**Total Intersection**	**A**	**-**	**A**	**-**	**B**	**-**
	EB Approach	A	100	B	160	B	160
	WB Approach	A	180	A	140	B	180
	SB Approach	B	60	B	80	C	80
Emerson Avenue	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB Approach	A	100	A	160	A	80
	WB Approach	C	300	B	220	B	120
	NB Approach	B	80	B	100	C	140

Penn Avenue

Traffic operations on Lowry at the Penn Avenue intersection were found to be unworkable with the proposed intersection template with single through lanes and curb bumpouts at entering approaches to the intersection. Right turn lane traffic on the Lowry Avenue approaches reached an unacceptable level of service E operation, when forced to share the through lane in the proposed geometry. Several modifications to the basic template were evaluated and it was determined that removal of the curb extensions and prohibition of parking for 50 to 75 feet upstream of the intersection would provide for a 'de facto' right-turn lane, which would solve the operational problem.

The Penn Avenue intersection template would be like Figure 2, but without the curb bumpouts along Lowry Avenue (as illustrated in Figure 6). With this template, the intersection would operate in acceptable conditions as shown in Table 2.

The above analysis did not consider reconstruction of the Penn Avenue approaches to the intersection at Lowry Avenue. Penn Avenue has a 44-foot curb-to-curb dimension and is striped as a single lane in each direction with 1-hour parking. At the Lowry Avenue intersection, parking is restricted within 75 feet of the intersection. During the peak periods, on-street parking is relatively light on the entering approaches and, as such, vehicles use the parking lane as a travel lane. The probability of at least one parked vehicle on the departing side is relatively high, so the Penn Avenue approaches do not have the full capacity of a two-lane approach. In the event that traffic volumes are higher than anticipated on Penn Avenue, peak hour parking bans on the downstream legs would increase the approach capacity sufficiently to accommodate additional traffic above the volumes assumed to occur by 2022 in this analysis.

Middle Segment

The middle segment is the longest segment and extends from Lyndale Avenue to Central Avenue. The basic sizing analysis concluded that, at a minimum, four lanes are required on Lowry Avenue (two-lanes in each direction). This configuration is the same as the existing configuration. Further analysis resulted in recommending channelized left turn lanes at the signalized intersection between Marshall and University; the primary reason was to accommodate heavy truck movements through this section of the corridor.

Mid Block Cross-Sections

The right of way and building setbacks on Lowry Avenue through the middle segment varies as shown in Figures 3, 4 and 5 on the following pages. The intersection treatments vary as well and apply separately between Lyndale and Second, from Marshall to University, and from Washington to Central. Two basic templates are developed and applied to each of these three subsegments are described in the following section. One template applies to the Lyndale to Second Street North and Washington to Central segments and the other applies to the Marshall to University segment.

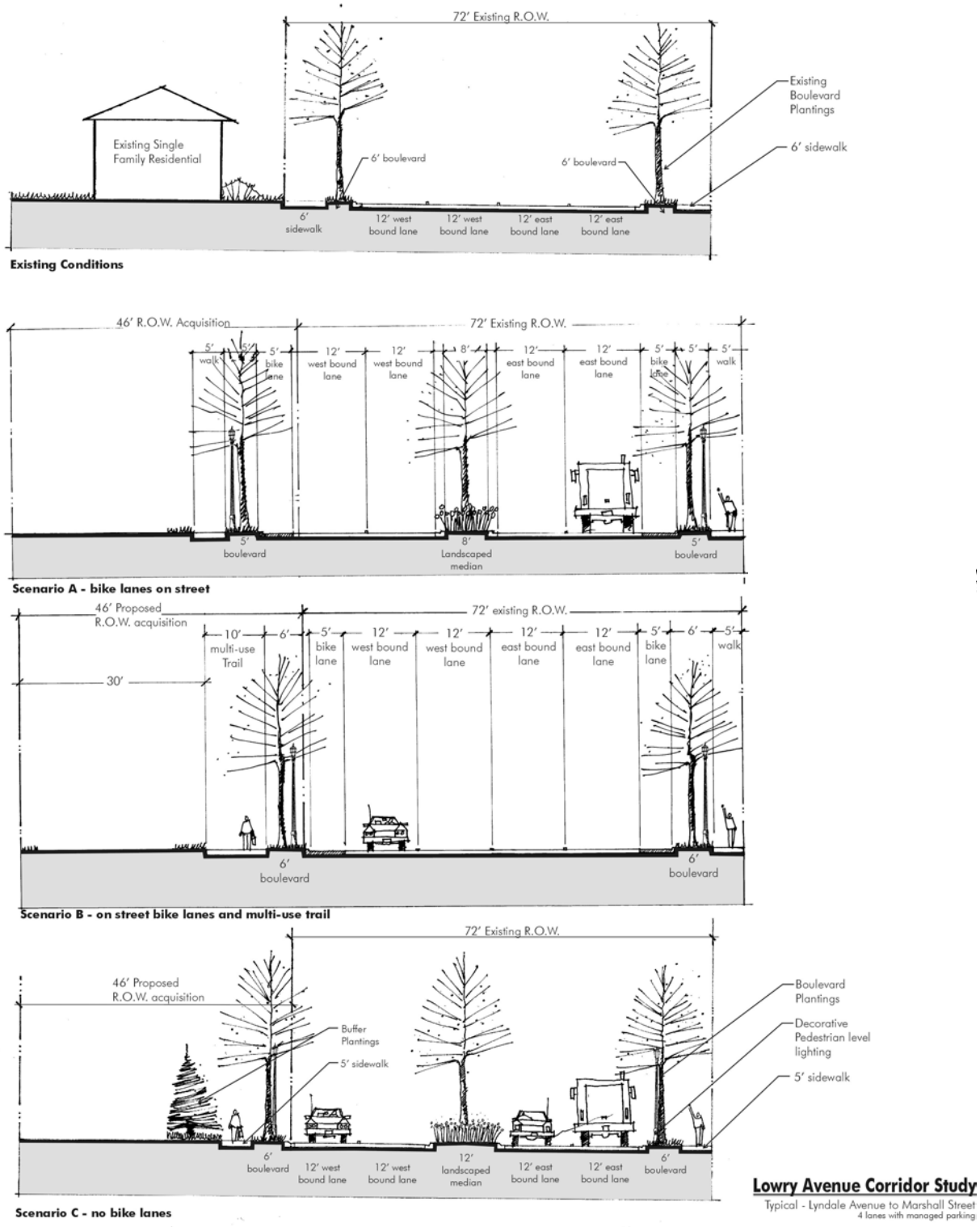

Figure 3. Cross-Section Scenarios for Lyndale to Marshall (Graphic by DSU, Inc.)

