

Traffic Impact Study

# **Parkside Stage 2 PUD: Parkside Health Care Center**

Washington, DC

**May 10, 2010**

**Prepared For:**  
District of Columbia Primary Care Association (DCPCA)

**Prepared By:**

Gorove/Slade  
Associates, Inc.





**GOROVE/SLADE ASSOCIATES, INC.**  
*Transportation, Traffic and Parking*

**PREPARED BY:**

Gorove/Slade Associates, Inc.  
1140 Connecticut Avenue  
Suite 600  
Washington, DC 20036

Tel: 202.296.8625  
Fax: 202.785.1276

**ADDITIONAL OFFICES:**

3914 Centreville Road  
Suite 330  
Chantilly, VA 20151

Tel: 703.787.9595  
Fax: 703.787.9905

7001 Heritage Village Plaza  
Suite 220  
Gainesville, VA 20155

Tel: 703.787.9595  
Fax: 703.787.9905

[www.goroveslade.com](http://www.goroveslade.com)

*This document, together with the concepts and designs presented herein, as an instrument of services, is intended for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization by Gorove/Slade Associates, Inc., shall be without liability to Gorove/Slade Associates, Inc.*



## TABLE OF CONTENTS

|                                                                        |     |
|------------------------------------------------------------------------|-----|
| List of Figures-----                                                   | ii  |
| List of Tables -----                                                   | ii  |
| Executive Summary -----                                                | iii |
| Introduction -----                                                     | 1   |
| Existing Transit -----                                                 | 2   |
| Study Methodology -----                                                | 4   |
| Baseline Traffic Conditions -----                                      | 4   |
| Site Access and Existing Road Network -----                            | 4   |
| Baseline Conditions Capacity Analysis -----                            | 5   |
| Future Background Conditions -----                                     | 11  |
| Traffic Growth -----                                                   | 11  |
| Future Background Traffic Forecast and Capacity Analysis -----         | 11  |
| Total Future Traffic Conditions with parkside Health Care center ----- | 13  |
| Site Plan Review -----                                                 | 13  |
| Loading -----                                                          | 13  |
| Site Trip Generation -----                                             | 13  |
| Trip Reductions -----                                                  | 15  |
| Site Trip Distribution -----                                           | 16  |
| Total Future Conditions Capacity Analysis -----                        | 16  |
| Transportation management Plan -----                                   | 21  |
| Conclusions -----                                                      | 23  |



## LIST OF FIGURES

|                                                                                                |    |
|------------------------------------------------------------------------------------------------|----|
| Figure 1 Site Location Map .....                                                               | 2  |
| Figure 2 Existing Transit Services .....                                                       | 3  |
| Figure 3 Existing Lane Configurations .....                                                    | 7  |
| Figure 4 Nannie Helen Burroughs Ave and Kenilworth Ave (SB)/Kenilworth Terrace Reconfiguration | 8  |
| Figure 5 Baseline Traffic Peak Hour Volumes .....                                              | 9  |
| Figure 6 Future Background Traffic Peak Hour Volumes .....                                     | 12 |
| Figure 7 Site Plan of Ground Floor .....                                                       | 14 |
| Figure 8 Regional Directional Distribution and Key Study Intersections .....                   | 17 |
| Figure 9 Parkside Health Care Center Generated Peak Hour Traffic Volumes .....                 | 18 |
| Figure 10 Total Future Peak Hour Traffic Volumes .....                                         | 19 |

## LIST OF TABLES

|                                                                            |    |
|----------------------------------------------------------------------------|----|
| Table 1 –Baseline Conditions Capacity Analysis Results .....               | 10 |
| Table 2 – Parkside Health Care Center Trip Generation .....                | 15 |
| Table 3 – Background and Future Capacity Analysis Results Comparison ..... | 20 |



## EXECUTIVE SUMMARY

The following report presents the findings of a traffic impact analysis for a second stage Planned Unit Development (PUD) application for the Parkside development ("Parkside") in northeast Washington, DC. Parkside is located in Ward 7, east of the Anacostia River, in Northeast Washington DC, and is bounded by Kenilworth Terrace, NE, Kenilworth Avenue, NE, Hayes Street, NE, and Foote Street, NE. The property is being developed under a Master Plan and is presently subdivided into twelve parcels (numbered 1 through 12) of various sizes and configurations. This traffic impact analysis supports the Stage 2 PUD application for Parkside Health Care Center as a partial build out of Parcel 12 that is planned to consist of a 43,784 GSF Primary Care Facility (which includes 9,554 SF of parking area) on 20,029 SF of land area and 85 surface parking spaces (12 enclosed within the facility and 73 secured in an immediately adjacent approximately 24,240 SF temporary surface lot).

