TRAVEL DEMAND MANAGEMENT PLAN

for the

GRAIN BELT BREWERY LOFTS

MINNEAPOLIS, MN

BIKO ASSOCIATES INCORPORATED

January 10, 2006

TRAVEL MANAGEMENT PLAN

for the

GRAIN BELT BREWERY LOFTS

Prepared for:
City of Minneapolis
Community Planning and Economic Development
350 South 5th Street
Minneapolis, Minnesota 55415

and

Sheridan Development Company, LLC
1221 West Lake Street, Suite 209
Minneapolis, Minnesota 55408

Prepared by:
Biko Associates, Inc.
79 13th Avenue Northeast
Studio 104
Minneapolis, MN 55413

January 10, 2006

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INTRODUCTION

PURPOSE

This report presents a Travel Demand Management Plan (TDMP) for the Grain Belt Brewery Lofts, a residential development proposed to be constructed in the southeast quadrant of the Marshall Street/13th Avenue intersection in northeast Minneapolis. The proposed development under evaluation in this report is Phase I of the Grain Belt Brewery Lofts project. Phases II through IV will be similarly evaluated in future TDMPs.

The TDMP is an element of the City's development review process. TDMPs are required for new developments to:

1. Identify potential traffic and parking impacts that may result from project implementation,
2. Identify opportunities for the developments' end-users to access alternative transportation modes, such as transit, bicycle and pedestrian facilities, and
3. Outline TDMP action steps the development's owners and/or property managers will follow to ensure that the completed project will contribute to the City's transportation goals (refer to Chapter 8 (Movement) of the *Minneapolis Plan*. The goals are that for a minimum of three days of week, a maximum of 50 percent of the residents will drive alone, 35 percent will use transit, and 15 percent will bike or walk.

With downtown Minneapolis presumed to be a major trip end for commuters who will reside at the development, one focus of the TDMP will be determining how Marshall Street and key intersections along Marshall Street will be impacted during the AM and PM peak hours. Another focus of the TDMP will be evaluating how the development will impact parking in the project area. The area where the development will be constructed is a burgeoning arts district in the city with galleries along 13th Avenue and where organized "art crawls" (promotional artists' exhibitions) are frequently scheduled to occur during the evening hours. Land uses adjacent to the proposed development include bars and restaurants that cater to arts patrons and the general public including workers in the area's office commercial uses and residents in the area's single family, duplex and multi-family residential uses.

REGIONAL AND SITE LOCATIONS

Regional Location

The development site is located in northeast Minneapolis on the east side of the Mississippi River and north of Broadway Street. This area of Minneapolis is located on the fringe of the downtown, central business district and is well served by regional and sub-regional transportation routes. Regional and sub-regional travel routes serving the project area are outlined below and illustrated on Figure 1.

- I-94, a Principal Arterial, which provides access to I-394 and I-694 two facilities that provide transportation service to the Twin Cities' western and northwestern suburbs.
- I-394, an east/west Principal Arterial, which provides access between downtown Minneapolis and the western suburbs.
- I-35W, a Principal Arterial that links the northern suburbs and the eastern edge of Minneapolis.
- Trunk Highway (TH) 47, aka University Avenue, a Minor Arterial that serves the northern suburbs and the Cities of Minneapolis and St. Paul.

- TH 65, aka Central Avenue, a Minor Arterial that operates as an Interregional Corridor, linking northern Minnesota and the Twin cities metropolitan area.
- County state Aid Highway (CSAH) 81, aka West Broadway Avenue, a Minor Arterial, which operates as a reliever to I-94 on the west side of the Mississippi River.
- CSAH 23, aka Marshall Street, a reliever to I-94 on the east side of the Mississippi River.

Site Location

Figure 2 shows the location of the site. It is bordered by 13th Avenue to the north, Marshall Street to the west, and Main Street to the east. A property line between the development site and Northeast Bank forms the southern boundary. Site preparation has included demolition of three single family homes and an industrial use. The three single family homes and the industrial use fronted on 13th Avenue. The industrial building's loading docks and parking lot were accessible via driveways on 13th Avenue. The parking lot was constructed on top of the foundation of the John Orth Brewery (circa 1850).

An existing multi-family building on the southwest corner of Main Street/13th will not be impacted by the proposed development.

Direct access to the proposed development will be accomplished via Marshall Street and 13th Avenue. Marshall Street becomes East River Road in Fridley, and East River Road becomes Coon Rapids Boulevard in Coon Rapids. This connectivity makes Marshall Street choice commuter route, as it is an alternative to I-94 and TH 252, which links the Cities of Anoka, Coon Rapids, and Fridley with work destinations in downtown Minneapolis.

Residents of the neighborhoods that abut Marshall Street, in recent years, have become active around the issue of speed control and driver behavior on Marshall Street between St. Anthony Parkway and Hennepin Avenue. Cooperating with County and City agencies, residents have posted temporary signs in these neighborhoods urging drivers to travel at 30 mph. Law enforcement along Marshall Street has been accelerated in conjunction with the signage.

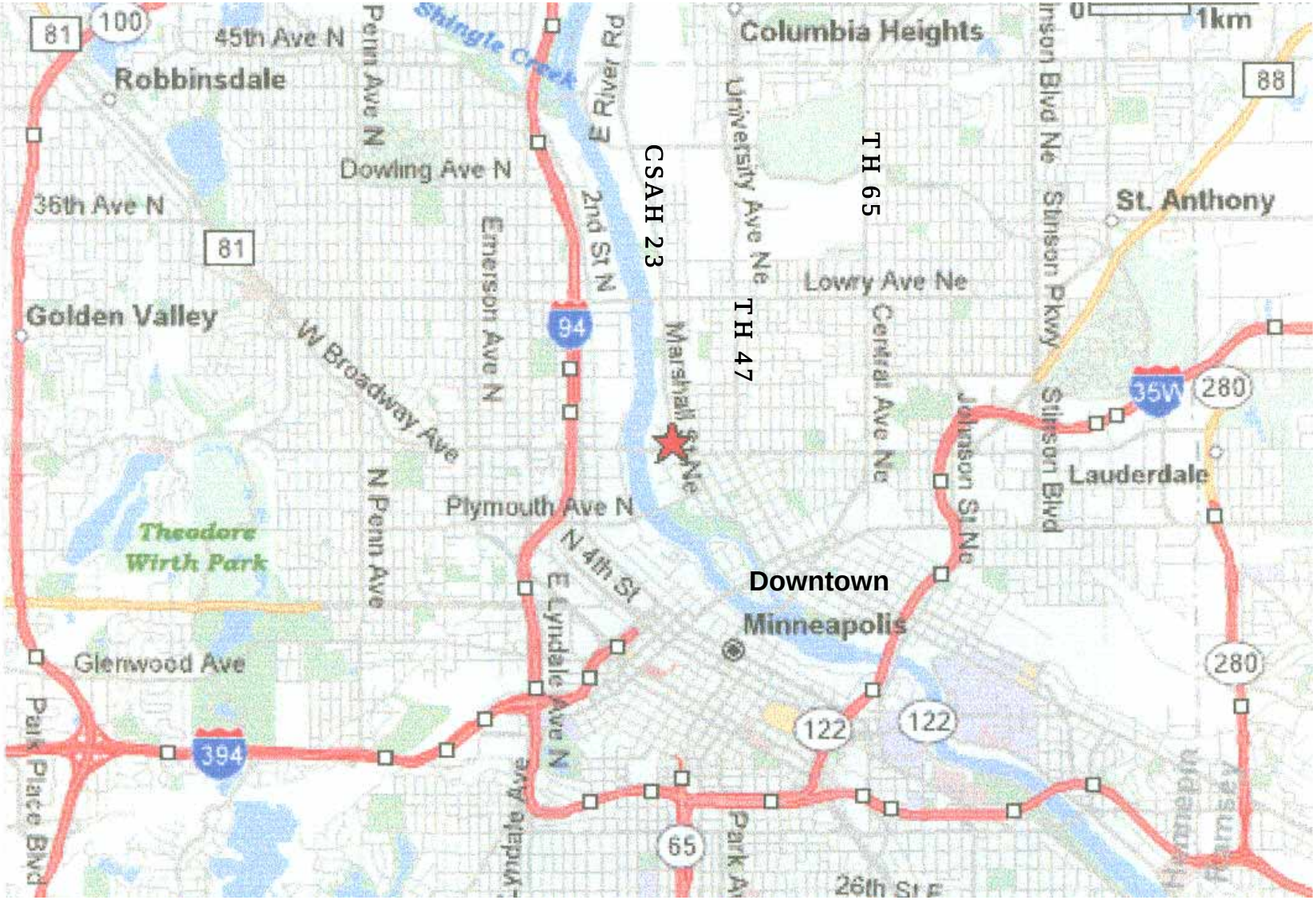
Marshall Street was re-striped in 2005, eliminating one travel lane in each direction. The resulting lane configuration consists of one northbound lane and one southbound lane for general traffic and two, 12-foot wide outside lanes. The outside lanes are for on-street parking and bicycle circulation. The outside lanes taper toward the curbs to indicate where on-street parking ends and where right-turn lanes and left-turn bypass lanes begin.

On-street parking is permitted along both sides of Marshall Street from 13th Avenue to the north. Restricted, on-street parking is permitted on the west side of Marshall Street, between Broadway and 13th Avenue. On-street parking is not allowed on the east side of Marshall Street between Broadway and 13th Avenue.