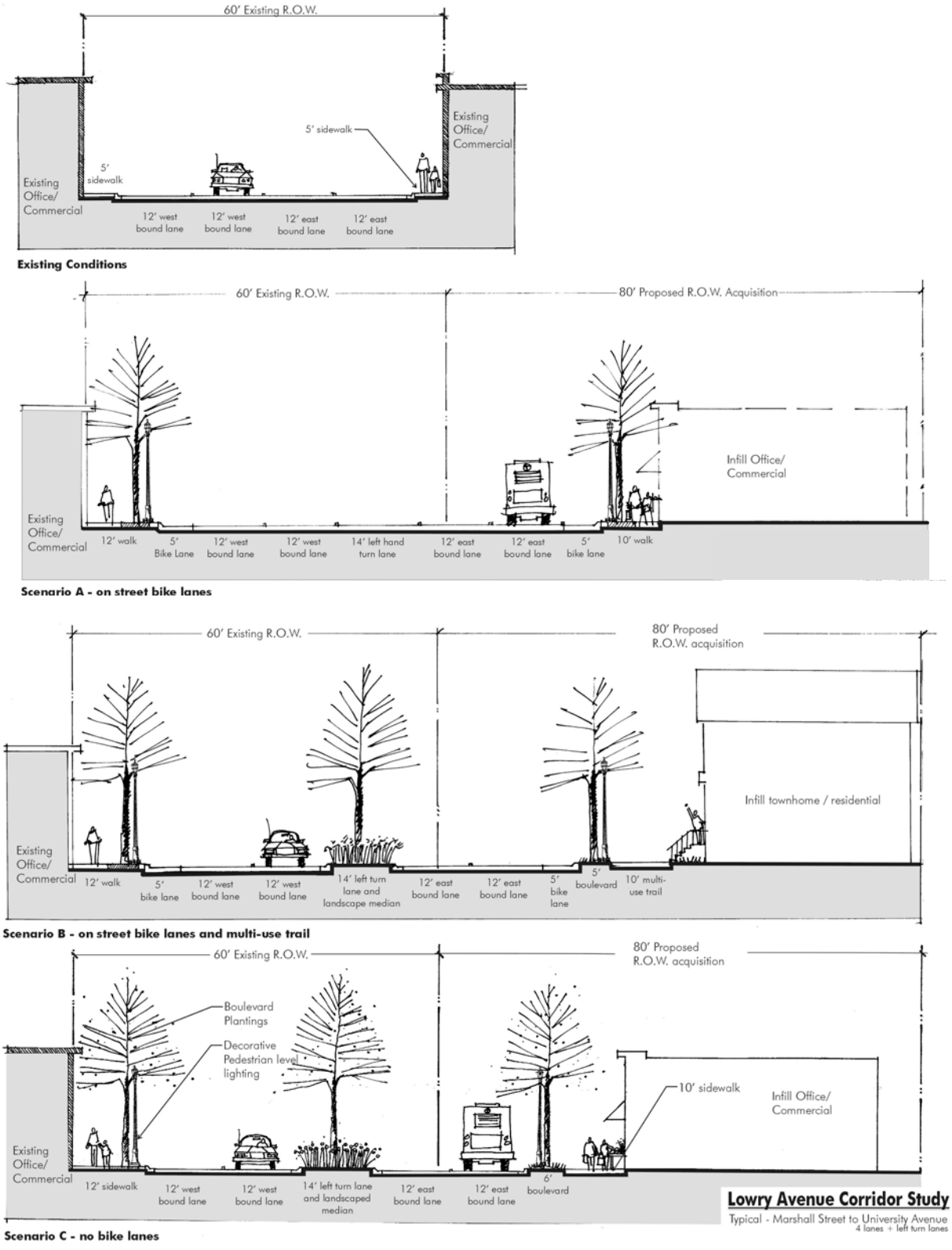

Figure 4. Cross-Section Scenarios for Marshall to University (Graphic by DSU, Inc.)

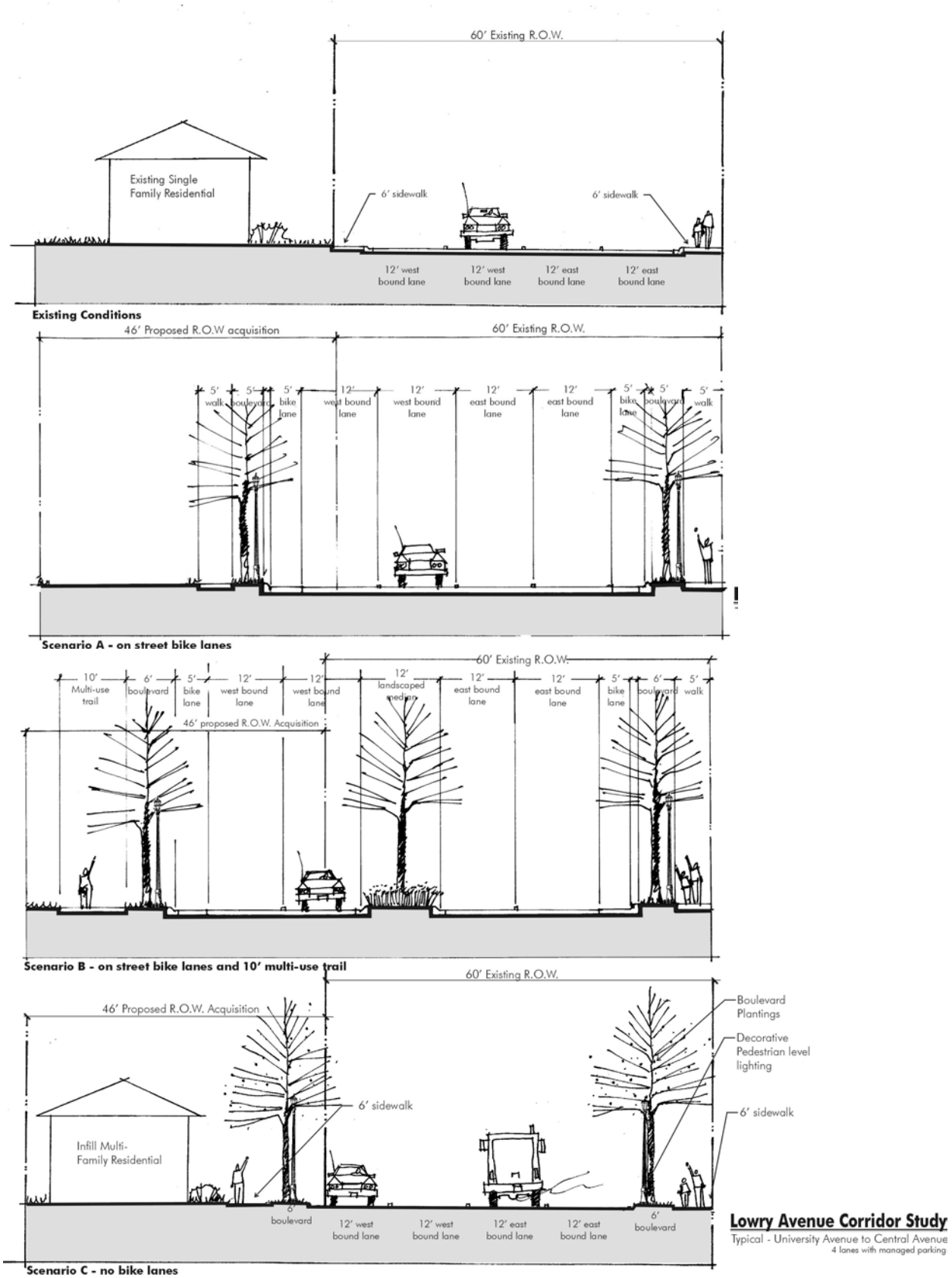

Figure 5. Cross-Section Scenarios for University to Central (Graphic by DSU, Inc.)

Lyndale to Second Street North

The four intersections in this part of the middle segment require two lanes in each direction on Lowry, but would not require separate left turn lanes (essentially the existing cross-section). If bicycle lanes are provided on street, managed parking should not be allowed. If parking is desired, provision of parking bays, similar to those in the west section should be considered. Figure 6, following, shows the basic intersection template for this subsegment of the corridor.

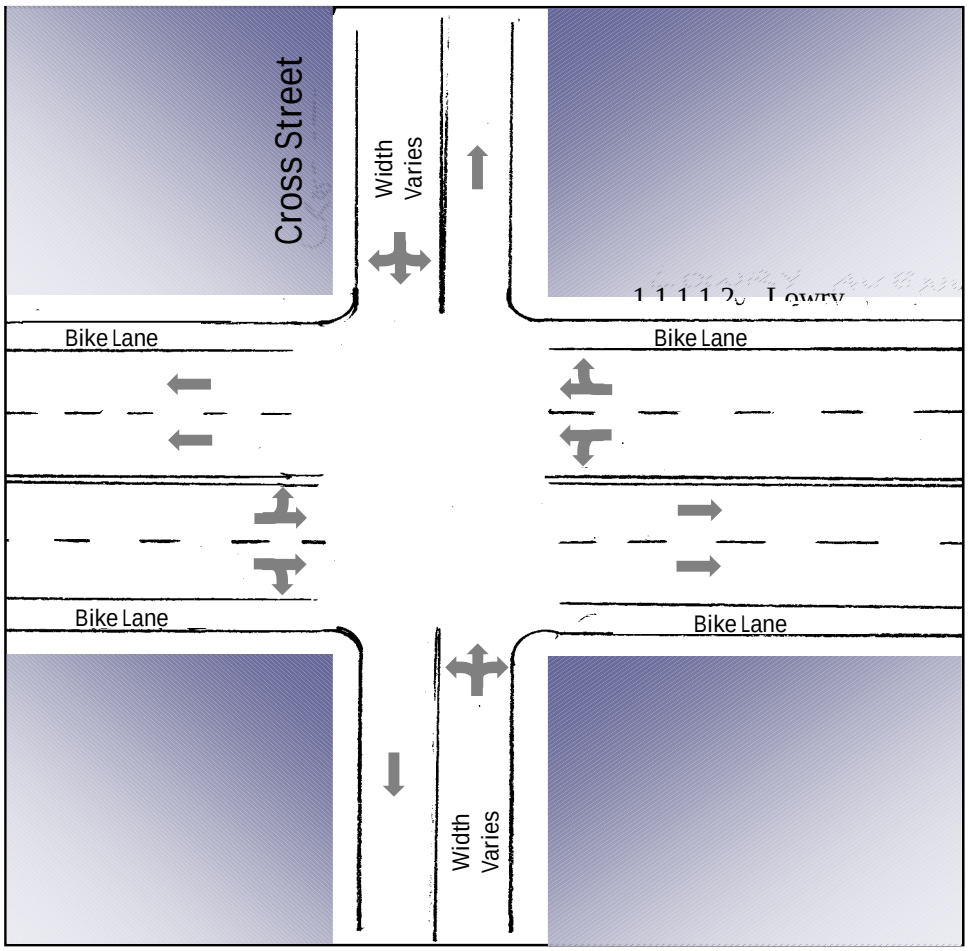

Figure 6. Intersection Template for Lyndale to Second Street N and Washington to Central

Traffic Operations Summary

As shown in Table 3, the proposed geometry would adequately serve the projected traffic volumes at the four intersections in the segment. Peak hour operations would be at LOS C or better with only one intersection approach operating at LOS D in the future. The Upper River Master Plan will ultimately affect the cross street traffic volumes in this segment, but should do so beyond the 20 year planning horizon for this project. As the proposed intersection templates are similar to the existing, the bridge crossings in this segment, over the freeway and over the river should continue to operate adequately with two basic lanes. The River bridge will need to be addressed to provide for adequate bicycle accommodation, which is not currently present and

is constrained by the relation of the width of the truss elements to the width of the roadway and sidewalk.