The mixed use nature of Parkside and its proximity to Metrorail, which is supported with an existing and a planned pedestrian bridge connection between the Parkside development and the Minnesota Avenue Metrorail Station, makes Parkside a Transit Oriented Development (TOD) that would encourage multimodal traffic and reduce auto dependence in the community. To support this further and influence the mode choice of employees and visitors of the Parkside Health Care Center, a Transportation Management Plan has been proposed as part of this development.

The Stage 1 PUD traffic impact study (covering all 12 parcels in Parkside) was submitted in August 2005 and reviewed by DDOT. The approved traffic study formed part of the PUD submission to the Zoning Commission (Z.C. Case No. 05-28), which was granted approval conditioned upon a requirement that a revised and updated traffic impact analysis be submitted prior to second-stage approval of each proposed development of the PUD (Z.C. order 05-28, Condition No.10). This traffic study serves to comply with that Zoning Commission Order in support of the second stage PUD application for the Parkside Health Care Center on Parcel 12.

The traffic capacity analyses of the roadway intersections detailed in the study found the following conclusions:

*Baseline Conditions (Based on Total Future Conditions of previous Stage 2 Traffic Study Z.C. Case No. 05-28A)*

- The local streets immediately surrounding Parkside operate with low delays;
- The results of baseline analyses show that the six unsignalized intersections closest to the Parkside development are projected to operate at acceptable Levels of Service, with negligible changes in delay;
- The Nannie Helen Burroughs Avenue/Minnesota Avenue intersection would continue to operate unacceptably in both morning and afternoon peak hours;
- The intersections of Kenilworth Avenue (SB) and Kenilworth Terrace with Nannie Helen



Burroughs Avenue operate as two intersections under one traffic signal. These intersections would operate at acceptable conditions during both morning and evening peak hours under baseline conditions.

*Future Background Conditions*

- The future background conditions capacity analysis, with peak hour volumes obtained by projecting the baseline conditions with a growth rate of 1% per year up to build year 2012, showed similar results to the baseline conditions with only slight increases in delay.

*Total Future Conditions*

- The total future conditions capacity analysis, with peak hour volumes obtained by combining future background peak hour volumes and Parkside Health Care Center generated traffic, showed very slight increases in delay compared to the future background conditions.
- If necessary, minor adjustments in signal timing would mitigate any increase in delays as a result of the Parkside Health Care Center.

Based on these results, the proposed second stage Parkside PUD associated with the proposed Parkside Health Care Center would have minimal impact on the surrounding roadway network.



## INTRODUCTION

The following report presents the findings of a traffic impact analysis for a second stage Planned Unit Development (PUD) application for the Parkside development ("Parkside") in northeast Washington, DC. Parkside is located in Ward 7, east of the Anacostia River, in Northeast Washington DC, and is bounded by Kenilworth Terrace, NE, Kenilworth Avenue, NE, Hayes Street, NE, and Foote Street, NE as shown in Figure 1. The property is being developed under a Master Plan and is presently subdivided into twelve parcels (numbered 1 through 12) of various sizes and configurations. This traffic impact analysis supports the Stage 2 PUD application for Parkside Health Care Center as a partial build out of Parcel 12 that is planned to consist of a 43,784 GSF Primary Care Facility (which includes 9,554 SF of parking area) and 85 surface parking spaces (12 enclosed within the facility and 73 secured in an immediately adjacent temporary surface parking lot, approximately 24,240 SF).