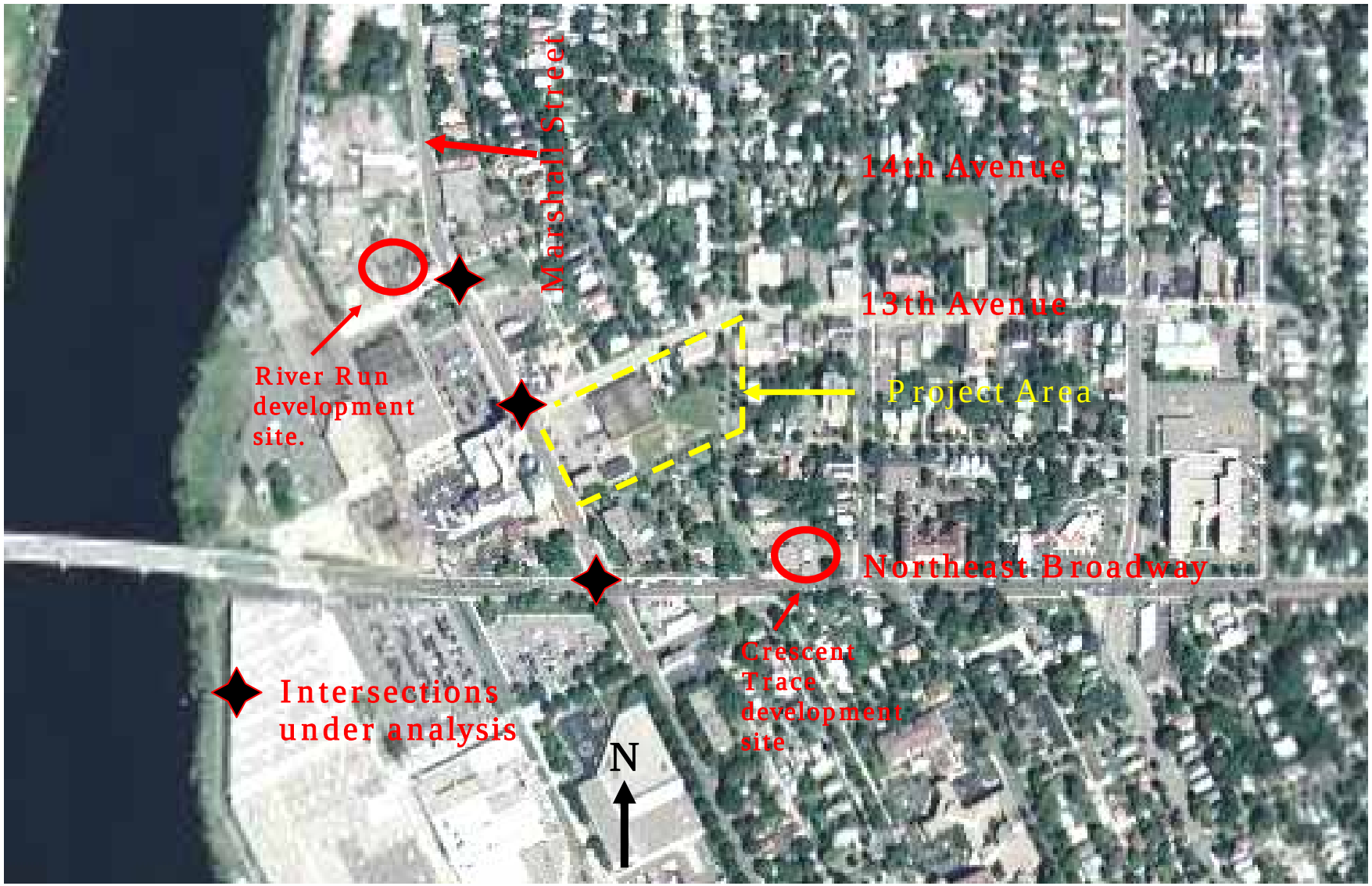
Adjacent Developments to be Implemented

Two residential developments within close proximity to the Grain Belt Brewery Lofts are currently being implemented. (See Figure 2 on page 4.) Traffic that will be generated by these two uses will be included in forecast 2009 No-Build traffic. The first of these is River Run, and the second is Crescent Trace.

River Run is currently under construction in the 1400 block of Marshall Street. It consists of 74 rental dwelling units and 11 single family townhomes. It will be ready for occupancy in 2006. Crescent Trace, to be completed in 2006, is a mixed-use development that includes 59 owner occupied units and three commercial uses totalling 6,780 SF. The development site, on the north side of Broadway Street, between Main Street and 2nd Avenues, is currently being cleared for construction.



Grain Belt Brewery Lofts **Travel Demand Management Plan**	Biko Associates, Inc	**Figure 1** **Regional Location**



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 2** **Phase I Site Location**

GRAIN BELT BREWERY LOFTS PHASE I SITE PLAN

The site plan for the proposed project is illustrated on Figure 3. As shown, four phases of development are proposed. This TDMP addresses the first development phase, which includes:

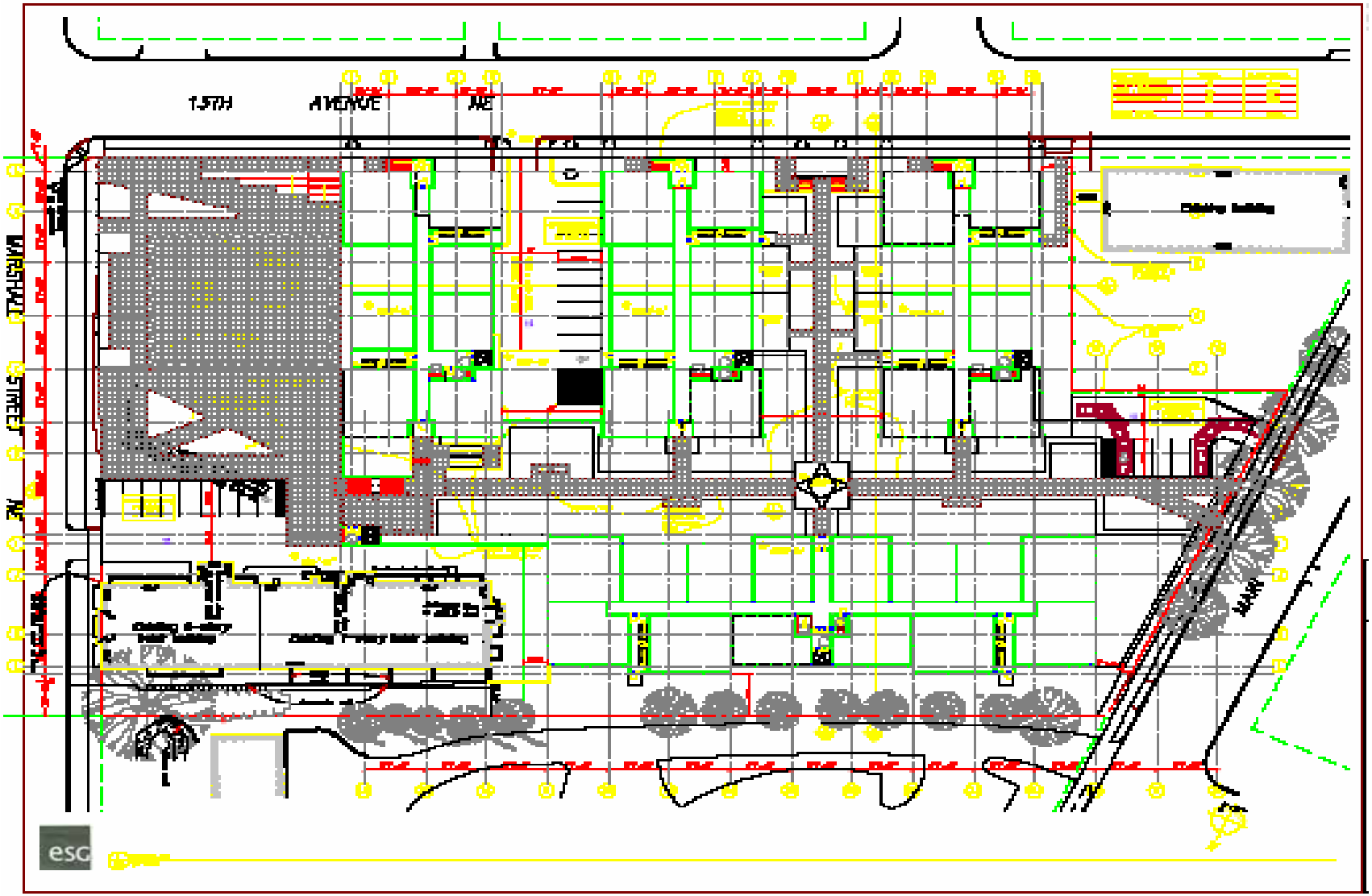
- 152 loft flats (dwelling units) in four buildings. Off-street parking supply, consisting of 152 stalls, will be provided beneath the buildings. The underground parking garage will be accessed via a driveway on 13th Avenue.

- Approximately 16,940 square feet of office space that will be located in the existing Grain Belt Brewery Office Building. Of the total area, approximately 9,100 square feet on the ground and second levels will actually be leased. The basement (7,260 square feet) and other areas in the existing office building (approximately 580 square feet) were constructed with structural column, ventilation shafts, and vaults and cannot be configured for office use, and leasing the space will not be practical.