Table 10. Traffic Operations summary Lyndale Avenue to 2nd Street N.

Lowry Avenue @	Description	Existing Conditions		Baseline		Proposed Geometry	
		LOS	Queue	LOS	Queue	LOS	Queue
Lyndale Avenue	**Total Intersection**	**C**	**-**	**B**	**-**	**C**	**-**
	EB	C	180	B	160	C	260
	WB	B	280	B	160	D	300
	SB	B	100	B	120	B	140
	NB	B	140	B	180	B	160
4th Street	**Total Intersection**	**B**	**-**	**A**	**-**	**B**	**-**
	EB	B	120	B	120	B	120
	WB	C	220	A	100	A	100
	SB	B	20	B	20	B	20
	NB	B	20	B	20	B	20
Washington Avenue	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB	A	80	C	180	C	200
	WB	C	260	C	240	B	240
	SB	A	20	B	20	A	20
	NB	A	60	B	80	B	80
2nd Street No.	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB	B	200	A	100	B	140
	WB	A	80	B	220	C	280
	SB	C	80	C	80	C	80
	NB	B	100	B	100	B	120

Marshall to University

The four intersections in this part of the middle segment would require two lanes in each direction and separate left turn lanes on Lowry. The left turn lane at intersections could be terminated in a raised median to allow for plantings along this section of the corridor, or could be incorporated as a center turn lane, which would be less desirable from an aesthetics standpoint. A center median or turn lane is proposed to be continuous in this area since the distance along Lowry required to develop a left-turn lane and then drop it exceeds the nominal block length.

If bicycle lanes are provided on street, managed parking should not be allowed. If parking is desired, provision of parking bays, similar to those in the west section should be considered.

Figure 7, following page, shows the basic intersection template for this subsegment of the corridor and illustrates the potential for median treatment. Turning movements for large vehicles would need to be accommodated in the design of curb radii and placement of median islands.

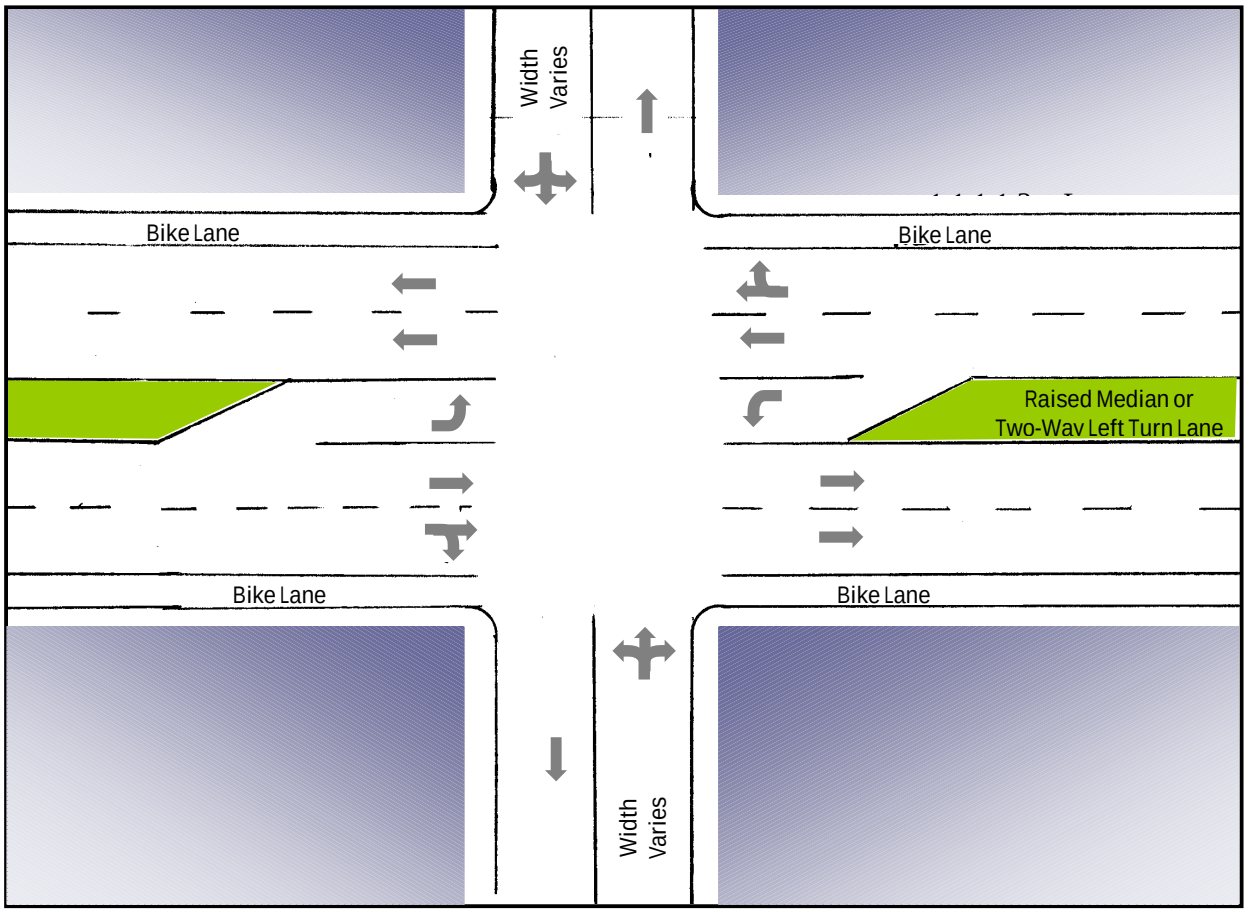

Figure 7. Intersection Template for Marshall to University

Traffic Operations Summary

As shown in Table 4, the intersection of University Avenue would begin to experience LOS E conditions on one approach by 2022 with the existing intersection geometry. Provision of turn lanes per Figure 7 would adequately serve the projected traffic volumes at the four intersections in the segment. Peak hour operations would be at LOS C or better with only one intersection approach operating at LOS D in the future.

Table 11. Traffic Operations Summary for Marshall to University							
Lowry Avenue @	**Description**	**Existing Conditions**		**Baseline**		**Proposed Geometry**	
		LOS	**Queue**	**LOS**	**Queue**	**LOS**	**Queue**
Marshall Street	**Total Intersection**	**B**	**-**	**C**	**-**	**B**	**-**
	EB	D	280	C	300	C	340
	WB	A	180	A	160	A	160
	SB	B	80	C	140	B	120
	NB	B	160	B	200	B	180
Grand Street	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB	A	140	B	200	B	200
	WB	C	280	A	180	A	80
	SB	B	20	B	20	B	20
	NB	B	20	B	20	B	20
2nd Street NE	**Total Intersection**	**A**	**-**	**B**	**-**	**B**	**-**
	EB	A	80	B	360	C	320
	WB	A	160	A	180	A	160
	SB	B	40	B	40	B	40
	NB	B	60	B	60	B	80
University Avenue	**Total Intersection**	**C**	**-**	**D**	**-**	**C**	**-**
	EB	B	280	C	280	B	240
	WB	C	280	D	460	D	340
	SB	C	180	C	180	C	200
	NB	C	380	E	680	C	340
	Unacceptable Operations						

Washington to Central

The three intersections in this part of the middle segment would require two lanes in each direction on Lowry, but would not require separate left turn lanes (essentially the existing cross-section) as shown in Figure 6. If bicycle lanes are provided on street, managed parking should not be allowed. If parking is desired, provision of parking bays, similar to those in the west section should be considered. Figure 6, following, shows the basic intersection template for this subsegment of the corridor.

Traffic Operations Summary

As shown in Table 5, the proposed geometry would adequately serve the projected traffic volumes at the four intersections in the segment. Peak hour operations would be at LOS C or better with all intersection approaches operating at LOS C or better in the future.