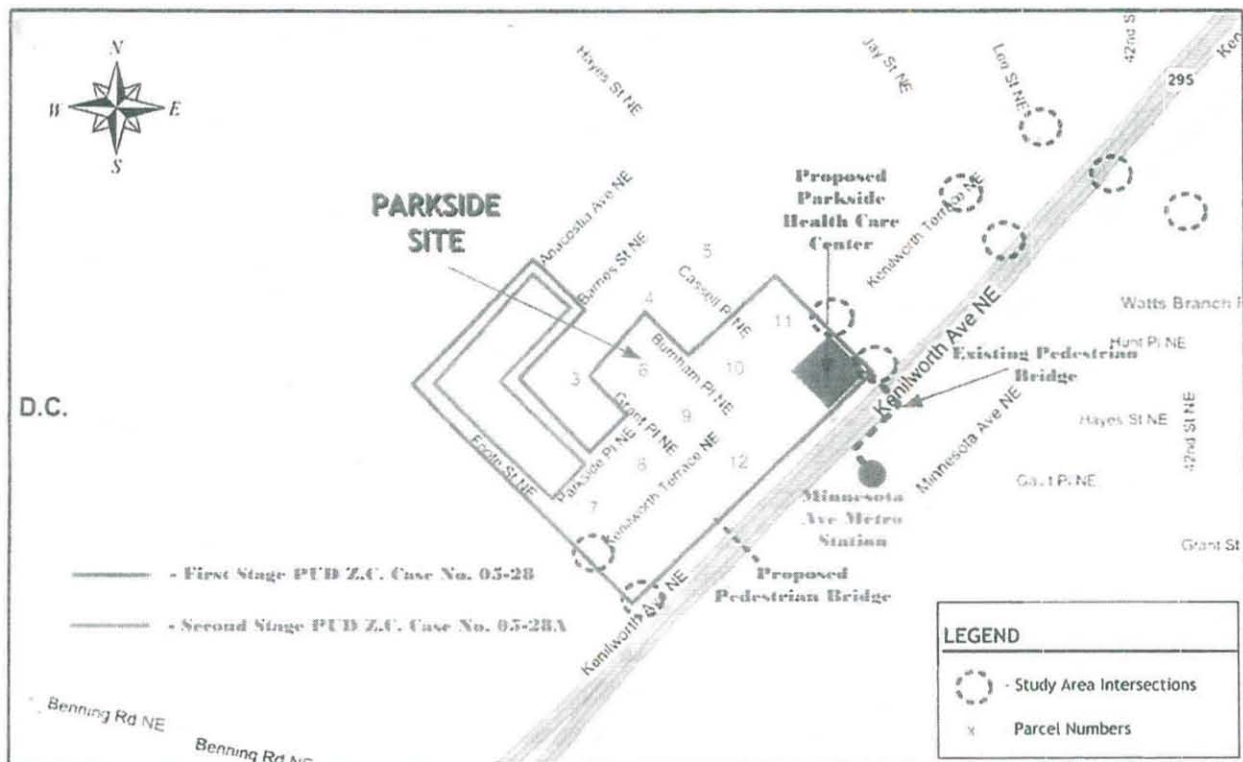
The mixed use nature of Parkside and its proximity to Metrorail, which is supported with an existing and a planned pedestrian bridge connection between the development and the Minnesota Avenue Metrorail Station, makes Parkside a Transit Oriented Development (TOD) that would encourage multimodal traffic and reduce auto dependence in the community.

The Stage 1 PUD traffic impact study (covering all 12 parcels in Parkside) was submitted in August 2005 and reviewed by DDOT. The approved traffic study formed part of the PUD submission to the Zoning Commission (Z.C. Case No. 05-28), which was granted approval conditioned upon a requirement that a revised and updated traffic impact analysis be submitted prior to second-stage approval of each proposed development of the PUD (Z.C. order 05-28, Condition No.10). This traffic study serves to comply with that Zoning Commission Order in support of the second stage PUD application for the development Parkside Health Care Center on Parcel 12.

Gorove/Slade Associates undertook the following steps while preparing this study:

- Develop the baseline conditions based on traffic volumes from the total future conditions of previously done Stage 2 study (for Z.C. Case No. 05-28A) and incorporate DDOT intersection improvements that were already implemented;
- Develop background traffic forecasts for project build-out in 2012 based on 1.0%/year growth along major traffic movements and calculate level of service at study intersections;
- Estimate the AM and PM peak hour and daily trips that would be generated by Parkside Health Care Center development, including mode split assumptions;
- Forecast total future traffic volumes for project build-out in 2012 based on background and total future traffic forecasts and calculate total future level of service at study intersections;
- Site plan review for loading and parking access and circulation.