- 6,039 gross square feet of ground-level retail shops. ESG, the architectural consultant, quantified the actual, usable retail square area at 5,439 square feet to 5,640 square feet, depending on the configuration of tenants and tenant-specific storage units. The difference between gross and usable square footage can be attributed to: a common hallway for all retail shops, two handicapped restrooms, and storage/stocking facilities. The building housing the retail uses will have four stories of residential uses on the second, third, fourth, and fifth floors.

- A total of 30 surface level parking stalls are indicated on the site plan. Sixteen of the surface parking stalls will be constructed on the sloped driveway providing access to the underground parking garage. Nine stalls are shown immediately north of the existing office building. Finally, five stalls are shown east of the easternmost residential building.

- Orth Brewery foundation, which exists today under asphalt. It will become an open plaza space as part of the project. Orth Plaza will be at the same elevation at a similar elevation as the entrances to the retail shops.



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 3** **Phase I Site Plan**

ANALYSIS OF EXISTING CONDITIONS

EXISTING TRAFFIC VOLUMES AND HISTORICAL TRAFFIC GROWTH RATES

Figure 4 shows the most current daily traffic volumes on roads and streets discussed above. These counts were taken by the City of Minneapolis in 2004. Comparison of the most current and historical traffic volumes taken by City in 1997, 2000, 2002, 2003, and 2004 indicate that daily traffic in the influence area of the proposed development is growing at annual rates of 0.25 percent to 3.0 percent. This annual growth rate is consistent with growth rates documented by the Metropolitan Council for developed areas in the City of Minneapolis.

EXISTING PEAK HOUR TURNING MOVEMENTS

Table 1 presents AM and PM peak hour turning movements for three intersections identified by the City for analysis in this report. While the TDMP considers daily, roadway traffic volumes, a greater level of attention is placed on intersection-specific, travel demand during the peak hours. There are two reasons for this focus on peak hour, intersection traffic.

1. Travel demand, within a 24-hour period, is at its highest points during the AM and PM peak hours, and the traffic study should focus on the worst case conditions in order to truly identify traffic impacts.

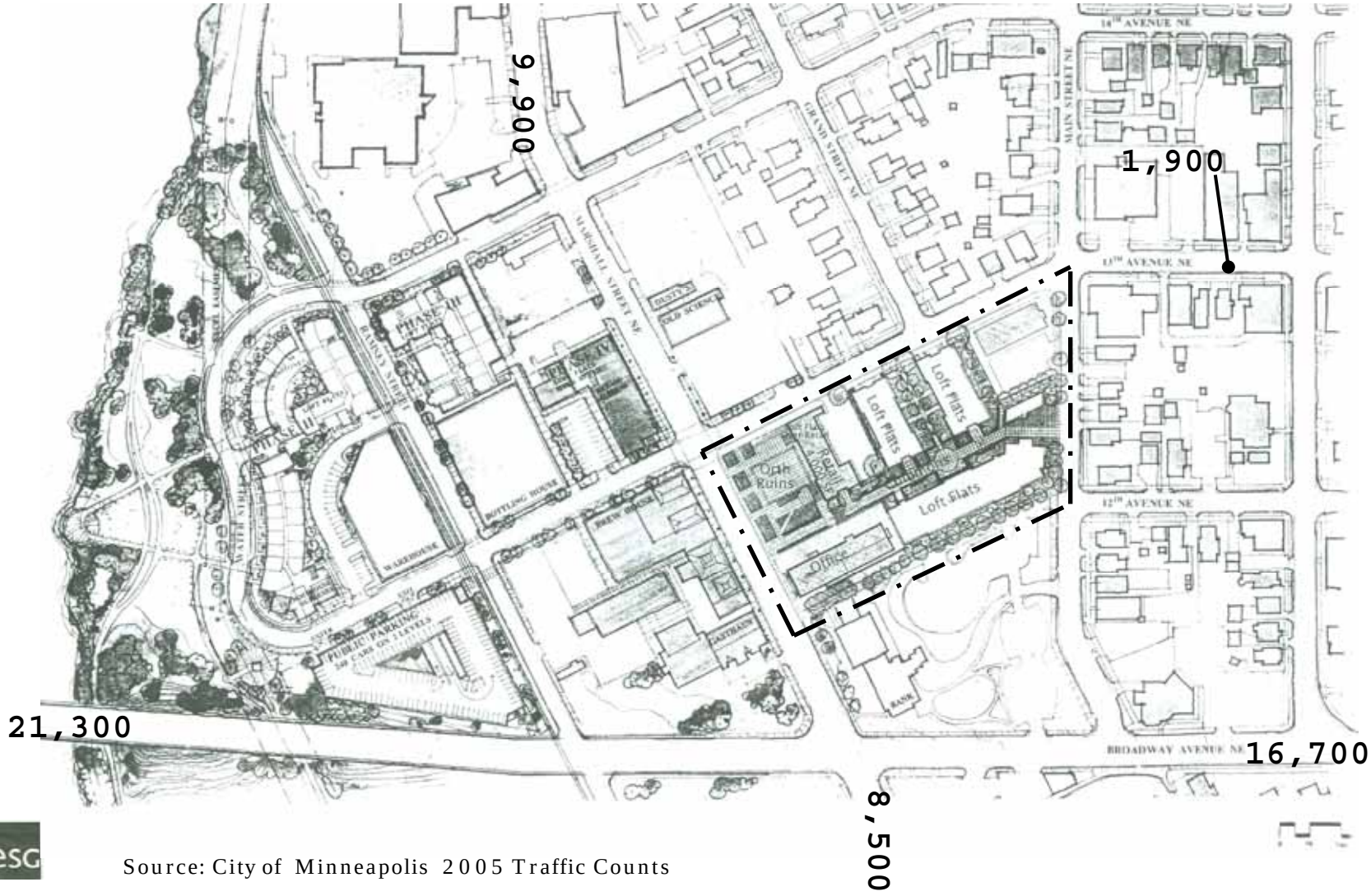
2. Intersections are pinch points where traffic flows are in conflict. Conflicting traffic flows are the chief cause of traffic delay and primary location where congestion occurs.

Figure 5 illustrates existing, AM and PM peak hour turning movements.

TABLE 1
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
EXISTING, BALANCED AM AND PM PEAK HOUR TURNING MOVEMENTS

	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
	Left	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**
14th/Marshall AM	3	926	0	2	0	2	6	418	2	0	0	1
14th/Marshall PM	5	267	0	8	28	4	1	715	3	1	15	4
13th/Marshall AM	21	890	18	36	12	8	52	406	20	7	1	11
13th/Marshall PM	17	279	3	56	7	27	18	671	45	21	13	59
Broadway/Marshall AM	52	813	72	24	658	37	30	282	26	154	786	63
Broadway/Marshall PM	27	260	107	23	804	39	87	539	14	156	477	44

Source: Turning movement counts taken in June 2005, Biko Associates, Inc.



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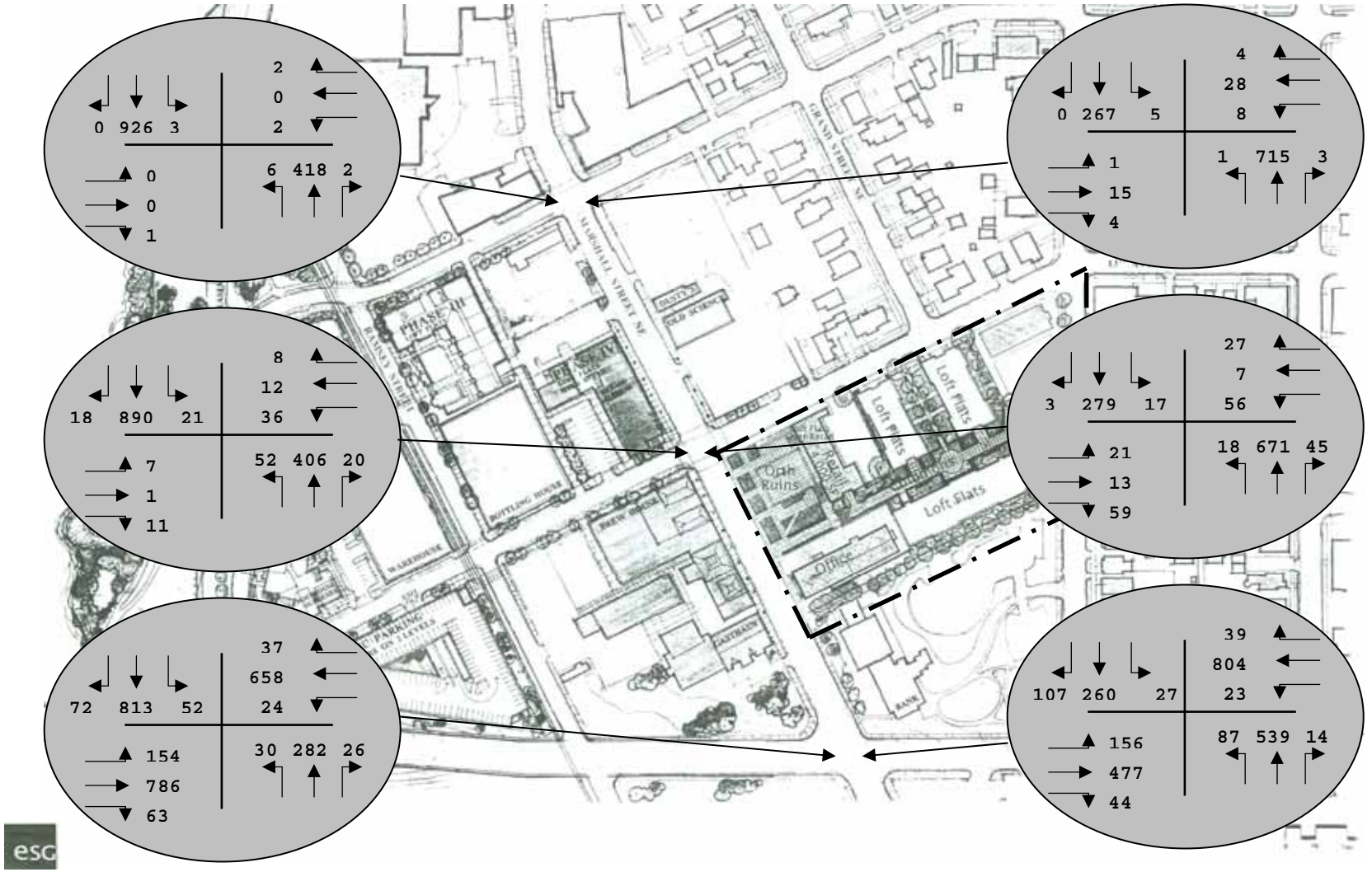
Source: City of Minneapolis 2005 Traffic Counts

Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 4** **Current Two-Way Daily Traffic**



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 5** **Existing AM and PM Peak Hour Turning Movements**

EXISTING INTERSECTION CAPACITY ANALYSIS

Analysis Inputs

Inputs in the intersection capacity analysis included:

- AM and PM peak hour turns shown above in Table 1 and illustrated on Figure 5 and
- existing traffic control devices at the intersections and intersection lane configurations shown in Table 2.

TABLE 2
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
EXISTING INTERSECTION LANE CONFIGURATION

Intersection	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
	Left	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**
14th/Marshall **()**	>	1	1	>	1	<	>	1	1	>	1	<
13th/Marshall **+**	>	1	1	>	1	<	>	1	1	>	1	<
Broadway/Marshall **+ +**	>	2	******	>	2	<	>	2	<	>	2	******

> : Left-turn lane is shared with adjacent through lane.
< : Right-turn lane is shared with adjacent through lane.
****** : Defacto right-turn lane
() : Unsignalized intersection with minor flow in the east/west direction.
+ : Signalized intersection
+ + : Signalized intersection with eastbound, left-turn signal phasing but no left-turn storage bay.
Source : Field reconnaissance conducted by Biko Associates, Inc.

Level of Service

Intersection capacity is a measurement of average vehicle delay and is rated in terms of Level of Service (LOS). LOS A, B, C, and D are acceptable operational conditions. LOS E and F, which represent long periods of average vehicle delay and congestion, are unacceptable during the majority of a 24-hour day.

By policy, the City of Minneapolis has identified LOS E as an acceptable condition for the AM and PM peak travel periods. An intersection that displays LOS E or LOS F operations during non-peak periods and LOS F operations during peak periods is identified for mitigation through: a) travel demand reduction strategies, b) improved intersection control devices (installation or modification of signage, installation of a traffic signal, or improved timing and/or phasing for an existing traffic signal), c) addition of turn lanes, or d) a combination of the three.

Table 3 presents results of the intersection capacity analysis for the existing condition. Computer printouts that detail results of the analysis can be found in the Appendix.

As shown in Table 3, each of the three intersections currently operates at acceptable, peak hour LOS, both for the AM and PM peak hours.

TABLE 3

GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
EXISTING AM AND PM PEAK HOUR INTERSECTION CAPACITY

Intersection	Overall LOS	Signal Timing (sec)	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
14th/Marshall AM	B	NA	A	A	A	D	C	D	A	A	A	D	C	D
14th/Marshall PM	B	NA	A	A	A	C	C	C	A	A	A	D	C	D
13th/Marshall AM	D	45	A	D	D	B	B	B	B	B	B	B	B	B
13th/Marshall PM	C	45	B	B	B	C	C	C	B	B	B	B	B	B
Broadway/ Marshall AM	E	70	D	D	D	E	D	D	B	B	B	D	E	D
Broadway/ Marshall PM	D	70	B	B	B	E	E	E	C	C	C	B	B	B

Source: Biko Associates, Inc., 9/25/05

ANALYSIS OF 2009 NO-BUILD CONDITIONS

INTRODUCTION

The No-Build analysis was conducted for the purpose of identifying traffic conditions within the influence area of the proposed development at a future time (Year 2009), where the proposed redevelopment has not been implemented. Moreover, the No-Build condition is a future extension of the existing condition where any growth in traffic volume would be attributed to the general growth in traffic and other factors not related to the proposed development. As such, the No-Build analysis can then used as a base condition, against which the Build condition can be evaluated. This approach to preparing traffic studies enables analysts and decision-makers to accurately evaluate the incremental traffic impacts of a proposed project.

Year 2009 was selected as the analysis forecast year for this traffic study in accordance with rules for preparing Environmental Assessment Worksheets. These rules state that traffic impacts should be evaluated to reflect conditions that will occur one-year after the proposed development's build-out. As the planning horizon for fully redeveloping the NCBD is 2008, forecast 2009 conditions will be evaluated for the No-Build and Build conditions in this traffic study.

FORECAST 2009 NO-BUILD DAILY TRAFFIC

Two significant residential developments, River Run and Crescent Trace, are currently being implemented within the influence area of the proposed Grain Belt Brewery Lofts development. Traffic generated by these two developments will be included in the 2009 No-Build analysis.

River Run is under construction on Marshall Street, just north of the proposed development. This project consists of 85 dwelling units; 74 rental apartment units and 11 for-sale townhomes.

The development site for Crescent Trace, located on Broadway Street between Main Street and 2nd Avenue, is currently being cleared for construction. Crescent Trace will consist of 59 owner occupied units (three of which are town homes) and three commercial condominiums.

Daily and peak hour trips calculated for these developments, which will be completed and open for before the Grain Belt Brewery Lofts will be constructed, are included in the No-Build analysis. Trip generation estimates for these two projects are detailed below:

- River Run daily traffic 550
- River Run AM inbound peak hour traffic 10
- River Run AM outbound peak hour traffic 40
- River Run PM inbound peak hour traffic 55
- River Run PM outbound peak hour traffic 20

- Crescent Trace daily traffic 780
- Crescent Trace AM inbound peak hour traffic 20
- Crescent Trace AM outbound peak hour traffic 30
- Crescent Trace PM inbound peak hour traffic 40
- Crescent Trace PM outbound peak hour traffic 35

Annual growth rates for background traffic within the project area are listed below. These were calculated

based on comparisons between daily traffic counts that were taken by the City of Minneapolis in 1997, 2000, 2002, 2003, 2004, and 2005. The growth factors were applied to existing traffic volumes that were counted for a 24-hour day and the AM and PM peak hours. After applying the growth factors, traffic that will be generated by the adjacent residential developments (River Run and Crescent Trace) was added to derive the 2009 forecast No-Build traffic volumes that are presented on Figures 6 and 7. AM and PM peak hour turning movements for the forecast No-Build condition are also presented in Table 4.

- Marshall Street 2.1 percent per year
- Broadway Avenue 3.0 percent per year
- 14th Street 1.0 percent per year

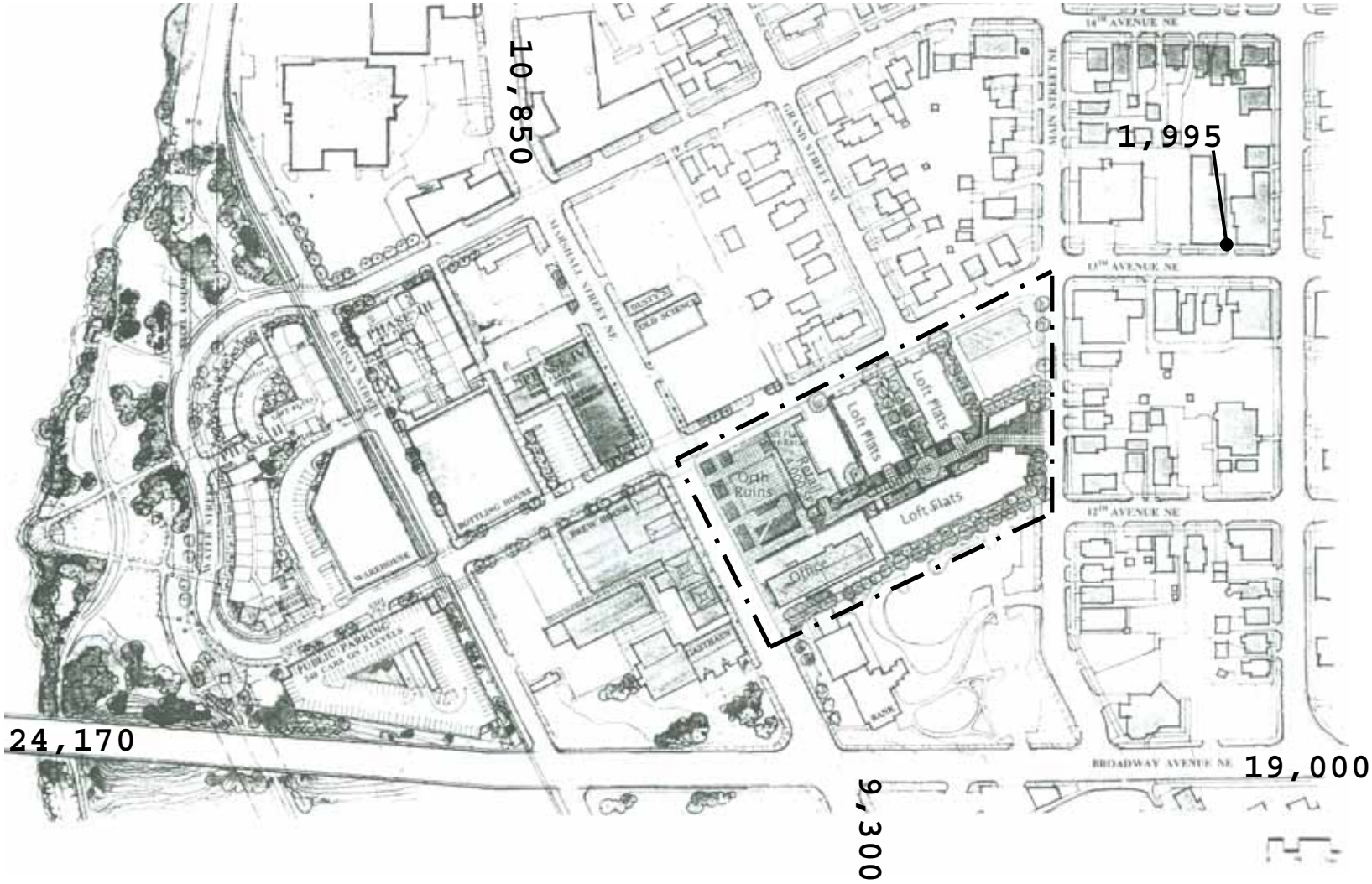
TABLE 4
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
FORECAST 2009 NO-BUILD AM AND PM PEAK HOUR TURNING MOVEMENTS