Table 12. Traffic Operations Summary for Washington to Central

Lowry Avenue @	Description	Existing Conditions		Baseline		Proposed Geometry	
		LOS	Queue	LOS	Queue	LOS	Queue
Washington Street	**Total Intersection**	**A**	**-**	**B**	**-**	**B**	**-**
	EB	A	100	A	100	B	240
	WB	A	80	B	160	C	320
	SB	B	40	B	20	B	20
	NB	B	40	B	60	B	40
Monroe Street	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB	B	220	C	260	C	260
	WB	A	120	A	140	A	140
	SB	C	40	B	40	B	40
	NB	C	100	B	100	B	100
Central Avenue	**Total Intersection**	**C**	**-**	**C**	**-**	**C**	**-**
	EB	C	240	B	280	C	580
	WB	C	220	C	300	C	300
	SB	B	140	B	140	B	140
	NB	C	260	C	320	C	360

East Segment

The east segment of the corridor is from Johnson to Stinson. Lowry Avenue is already operating as one lane in each direction with parking. The basic sizing analysis indicated that it was desirable to retain the existing cross section. . Based on this determination and on the other design considerations such as on-street parking and bicycle lanes and on the physical right-of-way dimension, typical cross-section options were prepared. Figure 8, following page, illustrates the existing cross-section and cross-section scenarios for the eastern segment.

Figure 2 illustrates a typical intersection design for the intersections in the east segment. The intersection design includes channelized left turn lanes and curb bumpouts at the throat of the intersection. The bumpouts shorten the crossing distance. Cross street geometry has been assumed to remain unchanged.

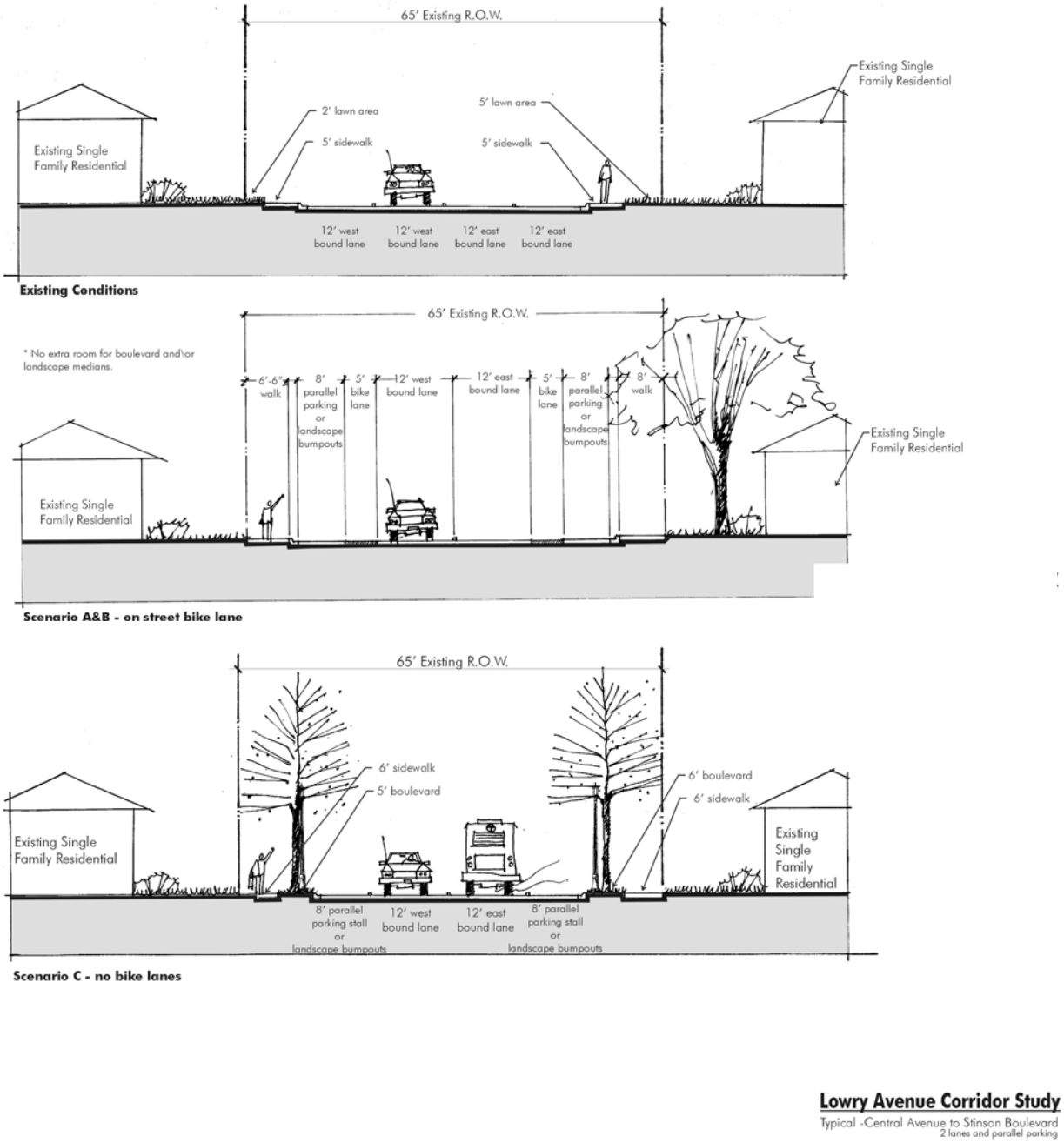

Figure 8. Cross-Section Scenarios for Eastern Segment

Traffic Operations Analysis

Table 6 below shows the LOS by approach and by intersection as well as the traffic spillback (queue) in feet. With the exception of Johnson Street, the intersections are currently operating at an acceptable level during peak periods. The proposed conditions have a shared through-right lane and an exclusive left turn lane on the Lowry approaches per Figure 2, except at Johnson Street as noted below.

Table 13. Traffic Operations Summary for Johnson to Stinson							
Lowry Avenue @	**Description**	**Existing Conditions**		**Baseline**		**Proposed Geometry**	
		LOS	**Queue**	**LOS**	**Queue**	**LOS**	**Queue**
Johnson Street (see discussion in text for special conditions**)**	**Total Intersection**	**B**	**-**	**C**	**-**	**C**	**-**
	EB	C	220	D	300	C	300
	WB	B	140	C	260	C	200
	SB	B	100	B	100	B	100
	NB	B	200	B	280	B	300
Hayes Street	**Total Intersection**	**B**	**-**	**B**	**-**	**B**	**-**
	EB	B	280	A	200	B	180
	WB	B	220	B	300	C	380
	NB	B	20	B	20	C	20
Stinson Blvd	**Total Intersection**	**C**	**-**	**C**	**-**	**C**	**-**
	EB	C	180	B	140	B	160
	WB	C	220	C	240	C	400
	SB	C	160	C	140	C	160
	NB	B	240	C	300	C	280

Johnson Street

The intersection of Johnson Street NE and Lowry is currently carrying a substantial amount of traffic. The volumes exceed the striped design of the intersection. Johnson Street has a 44-foot curb-to curb street width with one 13-foot travel lane in each direction and a 9-foot striped parking lane on each side. There are no peak hour parking restrictions, however, the development around the intersection is residential in three quadrants and a park in the fourth. As a result, parking activity is very low. During peak periods, traffic uses Johnson Street as a four-lane street. Lowry Avenue is a 44-foot curb-to-curb street striped with two 13-foot travel lanes and two 9-foot parking lanes, during the peak periods Lowry Avenue is used as a four-lane street.

This operating condition currently exists and effectively causes both streets to operate as a four lane cross-section. Analysis of the anticipated change in traffic also indicates that the same four-lane utilization of the street will result in acceptable conditions in the future. The intersection template for Johnson Street is as shown in Figure 6 and provides for two shared lanes in each direction on Lowry with no provision for curb bumpouts or reduction of street width.

2. Conclusions

The intersections in the west segment, with the exception of Penn Avenue, will operate in acceptable conditions with the proposed intersection templates that provided for a shared through-right lane and a separate left turn lane on the Lowry approaches with curb bumpouts where curb parking is provided in the cross-section. At Penn Avenue, removal of the curb bumpouts to provide for free right turn lanes on Lowry will provide for adequate operations in the future.

The intersections in the middle segment from Lyndale to Second Street North and from Washington to Central will operate in acceptable conditions with the proposed intersection templates that provided for two shared lanes (without separate left turn lanes) on the Lowry approaches. Where curb parking is to be provided, it should be place in parking bays so as not to conflict with on-street bicycle lanes. The intersections in the middle segment from Marshall to University will operate in acceptable conditions with a shared through-right lane, a through lane and a left-turn lane in each direction on Lowry.