- Prepare a Transportation Management Plan.



**Figure 1 Site Location Map**

Sources of data for this study include traffic counts conducted by Gorove/Slade, ITE's *Trip Generation*, 8th Edition, general site plans from LITTLE, the District Department of Transportation (DDOT), the Kenilworth Avenue Corridor Study Draft Plan, the "Development-Related Ridership Survey II" prepared by WMATA, and the files/library of Gorove/Slade.

### **Existing Transit**

Metrorail access is provided by the Minnesota Avenue Station, directly across Kenilworth Avenue; via an overhead pedestrian bridge. The approximate walking distance between the station entrance and the boundary of the subject property along the bridge is 650 feet. The Minnesota Avenue Station is on the Orange Line which runs between New Carrollton and Vienna/Fairfax – George Mason University. It is anticipated that a new pedestrian bridge, proposed as part of the Parkside Master Plan will improve the connection between the new development and Metrorail.

The Minnesota Avenue Metrorail Station is served by eleven bus routes: A31, U2, U4, U5, U6, U8, V7, V8, X1, X2, and X3 (shown in Figure 2). The U5 and U6 bus lines, which connect the Benning Road Metrorail station to the Minnesota Avenue Station, also serve the Parkside community. The route follows the Kenilworth Terrace and Hayes St/Jay Street loop on route to the Minnesota Avenue



Station.