	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
	Left	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**
14th/Marshall AM	3	1006	2	2	0	2	15	454	2	7	0	34
14th/Marshall PM	14	290	0	8	29	4	47	777	3	4	16	21
13th/Marshall AM	24	999	20	40	13	9	57	449	22	8	1	12
13th/Marshall PM	19	319	3	62	8	32	20	773	49	23	14	66
Broadway/Marshall AM	69	889	92	27	756	45	33	307	28	177	895	71
Broadway/Marshall PM	35	286	123	26	922	60	95	595	15	195	557	50

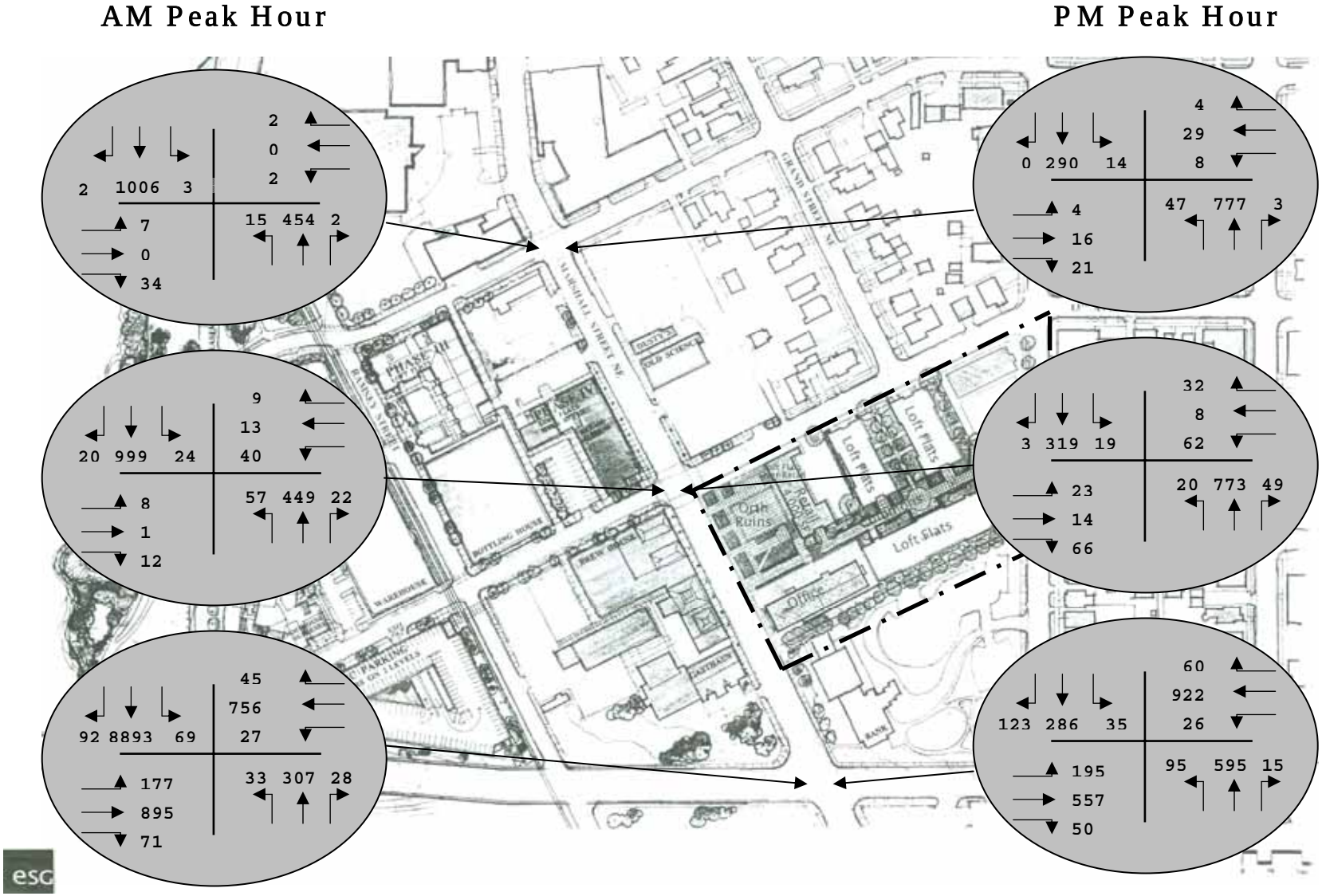
Source: Biko Associates, Inc.

FORECAST 2009 NO-BUILD INTERSECTION CAPACITY ANALYSIS

Results of the intersection capacity analysis are shown in Table 5. As shown, LOS for each of the three intersections remains acceptable for peak period operations.



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 6** **Forecast 2009 No-Build Two-Way Daily Traffic**



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 7** **Forecast 2009 No-Build AM and PM Peak Hour Turning Movements**

TABLE 5
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
FORECAST 2009 NO-BUILD AM AND PM PEAK HOUR INTERSECTION CAPACITY

Intersection	Overall LOS	Signal Timing (sec)	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
14th/Marshall AM	C	NA	A	A	A	D	D	D	A	A	A	D	D	D
14th/Marshall PM	D	NA	A	A	A	C	E	C	A	A	A	D	C	D
13th/Marshall AM	D	45	A	D	D	B	B	B	B	B	B	C	C	C
13th/Marshall PM	D	45	B	B	B	D	D	D	C	C	C	B	C	C
Broadway/ Marshall AM	E	70	E	E	D	E	D	D	C	C	C	C	C	C
Broadway/ Marshall PM	E	70	C	C	C	E	E	E	C	C	C	B	B	B

Source: Highway Capacity Manual analysis conducted by Biko Associates, Inc., 9/25/05.

ANALYSIS OF YEAR 2009 BUILD CONDITIONS

PROPOSED REDEVELOPMENT TRIP GENERATION

Gross and net trip generation estimates for the Grain Belt Brewery Lofts development are shown in Table 6. According to the Downtown Minneapolis Travel Demand Organization, more than 30 percent of downtown employees commute to work by alternative transportation modes (transit, bike, and walk). The trip generation estimate in Table 6 conservatively reflects this reduction in automobile travel through the "alternative mode allowance," which was applied to the gross trip estimate.

The proposed development is located in an area of Minneapolis that is well served with alternative travel facilities and services. Regular route transit service (Route 11) is provided on 2nd Street, just two blocks east of the proposed development. Route 11 serves downtown Minneapolis and destinations in south Minneapolis. It also is linked with routes that serve southeast Minneapolis and St. Paul.

As mentioned, Marshall Street, which forms the western border of the project area, has been striped to include northbound and southbound bicycle lanes. These bike lanes link the project area and downtown Minneapolis. Finally, the project area is within a 30-minute to 45-minute walk zone from downtown, and pathways (walking, biking, and skating) that are provided along the west bank of Mississippi are accessible from the project area.

Based on the project area's proximity to alternative transportation facilities and services, a conservative 20 percent pedestrian/bike/transit allowance was applied to the gross trip generation estimate to derive the adjusted, net trip estimate.