The intersections in the east segment, with the exception of Johnson Street, will operate in acceptable conditions with the proposed intersection templates that provided for a shared through-right lane and a separate left turn lane on the Lowry approaches with curb bumpouts where curb parking is provided in the cross-section. At Johnson Street, as at Penn Avenue, removal of the curb bumpouts to provide for de facto right turn lanes on Lowry will provide for adequate operations in the future.

The analyses have been conducted on the assumption that general traffic signal phasing and directional priority will remain essentially unchanged into the future and that cross street lane patterns will also continue unchanged. The above conclusions incorporate those assumptions.

Appendix A
Peak Hour Traffic Volumes

Existing Counts

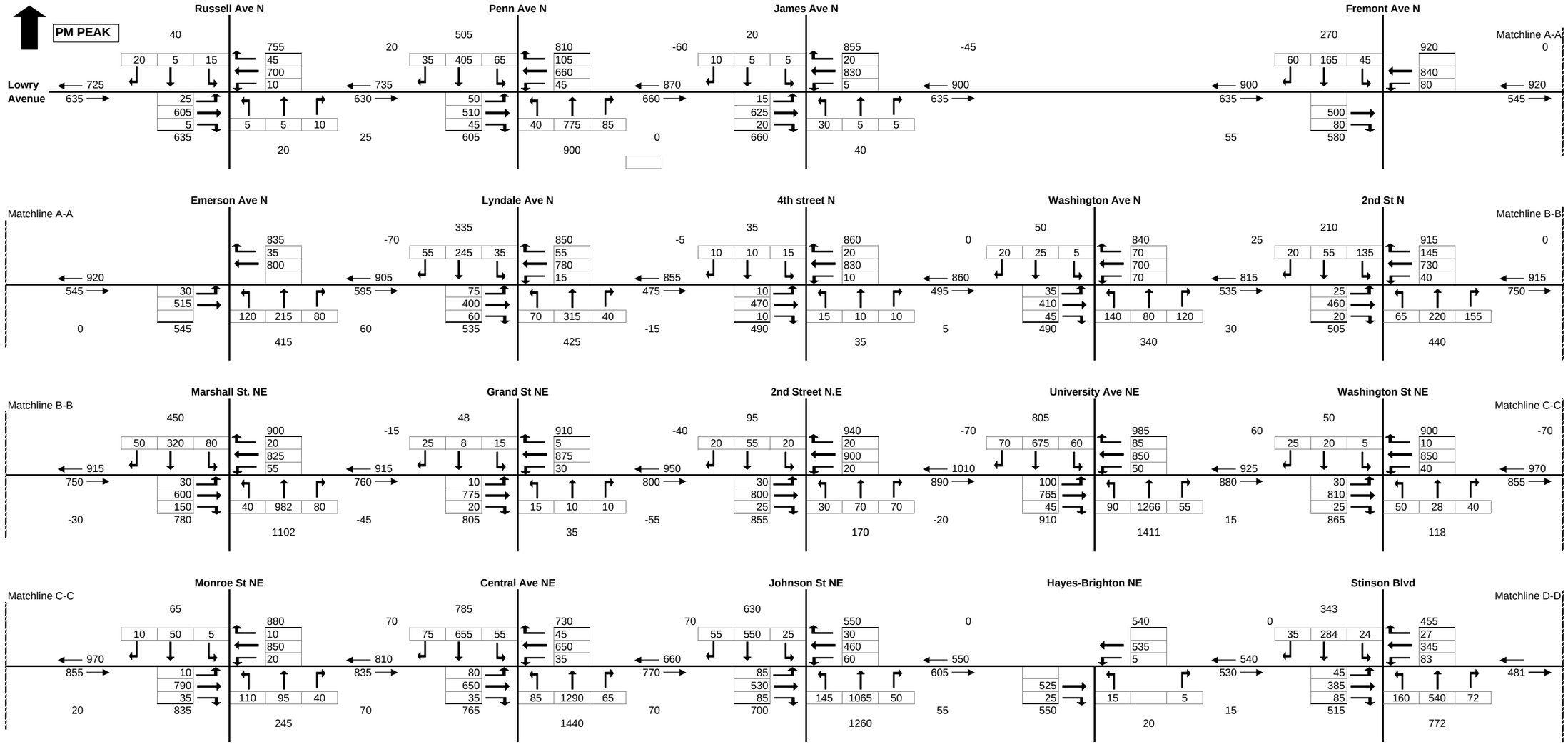

Figure 1 Existing Pm Peak Hour Traffic Counts

2022 PM Peak Hour

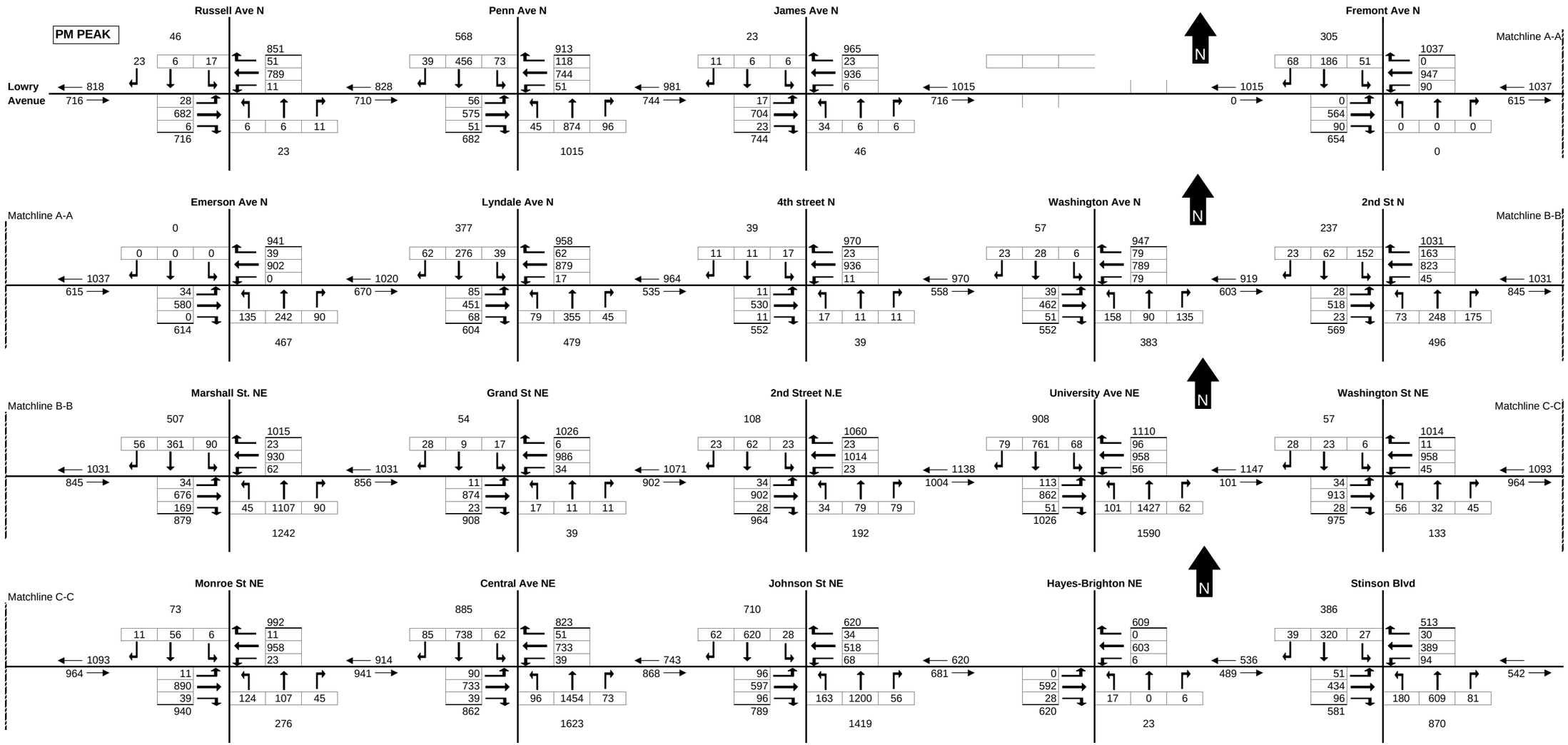

Figure 8 2020 PM Peak Traffic Volumes

Appendix B
Signal Phasing Summary

Table B-1
Green time Comparisons on Lowry

No.	Intersection Name	Existing				2022 Base Year				Proposed Geometry			
		No. of Phases	E-W Split % of Cyc	Cycle Seconds	CORSIM Int Los	No. of Phases	E-W Split % of Cyc	Cycle Seconds	CORSIM Int Los	No. of Phases	E-W Split % of Cyc	Cycle Seconds	CORSIM Int Los
1	Russell Ave N	2	70%	80	A	2	57%	80	B	2	72%	80	A
2	Penn Ave N	2	**40%**	80	C	2	**48%**	80	C	2	**48%**	80	C
3	James Ave N	2	61%	80	A	2	59%	80	B	2	74%	80	B
4	Fremont Ave N	2	60%	80	A	2	63%	80	A	2	64%	80	B
5	Emerson Ave N	2	58%	80	B	2	57%	80	B	2	73%	80	B
6	Lyndale Ave N	2	50%	80	C	2	**47%**	80	B	2	50%	80	C
7	4th street N	2	55%	80	B	2	60%	80	A	2	60%	80	B
8	Washington Ave N	2	**40%**	80	B	2	**45%**	80	B	2	**45%**	80	B
9	2nd St N	2	65%	80	B	2	60%	80	B	2	60%	80	B
10	Marshall St. NE	2	**40%**	80	B	2	**50%**	80	C	2	**44%**	80	B
11	Grand St NE	2	60%	80	B	2	62%	80	B	2	58%	80	B
12	2nd Street N.E	2	60%	80	A	2	61%	80	B	2	59%	80	B
13	University Ave NE	3	51%	80	C	3	50%	80	**D**	3	**45%**	80	C
14	Washington St NE	2	64%	80	A	2	62%	80	B	2	62%	80	B
15	Monroe St NE	2	70%	80	B	2	56%	80	B	2	56%	80	B
16	Central Ave NE	3	**44%**	80	C	3	**43%**	80	C	3	**43%**	80	C
17	Johnson St NE	2	**40%**	90	B	2	**38%**	90	C	2	**38%**	90	C
18	Hayes-Brighton NE	2	70%	90	B	2	63%	90	B	2	63%	90	B
19	Stinson Blvd	4	**49%**	90	C	4	**42%**	90	C	4	**42%**	90	C

0% Cross Street has Green Time Priority
EB and NB approaches are at LOS E.

Appendix C
CORSIM Results

Table C-1
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Existing Conditions
Exsiting PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Russell Avenue	EB	25	605	5	635	0	0.0%	7.4	A	6.0	A	0	1425	80				
	WB	10	700	45	755	74	9.8%	3.9	A			0	655	60				
	SB	15	5	20	40	0	0.0%	14.2	B			0	638	20				
	NB	5	5	10	20	1	5.0%	14.0	B			0	642	20				
Penn Avenue	EB	50	510	45	605	2	0.3%	18.5	B	24.6	C	0	655	120				
	WB	45	660	105	810	6	0.7%	36.2	D			4	1958	**340**				
	SB	65	405	35	505	-2	-0.4%	27.7	C			23	627	180				
	NB	40	775	85	900	-3	-0.3%	16.6	B			1	638	160				
James Avenue	EB	15	625	20	660	4	0.6%	9.2	A	7.7	A	0	1958	120				
	WB	5	830	20	855	-14	-1.6%	6.2	A			0	1309	180				
	SB	5	5	10	20	1	5.0%	7.4	A			0	647	20				
	NB	30	5	5	40	0	0.0%	13.6	B			0	653	20				
Fremont Avenue	EB	0	500	80	580	-30	-5.2%	7.9	A	8.4	A	0	1309	100				
	WB	80	840	0	920	25	2.7%	6.5	A			0	329	180				