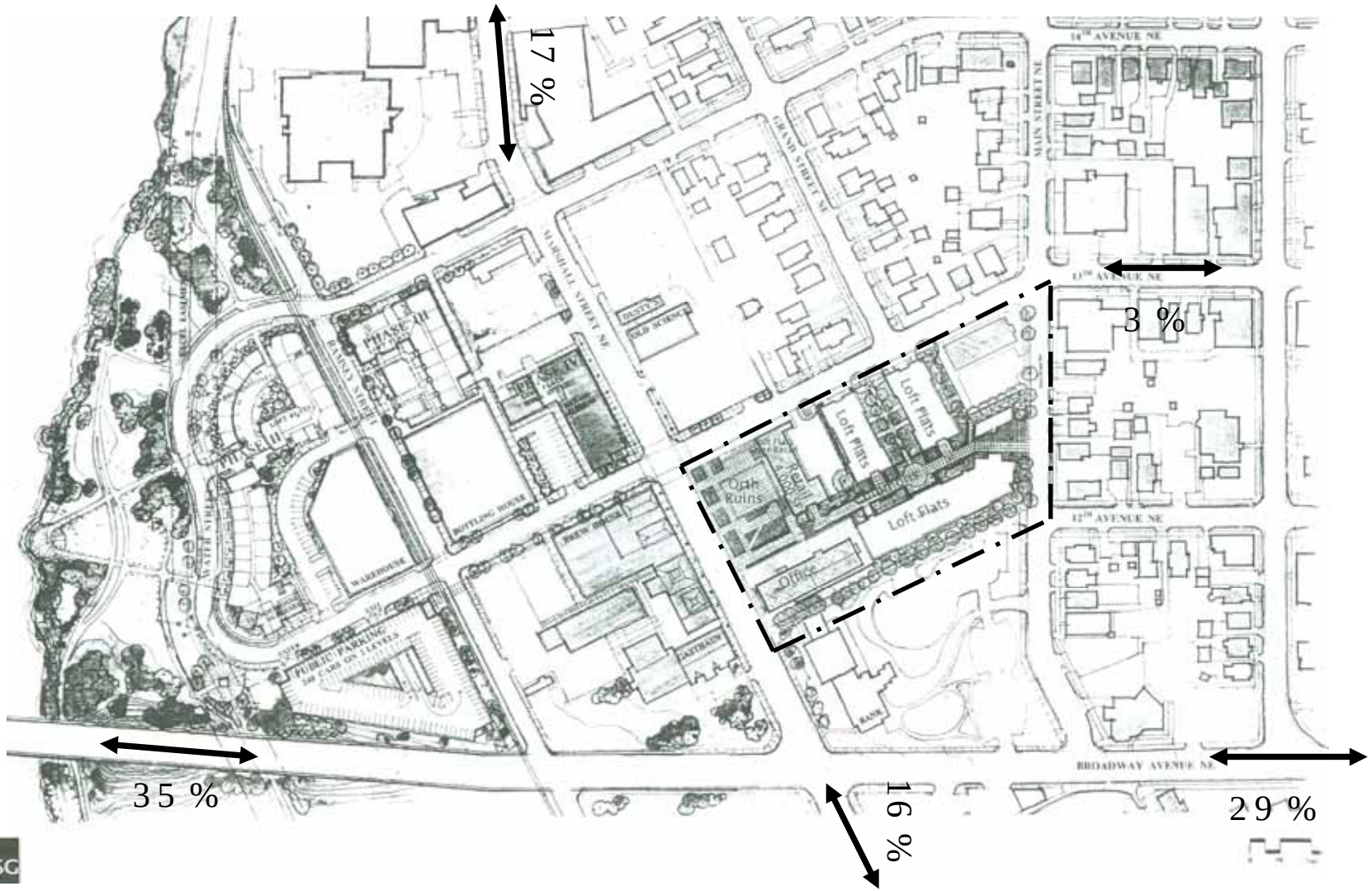
TABLE 6
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
TRIP GENERATION ESTIMATE

Redevelopment Block/ Proposed Land Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
152 condominium dwelling units	640	10	40	50	40	20	60
6,039 square feet of retail	150	15	5	20	15	70	85
9,500 square feet of office	380	10	5	15	10	15	25
Gross Trip Generation Estimate	1,170	35	50	85	65	105	170
Alternative Mode Allowance	(234)	(7)	(10)	(17)	(13)	(21)	(34)
Net Trip Generation Estimate	936	28	40	68	52	84	136

Source: *Trip Generation 6th Editions*, Institute of Transportation Engineers
Biko Associates, Inc.; 9/19/05.

PROPOSED REDEVELOPMENT TRIP DISTRIBUTION

Trip distribution for the proposed redevelopment was calculated based on the distribution of PM peak hour turns approaching and departing the intersections under analysis. An additional input in the determination of trip distribution was daily traffic volumes identified on Figure 6. Trip distribution is illustrated on Figure 8.



Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 8** **Trip Distribution**

PROPOSED REDEVELOPMENT TRAFFIC ASSIGNMENTS

Traffic that will be generated by the proposed redevelopment was assigned to streets and intersections based on the trip distribution percentages discussed above. Table 7 details the resulting PM peak hour turning movements forecast to occur under the Build condition. These turning movements are illustrated on Figure 9.

Figure 10 shows the daily traffic assignments that are forecast to occur in 2009 under the build condition.

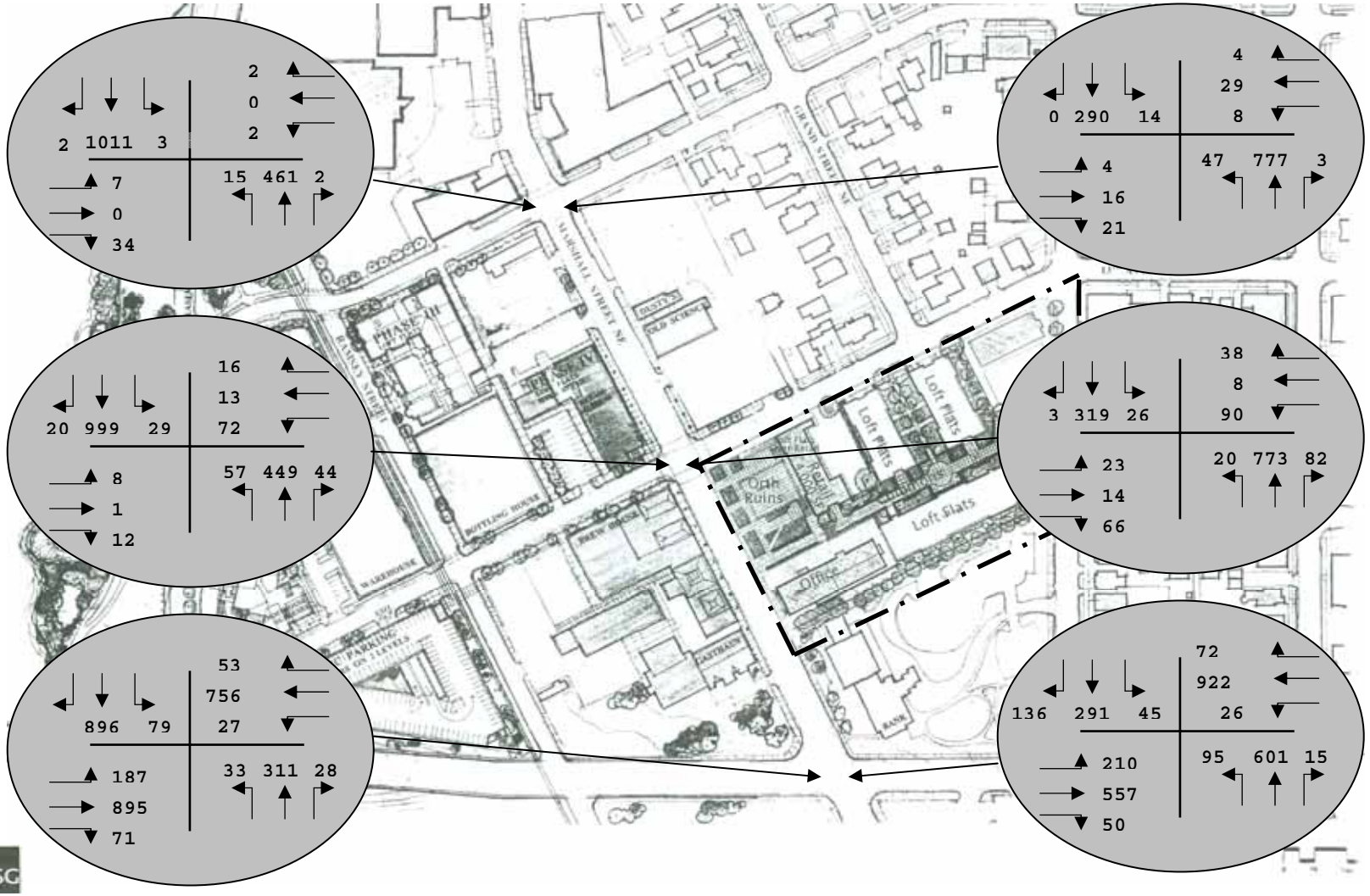
TABLE 7
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
FORECAST 2009 BUILD AM AND PM PEAK HOUR TURNING MOVEMENTS

	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
	Left	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**
14th/Marshall AM	3	1011	2	2	0	2	15	461	2	7	0	34
14th/Marshall PM	14	290	0	8	29	4	47	777	3	4	16	21
13th/Marshall AM	29	999	20	72	13	16	57	449	44	8	1	12
13th/Marshall PM	26	319	3	90	8	38	20	773	82	23	14	66
Broadway/Marshall AM	79	896	107	27	756	53	33	311	28	187	895	71
Broadway/Marshall PM	45	291	136	26	922	72	95	601	15	210	557	50

Source: Biko Associates, Inc.

FORECAST 2009 BUILD INTERSECTION CAPACITY ANALYSIS

Table 8 shows results of the intersection capacity analysis that was conducted for the 2009 forecast Build condition. As shown, the addition of site-generated traffic will not negatively affect intersection operations, when compared to the No-Build condition. Existing traffic control devices will continue to regulate the flow of traffic at acceptable levels of operation.

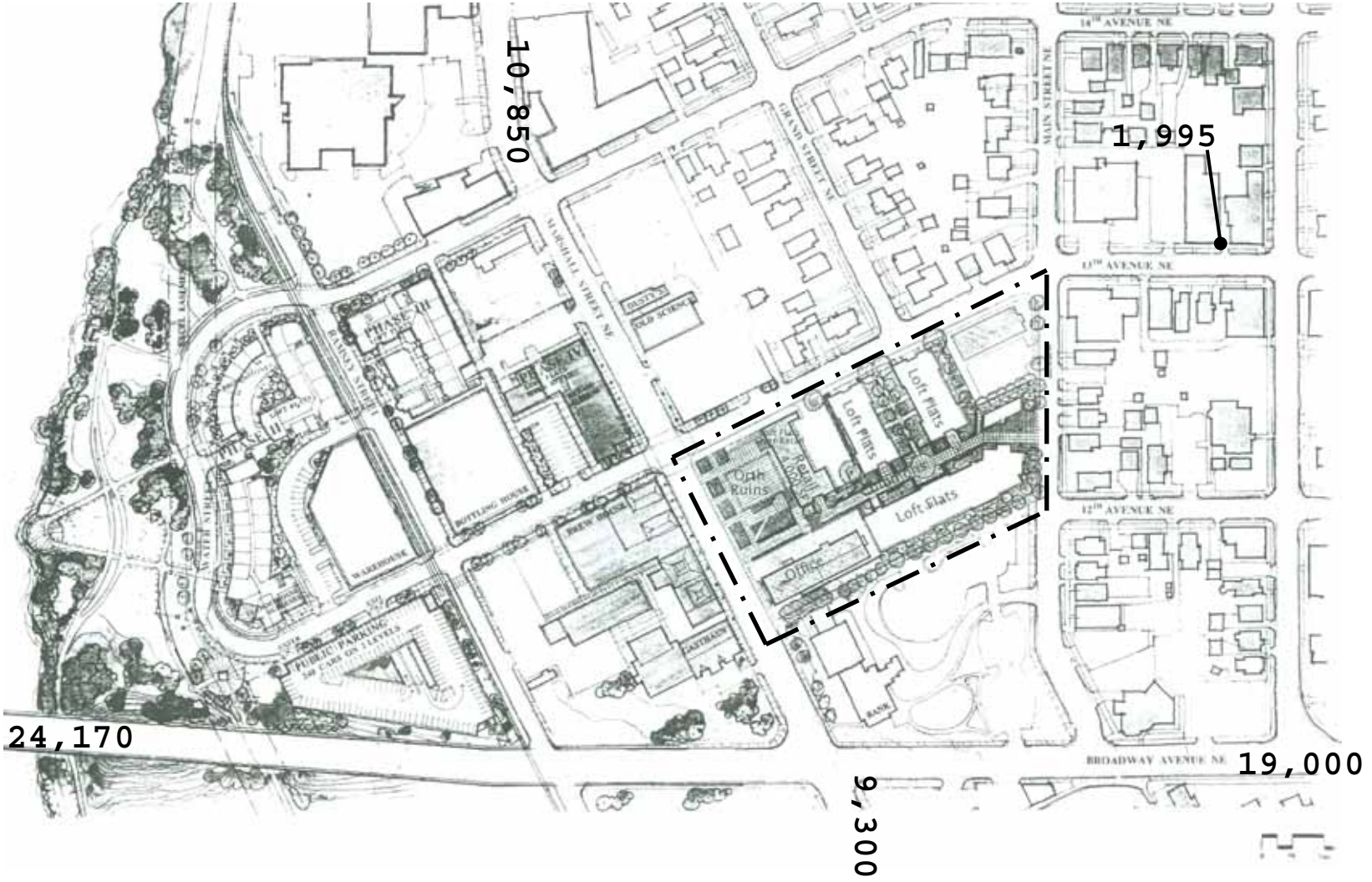


Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 9** **Forecast 2009 Build AM and PM Peak Hour Turning Movements**

TABLE 8
GRAIN BELT BREWERY LOFTS TRAVEL DEMAND MANAGEMENT PLAN
FORECAST 2009 BUILD AM AND PM PEAK HOUR INTERSECTION CAPACITY

Intersection	Overall LOS	Signal Timing (sec)	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach		
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
14th/Marshall AM	C	NA	A	A	A	D	D	D	A	A	A	D	D	D
14th/Marshall PM	D	NA	A	A	A	C	E	D	A	A	A	D	D	D
13th/Marshall AM	E	45	B	D	D	E	D	D	B	B	B	C	C	D
13th/Marshall PM	D	45	C	C	C	D	D	D	C	C	D	C	C	C
Broadway/ Marshall AM	E	70	E	E	D	E	E	D	D	C	C	D	C	C
Broadway/ Marshall PM	E	70	C	C	C	E	E	E	D	C	C	B	B	B

Source: Highway Capacity Manual analysis conducted by Biko Associates, Inc., 9/25/05.



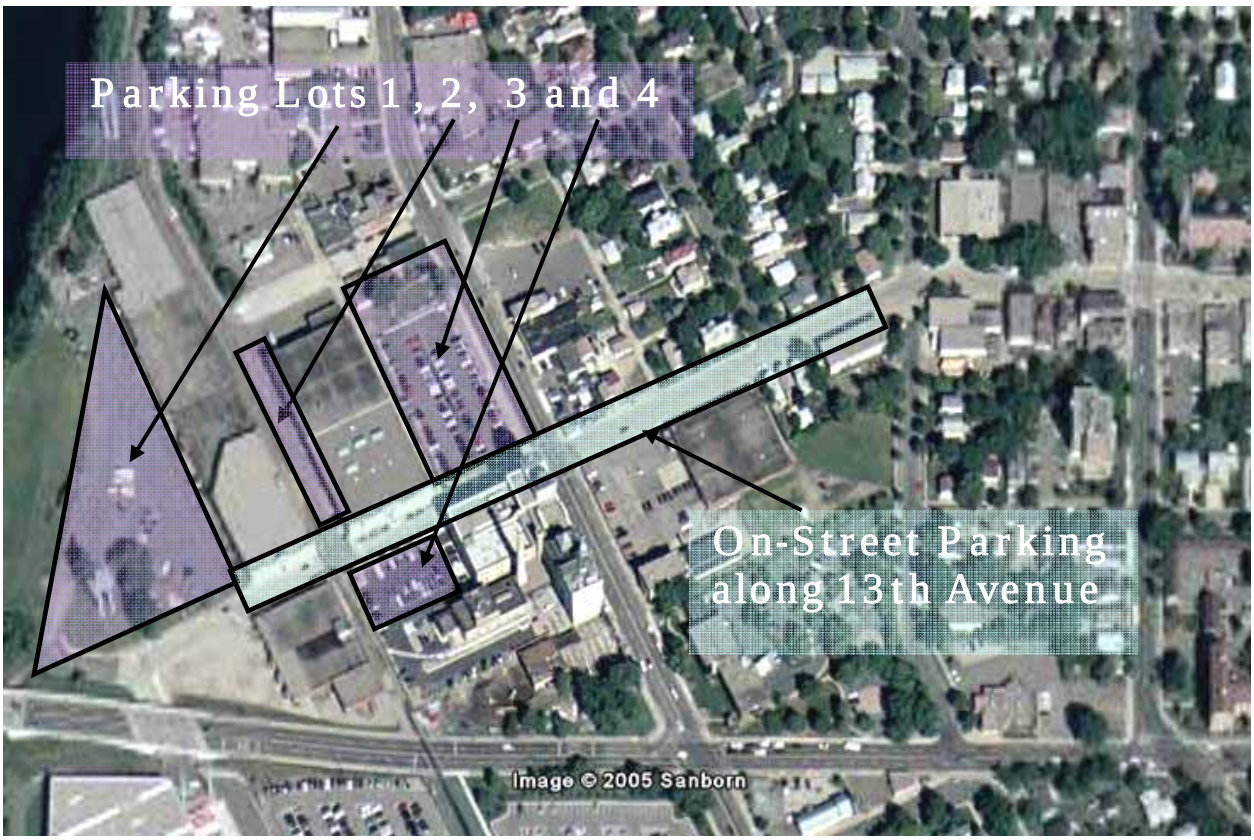
Grain Belt Brewery Lofts **Travel Demand Management Plan**	**Biko Associates, Inc**	**Figure 10** **Forecast 2009 Build Two-Way Daily Traffic**

PARKING CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

EXISTING SUPPLY AND DEMAND

Residents in the Sheridan neighborhood have expressed concern that development at the intersection of 13th Avenue/Marshall Street could possibly result in parking issues that impact the ability of residents to park in front of their houses. On-street parking is allowed along Marshall Street within the proposed development's influence area and along 13th Avenue as well. On-street parking along 13th Avenue serves both residential and business needs. *"135 supply in Lot 1……75 reserved for Art Space tenenats."*

A parking supply and occupancy inventory was conducted in the proposed development's influence area to identify any existing parking issues. The inventory was conducted in September and October 2005 and included the parking lots and streets identified on the map below:



The inventory identified the following parking supply (off-street stalls and on-street spaces):

- Parking Lot 1 135
- Parking Lot 2 25
- Parking Lot 3 121
- Parking Lot 4 52
- 13th Avenue west of Marshall 56
- 13th Avenue east of Marshall 39

Table 9 presents results of the parking occupancy inventory.