	SB	45	165	60	270	2	0.7%	15.6	B			0	654	60				
Emerson Avenue	EB	30	515	0	545	-2	-0.4%	4.3	A	18.9	B	0	329	100				
	WB	0	800	35	835	-7	-0.8%	29.9	C			0	1634	**300**				
	NB	120	215	80	415	0	0.0%	15.7	B			0	663	80				
Lyndale Avenue	EB	75	400	60	535	-26	-4.9%	30.5	C	20.5	C	0	1634	180				
	WB	15	780	55	850	25	2.9%	18.8	B			0	800	**280**				
	SB	35	245	55	335	0	0.0%	13.1	B			0	646	100				
	NB	70	315	40	425	-1	-0.2%	16.6	B			0	849	140				
4th Street	EB	10	470	10	490	18	3.7%	14.2	B	19.1	B	0	800	120				
	WB	10	830	20	860	35	4.1%	22.6	C			0	792	220				
	SB	15	10	10	35	1	2.9%	11.8	B			0	665	20				
	NB	15	10	10	35	1	2.9%	10.9	B			0	870	20				
Washington Avenue	EB	35	410	45	490	4	0.8%	8.9	A	17.8	B	0	792	80				
	WB	70	700	70	840	21	2.5%	27.5	C			6	307	260				
	SB	5	25	20	50	0	0.0%	7.9	A			0	659	20				
	NB	140	80	120	340	2	0.6%	8.4	A			0	871	60				
2nd Street No.	EB	25	460	20	505	-22	-4.4%	20.0	B	15.7	B	0	307	200				
	WB	40	730	145	915	49	5.4%	9.6	A			0	2312	80				
	SB	135	55	20	210	0	0.0%	22.1	C			0	668	80				
	NB	65	220	155	440	1	0.2%	19.7	B			0	875	100				
Marshall Street	EB	30	600	150	780	2	0.3%	38.7	D	18.4	B	4	2312	**280**				
	WB	55	825	20	900	60	6.7%	9.0	A			1	416	180				
	SB	80	320	50	450	1	0.2%	13.4	B			0	669	80				
	NB	40	982	80	1102	-1	-0.1%	13.2	B			0	915	160				

Table C-1
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Existing Conditions
Exsiting PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Grand Street	EB	10	775	20	805	5	0.6%	6.5	A	16.9	B	0	416	140				
	WB	30	875	5	910	37	4.1%	26.5	C			1	1017	**280**				
	SB	15	8	25	48	0	0.0%	16.3	B			0	663	20				
	NB	15	10	10	35	1	2.9%	14.9	B			0	907	20				
2nd Street NE	EB	30	800	25	855	-2	-0.2%	5.1	A	7.8	A	0	1017	80				
	WB	20	900	20	940	11	1.2%	8.1	A			0	790	160				
	SB	20	55	20	95	0	0.0%	15.8	B			0	669	40				
	NB	30	70	70	170	0	0.0%	15.1	B			0	791	60				
University Avenue	EB	100	765	45	910	-1	-0.1%	18.1	B	23.4	C	4	790	**280**				
	WB	50	850	85	985	52	5.3%	30.8	C			3	1661	**280**				
	SB	60	675	70	805	1	0.1%	21.7	C			7	661	180				
	NB	90	1266	55	1411	1	0.1%	22.8	C			2	759	380				
Washington Street	EB	30	810	25	865	-11	-1.3%	7.2	A	7.8	A	0	1661	100				
	WB	40	850	10	900	-25	-2.8%	7.3	A			0	1103	80				
	SB	5	20	25	50	0	0.0%	11.4	B			0	665	40				
	NB	50	28	40	118	0	0.0%	14.9	B			0	770	40				
Monroe Street	EB	10	790	35	835	-45	-5.4%	15.7	B	12.9	B	0	1103	220				
	WB	20	850	10	880	56	6.4%	5.4	A			0	1316	120				
	SB	5	50	10	65	1	1.5%	22.3	C			0	675	40				
	NB	110	95	40	245	1	0.4%	26.0	C			0	815	100				
Central Avenue	EB	80	650	35	765	-68	-8.9%	24.5	C	23.1	C	1	1316	240				
	WB	35	650	45	730	31	4.2%	22.2	C			0	300	220				
	SB	55	655	75	785	-1	-0.1%	18.8	B			0	665	140	200	80	75	40
	NB	85	1290	65	1440	2	0.1%	25.2	C			0	895	260	200	60	75	60
Johnson Street	EB	85	530	85	700	-54	-7.7%	28.2	C	18.4	B	4	400	220				
	WB	60	460	30	550	-2	-0.4%	16.8	B			1	660	140				
	SB	25	550	55	630	2	0.3%	12.1	B			1	660	100				
	NB	145	1065	65	1275	-1	-0.1%	16.4	B			0	735	200				
Hayes Street	EB	0	525	25	550	-55	-10.0%	13.2	B	12.6	B	0	660	280				
	WB	5	535	0	540	-7	-1.3%	11.9	B			0	2029	220				
	NB	15	0	5	20	1	5.0%	13.1	B			0	687	20				
Stinson Avenue	EB	45	385	85	515	4	0.8%	33.5	C	25.0	C	0	2029	180				
	WB	83	345	27	455	1	0.2%	20.0	C			0	673	220				
	SB	24	284	35	343	1	0.3%	31.4	C			0	670	160				
	NB	160	540	72	772	0	0.0%	19.4	B			0	700	240				