TABLE 9
PARKING OCCUPANCY INVENTORY
(Actual / Percent Occupied)

Location	8 AM	Noon	2 PM	4 PM
Wednesday, September 21				
Parking Lot 1	23 / 26 %	30 / 33 %	31 / 34 %	30 / 33 %
Parking Lot 2	5 / 20 %	5 / 20 %	4 / 16 %	5 / 20 %
Parking Lot 3	88 / 73 %	89 / 74 %	106 / 88 %	85 / 70 %
Parking Lot 4	39 / 75 %	45 / 87 %	31 / 60 %	31 / 60 %
13th Avenue west of Marshall	39 / 70 %	48 / 86 %	40 / 71 %	35 / 63 %
13th Avenue East of Marshall	3 / 8 %	3 / 8 %	4 / 10 %	2 / 5 %
Thursday, September 22				
Parking Lot 1	18 / 20 %	30 / 33 %	29 / 32 %	27 / 30 %
Parking Lot 2	6 / 24 %	7 / 28 %	3 / 12 %	5 / 20 %
Parking Lot 3	83 / 69 %	83 / 69 %	96 / 79 %	94 / 78 %
Parking Lot 4	41 / 79 %	46 / 88 %	39 / 75 %	37 / 71 %
13th Avenue west of Marshall	27 / 48 %	41 / 73 %	40 / 71 %	43 / 77 %
13th Avenue East of Marshall	0 / 0 %	3 / 8 %	0 / 0 %	0 / 0 %
Wednesday, October 5				
Parking Lot 1	20 / 22 %	31 / 34 %	31 / 34 %	28 / 31 %
Parking Lot 2	5 / 20 %	7 / 28 %	7 / 28 %	6 / 24 %
Parking Lot 3	81 / 67 %	84 / 69 %	98 / 81 %	82 / 68 %
Parking Lot 4	35 / 67 %	36 / 69 %	44 / 85 %	36 / 69 %
13th Avenue west of Marshall	31 / 55 %	41 / 73 %	38 / 69 %	42 / 75 %
13th Avenue East of Marshall	2 / 5 %	3 / 8 %	1 / 3 %	2 / 5 %
Thursday, October 6				
Parking Lot 1	22 / 24 %	31 / 34 %	30 / 33 %	28 / 31 %
Parking Lot 2	6 / 24 %	3 / 12 %	3 / 12 %	3 / 12 %
Parking Lot 3	82 / 68 %	86 / 71 %	101 / 83 %	91 / 75 %
Parking Lot 4	40 / 77 %	44 / 85 %	36 / 69 %	32 / 62 %
13th Avenue west of Marshall	37 / 66 %	48 / 86 %	45 / 80 %	39 / 70 %
13th Avenue East of Marshall	2 / 5 %	4 / 10 %	2 / 5 %	3 / 8 %

Source: Biko Associates, Inc., September and October, 2005.

The data show that all the surface lots have available capacity. Of these, Parking Lot 3 is the surface lot with the highest level of utilization and the least available capacity. Parking Lot 3 is the designated parking lot for RSP Architects, which is located in the historic Grain Belt Brewery Building. Parking utilization in Parking Lot 3 consistently ranged between 67 percent in the morning and 88 percent in the mid-afternoon.

Parking Lot 1, located behind the Grain Belt Brewery Warehouse Building, is used almost exclusively by

tenants in the Warehouse Building, and Parking Lot 2 is used by tenants in the Grain Belt Brewery Bottling Building. Neither of these lots is near reaching full utilization. Parking Lot 4 is used exclusively by tenants in the Keg House Building.

The supply of on-street parking on 13th Avenue, on the west side of Marshall Street, is only 56 spaces. These spaces are typically in use by tenants in the Grain Belt Brewery Bottling House. Utilization of these spaces ranged between 48 percent and 55 percent in the morning. During the afternoon hours, utilization of these spaces ranged between 70 percent and 86 percent.

The analysis shows that parking demand for Grain Belt Brewery uses (main Brewery Building, Bottling Building, and Keg House, and Warehouse Building) is currently being satisfied by the combined supply of off-street stalls and on-street spaces. It was never observed during the parking occupancy inventory, that any parkers destined for these uses parked on 13th Avenue on the east side of Marshall Street.

CITY OF MINNEAPOLIS PARKING REQUIREMENTS

The proposed Phase I development will include a total of 182 off-street parking stalls consisting of:

- 152 stalls for 152 dwelling units @ 1.00 stalls per dwelling unit;
- 9 stalls for 5,439 usable square feet of retail @ 1.65 stalls per 1,000 square feet; and
- 21 stalls for 9,100 square feet of office @ 2.31 stalls per 1,000 square feet.

The proposed residential, retail, and commercial parking supplies meet City of Minneapolis parking requirements, as stated in the Municipal Code. For residential uses, the Code specifies 1.00 space per dwelling unit.

According to the Code, a minimum of four parking stalls is required for retail uses that sell over-the-counter goods. Assuming this minimum, the number of additionally required stalls is calculated by subtracting 4,000 square feet from the total area and allocating one parking stall for each 300 square feet, above 4,000 square feet. Application of this methodology indicates a total parking supply of 9 (4 plus 5) stalls for the retail uses.

The Code specifies the same methodology for calculating the required parking supply for office uses. Based on the methodology, a total of 21 (4 plus 17) stalls should be provided for the office use.

BICYCLE PARKING

On site bicycle storage will be an enclosed area at the north and east ends of the underground parking garage, near the owners' storage units. A total of 65 bicycle parking spaces will be provided in 13 bike racks that each accommodate five bicycles. The owners of the bicycles will be responsible for securing their bikes to the racks. The proposed bicycle parking ratio is 0.41 stalls per dwelling unit.

CONCLUSIONS

RECOMMENDATION

It is recommended that the City approve the Travel Demand Management Plan for the Grain Belt Brewery Lofts. The recommendation is based on the following:

1. A Traffic Impact Analysis showed that the proposed development will not negatively impact traffic operations at three intersections that will directly serve the site. The three intersections and traffic control devices are:

   - 14th Avenue/Marshall Street (STOP sign)
   - 13th Avenue/Marshall Street (traffic signal)
   - Broadway Street/Marshall Street (traffic signal)

   Intersection control devices, which provide for acceptable peak hour LOS under existing conditions, will accommodate forecast 2009 No-Build and Build travel demand at acceptable LOS.

2. A trip generation analysis showed that the proposed development will generate a moderate volume of trips. A 20 percent alternative mode allowance was applied to the gross trip generation to account for the availability of:

   - a transit route on 2nd Avenue, which is one block away from the proposed development;
   - bicycle paths, which are located on Marshall Street and along West River Road; and
   - sidewalks along Marshall Street.

   These facilities and services effectively link the proposed development and downtown Minneapolis, which will be a major destination for the residents.

3. The parking supply proposed for the residential, retail, and office commercial components of the development meets City of Minneapolis requirements. According to the Municipal Code, 152 parking stalls would be required for 152 dwelling units, 11 stalls would be required for 5,439 square feet of retail, and 21 stalls would be provided for 9,100 square feet of office use.

4. The proposed development includes 152 stalls in an underground garage for residents. A total of 30 surface stalls are proposed for the remaining retail and office commercial uses.

5. Sixty-five (65), secured bicycle parking spaces will be provided in the underground parking garage, representing a parking ratio of 0.41 spaces per dwelling unit.

TRAVEL DEMAND MANAGEMENT PLAN

The following Travel Demand Management Plan presents action steps for management at Grain Belt Brewery Lofts (Phase I).

1. The management team will support bicycle transportation by providing bicycle racks in the underground parking garages. A minimum of 65 bike parking spaces (in the racks) will be provided. If there is more demand for bike parking, the management team will provide bike racks to meet demand; first, utilizing undersized parking stalls and areas under the stairs in the underground parking garages, and secondly, at-grade.

   The management team will further support bicycle use by providing residents with maps of bicycle routes, facilities, and services.

2. The management team will support transit use by providing information on transit services to residents in Welcome Packets. The packets shall be distributed to residents when they move in and shall include information on:
   - Transit routes and schedules
   - Guaranteed Ride Home (GRH) program sponsored by Metro Commuter Services
   - Forming and joining car-pool programs
   - High Occupancy Vehicle (HOV) facilities
   - New employee incentives to ride the bus
   - Metro Mobility

   In addition to distributing this information in Welcome Packets, the management team will maintain this information in packets in conspicuous locations in the lobby of each of the four residential buildings.

3. The management team will facilitate the sharing of parking stalls for the proposed retail and office uses by directing employees of the office use to park in the 16 stalls provided for the retail uses. These stalls are proposed to be located along the ramp from 13th Avenue to the underground parking garage.

SIGNATURE PAGE

Sheridan Development Company. LLC

Dated: _____

By: _____

Its: _____

City of Minneapolis Planning Department

Dated: _____

By: _____

Its: _____

City of Minneapolis Public Works Department

Dated: _____

By: _____

Its: _____

APPENDIX

I. 2005 Existing Intersection Capacity Analysis Computer Printouts

II. 2009 Forecast No-Build Intersection Capacity Analysis Computer Printouts

III. 2009 Forecast Build Intersection Capacity Analysis Computer Printouts