Table C-2
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Base Analysis Existing cross-section
2022 PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Russell Avenue	EB	28	682	6	716	4	0.6%	12.5	B	14.2	B	0	1425	120				
	WB	11	789	51	851	68	8.0%	16.0	B			0	655	240				
	SB	17	6	23	46	0	0.0%	11.0	B			0	638	20				
	NB	6	6	11	23	0	0.0%	11.6	B			0	642	20				
Penn Avenue	EB	56	575	51	682	2	0.3%	20.0	C	26.7	C	0	655	200				
	WB	51	744	118	913	-12	-1.3%	28.6	C			0	1958	**280**				
	SB	73	456	39	568	8	1.4%	35.5	D			24	627	160				
	NB	45	874	96	1015	7	0.7%	24.6	C			1	638	200				
James Avenue	EB	17	704	23	744	20	2.7%	17.7	B	11.8	B	0	1958	160				
	WB	6	936	23	965	-14	-1.5%	7.2	A			0	1309	100				
	SB	6	6	11	23	0	0.0%	9.8	A			0	647	20				
	NB	34	6	6	46	0	0.0%	17.6	B			0	653	20				
Fremont Avenue	EB	0	564	90	654	-23	-3.5%	12.3	B	9.8	A	0	1309	160				
	WB	90	947	0	1037	30	2.9%	5.4	A			0	329	140				
	SB	51	186	68	305	0	0.0%	18.8	B			0	654	80				
Emerson Avenue	EB	34	580	0	614	4	0.7%	7.7	A	12.5	B	0	329	160				
	WB	0	902	39	941	-9	-1.0%	13.5	B			0	1634	220				
	NB	135	242	90	467	0	0.0%	16.6	B			0	663	100				
Lyndale Avenue	EB	85	451	68	604	-27	-4.5%	14.2	B	15.7	B	3	1634	160				
	WB	17	879	62	958	9	0.9%	16.8	B			0	800	160				
	SB	39	276	62	377	2	0.5%	13.7	B			0	646	120				
	NB	79	355	45	479	-1	-0.2%	17.1	B			0	849	180				
4th Street	EB	11	530	11	552	29	5.3%	11.9	B	8.3	A	0	800	120				
	WB	11	936	23	970	26	2.7%	5.6	A			0	792	100				
	SB	17	11	11	39	1	2.6%	17.3	B			0	665	20				
	NB	17	11	11	39	1	2.6%	17.8	B			0	870	20				
Washington Avenue	EB	39	462	51	552	20	3.6%	21.4	C	19.5	B	0	792	180				
	WB	79	789	79	947	28	3.0%	22.6	C			0	307	240				
	SB	6	28	23	57	0	0.0%	11.0	B			0	659	20				
	NB	158	90	135	383	0	0.0%	10.7	B			0	871	80				
2nd Street No.	EB	28	518	23	569	-11	-1.9%	5.1	A	15.3	B	0	307	100				
	WB	45	823	163	1031	24	2.3%	19.0	B			0	2312	220				
	SB	152	62	23	237	1	0.4%	20.7	C			0	668	80				
	NB	73	248	175	496	1	0.2%	17.2	B			0	875	100				
Marshall Street	EB	34	676	169	879	18	2.0%	28.6	C	20.0	C	1	2312	**300**				
	WB	62	930	23	1015	38	3.7%	8.1	A			0	416	160				
	SB	90	361	56	507	-4	-0.8%	28.6	C			16	669	140				
	NB	45	1107	90	1242	0	0.0%	19.8	B			0	915	200				

Table C-2
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Base Analysis Existing cross-section
2022 PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Grand Street	EB	11	874	23	908	15	1.7%	11.7	B	10.1	B	0	416	200				
	WB	34	986	6	1026	28	2.7%	8.2	A			0	1017	180				
	SB	17	9	28	54	0	0.0%	16.4	B			0	663	20				
	NB	17	11	11	39	2	5.1%	14.7	B			0	907	20				
2nd Street NE	EB	34	902	28	964	24	2.5%	19.9	B	14.0	B	0	1017	**360**				
	WB	23	1014	23	1060	10	0.9%	7.8	A			0	790	180				
	SB	23	62	23	108	0	0.0%	17.5	B			0	669	40				
	NB	34	79	79	192	0	0.0%	16.6	B			0	791	60				
University Avenue	EB	113	862	51	1026	33	3.2%	23.7	C	49.3	D	4	790	**280**				
	WB	56	958	96	1110	68	6.1%	53.8	D			14	1661	**460**				
	SB	68	761	79	908	-3	-0.3%	25.2	C			11	661	180				
	NB	101	1427	62	1590	25	1.6%	76.6	**E**			34	759	**680**				
Washington Street	EB	34	913	28	975	9	0.9%	8.0	A	11.3	B	0	1661	100				
	WB	45	958	11	1014	-17	-1.7%	13.5	B			0	1103	160				
	SB	6	23	28	57	0	0.0%	11.2	B			0	665	20				
	NB	56	32	45	133	0	0.0%	18.6	B			0	770	60				
Monroe Street	EB	11	890	39	940	-23	-2.4%	23.6	C	16.9	B	0	1103	260				
	WB	23	958	11	992	52	5.2%	9.7	A			0	1316	140				
	SB	6	56	11	73	0	0.0%	14.8	B			0	675	40				
	NB	124	107	45	276	0	0.0%	18.7	B			0	815	100				
Central Avenue	EB	90	733	39	862	-48	-5.6%	17.6	B	24.0	C	1	1316	280				
	WB	39	733	51	823	33	4.0%	29.1	C			6	300	300				
	SB	62	738	85	885	1	0.1%	18.2	B			0	665	140	200	80	75	20
	NB	96	1454	73	1623	2	0.1%	28.3	C			0	895	320	200	80	75	20
Johnson Street	EB	96	597	96	789	-22	-2.8%	36.5	D	23.8	C	16	400	300				
	WB	68	518	34	620	-13	-2.1%	31.9	C			0	660	260				
	SB	28	620	62	710	2	0.3%	11.7	B			1	660	100				
	NB	163	1200	56	1419	-1	-0.1%	19.1	B			1	735	280				
Hayes Street	EB	0	592	28	620	-23	-3.7%	9.8	A	14.6	B	0	660	200				
	WB	6	603	0	609	-15	-2.5%	19.7	B			0	2029	300				
	NB	17	0	6	23	0	0.0%	12.2	B			0	687	20				
Stinson Avenue	EB	51	434	96	581	19	3.3%	17.3	B	21.3	C	0	2029	140				
	WB	94	389	30	513	1	0.2%	21.7	C			0	673	240				
	SB	27	320	39	386	0	0.0%	23.5	C			0	670	140				
	NB	180	609	81	870	0	0.0%	22.7	C			0	700	300				

Table C-3
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Proposed Geometry
2022 PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Russell Avenue	EB	28	682	6	716	0	0.0%	9.8	A	8.2	A	0	1425	160	100	40		
	WB	11	789	51	851	53	6.2%	6.0	A			0	655	180	100	20		
	SB	17	6	23	46	0	0.0%	16.3	B			0	638	20				
	NB	6	6	11	23	1	4.3%	21.1	C			0	642	20				
Penn Avenue	EB	56	575	51	682	0	0.0%	18.6	B	33.8	C	1	655	200	100	60	50	20
	WB	51	744	118	913	-10	-1.1%	43.0	D			2	1958	**500**	100	60	50	60
	SB	73	456	39	568	-2	-0.4%	49.4	D			33	627	260				
	NB	45	874	96	1015	-2	-0.2%	26.8	C			2	638	240				
James Avenue	EB	17	704	23	744	7	0.9%	18.4	B	13.2	B	0	1958	260	75	20		
	WB	6	936	23	965	-5	-0.5%	8.7	A			0	1309	120	75	20		
	SB	6	6	11	23	1	4.3%	14.7	B			0	647	20				
	NB	34	6	6	46	0	0.0%	21.5	C			0	653	40				
Fremont Avenue	EB	0	564	90	654	-27	-4.1%	11.2	B	13.9	B	0	1309	160			50	20
	WB	90	947	0	1037	29	2.8%	13.8	B			0	329	180				
	SB	51	186	68	305	0	0.0%	20.2	C			0	654	80				
Emerson Avenue	EB	34	580	0	614	1	0.2%	3.3	A	12.4	B	0	329	80				
	WB	0	902	39	941	-15	-1.6%	11.3	B			0	1634	120			75	20
	NB	135	242	90	467	1	0.2%	26.4	C			0	663	140				
Lyndale Avenue	EB	85	451	68	604	-24	-4.0%	28.5	C	29.5	C	24	1634	260				
	WB	17	879	62	958	21	2.2%	40.6	D			4	800	**300**				
	SB	39	276	62	377	2	0.5%	16.9	B			0	646	140				
	NB	79	355	45	479	0	0.0%	18.9	B			0	849	160				
4th Street	EB	11	530	11	552	12	2.2%	14.6	B	11.2	B	0	800	120				
	WB	11	936	23	970	37	3.8%	8.9	A			0	792	100				
	SB	17	11	11	39	0	0.0%	15.9	B			0	665	20				
	NB	17	11	11	39	0	0.0%	13.7	B			0	870	20				
Washington Avenue	EB	39	462	51	552	-5	-0.9%	27.4	C	17.4	B	1	792	200				
	WB	79	789	79	947	28	3.0%	14.8	B			0	307	240				
	SB	6	28	23	57	0	0.0%	8.4	A			0	659	20				
	NB	158	90	135	383	1	0.3%	10.1	B			0	871	80				
2nd Street No.	EB	28	518	23	569	-22	-3.9%	10.7	B	18.4	B	0	307	140				
	WB	45	823	163	1031	29	2.8%	22.9	C			0	2312	**280**				
	SB	152	62	23	237	0	0.0%	21.3	C			0	668	80				
	NB	73	248	175	496	1	0.2%	17.1	B			0	875	120				
Marshall Street	EB	34	676	169	879	2	0.2%	26.3	C	16.8	B	1	2312	**340**	100	60		
	WB	62	930	23	1015	63	6.2%	9.0	A			2	416	160	200	60		
	SB	90	361	56	507	-1	-0.2%	19.1	B			5	669	120				
	NB	45	1107	90	1242	2	0.2%	15.2	B			0	915	180				

Table C-3
Lowry Avenue Corridor CORSIM Measure's of Effectiveness
Proposed Geometry
2022 PM Peak Hour

		Demand volumes				Demand -Model		Level of Service By: Approach		Intersection		Phase	Modeled Storage & Maximum Traffic Queueing (feet) Through		Left Turn		Right Turn	
Lowry Avenue @	app	L	T	R	total	Total	%	Delay	LOS	Delay	LOS	Failure	link length	Queue	Storage	Queue	Storage	Queue
Grand Street	EB	11	874	23	908	-1	-0.1%	14.8	B	11.0	B	0	416	200	200	20		
	WB	34	986	6	1026	32	3.1%	7.4	A			0	1017	80	200	60		
	SB	17	9	28	54	0	0.0%	11.0	B			0	663	20				
	NB	17	11	11	39	1	2.6%	16.4	B			0	907	20				
2nd Street NE	EB	34	902	28	964	5	0.5%	23.8	C	16.4	B	0	1017	**320**	200	80		
	WB	23	1014	23	1060	7	0.7%	9.5	A			1	790	160	200	60		
	SB	23	62	23	108	0	0.0%	18.5	B			0	669	40				
	NB	34	79	79	192	0	0.0%	15.6	B			0	791	80				
University Avenue	EB	113	862	51	1026	6	0.6%	18.9	B	25.8	C	1	790	240	200	180		
	WB	56	958	96	1110	66	5.9%	41.1	D			7	1661	**340**	100	80		
	SB	68	761	79	908	-5	-0.6%	20.1	C			5	661	200				
	NB	101	1427	62	1590	5	0.3%	23.5	C			2	759	340				
Washington Street	EB	34	913	28	975	-8	-0.8%	10.9	B	15.9	B	0	1661	240				
	WB	45	958	11	1014	-30	-3.0%	20.6	C			0	1103	320				
	SB	6	23	28	57	0	0.0%	14.1	B			0	665	20				
	NB	56	32	45	133	1	0.8%	16.0	B			0	770	40				
Monroe Street	EB	11	890	39	940	-28	-3.0%	24.0	C	17.0	B	0	1103	260				
	WB	23	958	11	992	52	5.2%	9.7	A			0	1316	140				
	SB	6	56	11	73	0	0.0%	15.4	B			0	675	40				
	NB	124	107	45	276	-2	-0.7%	17.9	B			0	815	100				
Central Avenue	EB	90	733	39	862	-61	-7.1%	23.8	C	26.5	C	4	1316	**580**				
	WB	39	733	51	823	34	4.1%	28.4	C			6	300	300				
	SB	62	738	85	885	-1	-0.1%	18.7	B			0	665	140	200	80	75	40
	NB	96	1454	73	1623	8	0.5%	31.3	C			1	895	360	200	80	75	20
Johnson Street	EB	96	597	96	789	-41	-5.2%	32.7	C	23.0	C	11	400	300				
	WB	68	518	34	620	-12	-1.9%	31.9	C			4	660	200				
	SB	28	620	62	710	1	0.1%	11.7	B			2	660	100				
	NB	163	1200	56	1419	0	0.0%	19.0	B			2	735	300				
Hayes Street	EB	0	592	28	620	-38	-6.1%	10.1	B	15.3	B	0	660	180				
	WB	6	603	0	609	-10	-1.6%	20.7	C			0	2029	380				
	NB	17	0	6	23	1	4.3%	21.8	C			0	687	20				
Stinson Avenue	EB	51	434	96	581	-1	-0.2%	16.8	B	22.9	C	0	2029	160				
	WB	94	389	30	513	11	2.1%	30.8	C			4	673	400				
	SB	27	320	39	386	0	0.0%	24.4	C			0	670	160				
	NB	180	609	81	870	2	0.2%	21.9	C			0	700	280				

Meyer, Mohaddes Associates, Inc.
An Iteris Company

MEMORANDUM

TO: Mr. Philip Carlson, AICP
Senior Planner
300 First Avenue North, Suite 210
Minneapolis, MN 55401

FROM: Fred Dock

DATE: November 6, 2001

SUBJECT: Lowry Avenue Corridor Study
Parking Survey Findings J#: 17-J00-0073

This memorandum summarizes the results of an analysis of curb parking use in the Lowry Avenue Corridor. Curb or on-street parallel parking use was recently surveyed on a Tuesday (October 30, 2001) and a Saturday (November 3, 2001) to collect data about parking use patterns in the corridor. An inventory of available parking spaces and time limits was compiled on a block by block basis for each side of Lowry Avenue. Parking utilization surveys were conducted by walking the study area and recording the license plate numbers of vehicles parked at the curb every two hours between 7:00 A.M. and 1:00 P.M. Plate numbers were matched between time periods to determine how long a single vehicle occupied a space. The time periods were chosen to allow overnight parking to be estimated from the collected data and to capture the peak parking demand from commercial activity in the corridor. These demand patterns are those that recur daily and are most associated with residents, visitors, and employees along Lowry Avenue.

The survey periods do not cover Sunday morning and consequently do not capture peak parking demand associated with churches in the corridor. Church parking demand recurs weekly rather than daily and is focused on specific sites. As such, the Sunday morning parking condition was determined not to be representative of typical parking conditions and was not surveyed. From a management standpoint, Minneapolis has examples of the use of time-managed on street parking on arterial roads on Sunday mornings to meet church demand.

The information from the surveys has been used to determine parking occupancy levels and parking duration characteristics on a block-by-block basis.

cc: File

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- Parking occupancy is a measure of how many spaces or how much of the available supply is used on a regular basis.
- Average parking duration is used to quantify the demand for short-term versus long-term parking by land use type and to provide data on how the parking supply might be regulated.

Review of the block-by-block data shows many block faces with no or very little parking activity. To provide a meaningful interpretation of the data, the block data has been summarized by roadway segment. The segment boundaries have been chosen to correspond to changes in general land use patterns along the corridor, such that contiguous blocks of similar land use (residential, residential/commercial, commercial) are grouped together. Following is a discussion of the parking supply and demand patterns.

Parking Supply

On street parking along Lowry Avenue is controlled by signing rather than by meters. Consequently, the number of spaces per block face was calculated rather than counted. The typical length of a parking space (25 feet) was compared to the uninterrupted length of block face to determine the supply of spaces. Bus stops, driveways, and no parking zones were deducted from the available length of block face and an allowance for adequate clearance from driveways and intersections was also assumed. The net number of spaces available on a segment basis is shown in Table 1.

Table 14. Parking Supply

Segment	Total Spaces
Stinson-Central Ave	182
Central Ave-Washington St. NE	110
Washington St. NE-Marshall St	198
Marshall St-Colfax Ave	152
Colfax Ave-Penn Ave	236
Penn Ave-Xerxes Ave	146
Total	1,024

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cc: File

Parking Occupancy

The amount of total spaces occupied varies by time of day, day of week, and by segment as shown in the line graphs on the following page. The highest occupancy patterns were found in the segment from Stinson Boulevard to Central Avenue, where around 20% of the available spaces are used on a daily basis (slightly less on weekdays than on Saturdays). The other segments of the corridor showed very low occupancy. Most of these other segments have parking prohibited from 7:00 to 9:00 A.M., either in the westbound direction or both, which would depress the occupancy data in the early survey hours. However, the data shows less than 10% occupancy in the hours that parking is allowed for those same segments, with the exception of the segment from Central to Washington Street, where Saturday demand increases to about 20% in the middle of the day.

Note that on a block-by-block basis, as shown in the chart to the right, that 30% or fewer of the spaces are occupied on 95% of the blocks.

This pattern indicates that about three of the 60 blocks have demand for half or more of the available spaces on those blocks.