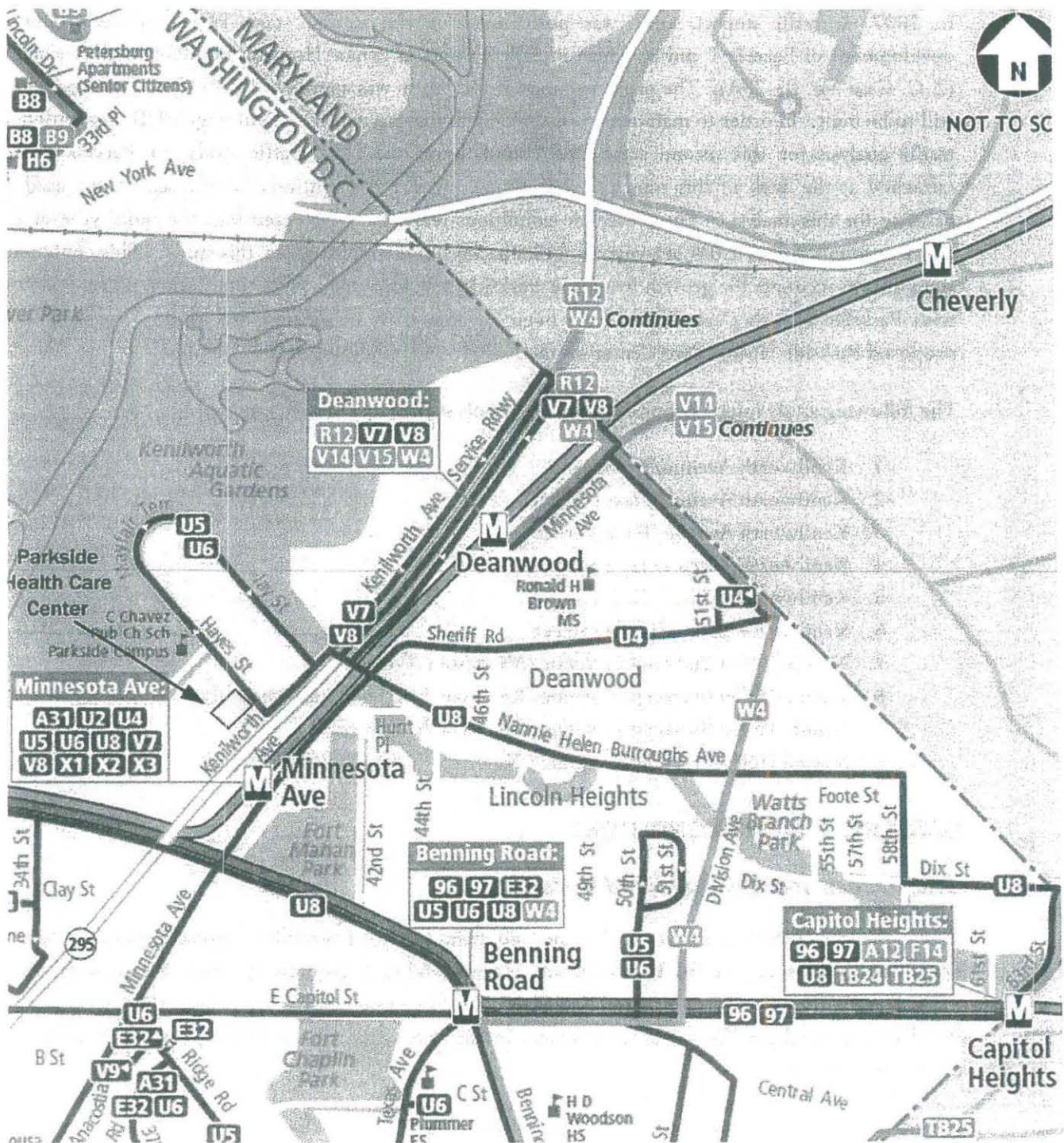


Figure 2 Existing Transit Services



## ***Study Methodology***

In 2007, a traffic impact study was performed for the second stage PUD application for the development of Parcels 1 and 2, which included a mix of Senior Housing Buildings and Townhomes (Z.C. Case No. 05-28A). The project scope for this study was approved by DDOT. These parcels are still to be built. In order to maintain consistency with that particular second stage PUD application, the traffic analysis for this second stage PUD builds upon the 2007 traffic study for Parcels 1 and 2 (attached at the back of this report). The future projected conditions in that report are used as a baseline for this analysis. These baseline conditions were then projected into the build year of 2012 using a growth rate of 1.0% per year to obtain background conditions for this study. This conservative growth rate accounts for growth from non-Parkside developments. The total future traffic conditions with Parkside Health Care Center have been developed by overlaying the traffic generated by the proposed Parkside Health Care Center on the background condition traffic volumes.

The following study intersections are included in this study (shown in Figure 1):

1. Kenilworth Avenue/Jay Street
2. Kenilworth Avenue/Hayes Street
3. Kenilworth Avenue/Foote Street
4. Kenilworth Terrace/Jay Street
5. Kenilworth Terrace/Hayes Street
6. Kenilworth Terrace/Foote Street
7. Nannie Helen Burroughs Avenue/Minnesota Avenue
8. Nannie Helen Burroughs Avenue/Kenilworth Avenue (northbound)
9. Nannie Helen Burroughs Avenue/Kenilworth Terrace
10. Nannie Helen Burroughs Avenue/ Kenilworth Avenue (southbound)

## **BASELINE TRAFFIC CONDITIONS**

### ***Site Access and Existing Road Network***

Interstate 295 (I-295)/Kenilworth Avenue and Benning Road provide regional access to Parkside. Local access is made via the Hayes Street, Nannie Helen Burroughs Avenue, Kenilworth Avenue service road, and Kenilworth Terrace. A network of residential streets, including Cassell Place, Burnham Place, Grant Place, Roosevelt Place, Foote Street, and Barnes Street provide direct access to the development.

The following is a description of some of the roads in the vicinity of the site:

- *Kenilworth Avenue (I-295)*

Kenilworth Avenue is a major highway providing a link between I-395, I-295, and the Baltimore-Washington Parkway. It is a major commuter link between Maryland and



Washington, DC. The average daily traffic volume (ADT) on Kenilworth Avenue in the vicinity of the site is approximately 120,000 to 140,000 vehicles (source - <http://www.kacstudy.com/kacstudy/pdf/Daily%20Traffic%20Volumes.pdf>)

- *Nannie Helen Burroughs Road*

Nannie Helen Burroughs Avenue, NE, is a 1.5 mile long minor arterial and multi-modal corridor that accommodates regional commuters, transit riders, local auto travel, pedestrians, and bicyclists. Nannie Helen Burroughs runs roughly parallel to Watts Branch, the largest tributary to the Anacostia River within the District with a drainage area of 3.75 Square miles. Daily traffic volumes range from 10,000 to 12,000 vehicles per day. The highest commercial and vehicular activity occurs at the western end of the corridor as it approaches Minnesota Avenue.

- *Kenilworth Avenue service road*

The Kenilworth Avenue service road is one-way southbound and functions as the link between the residential street network and the busy Kenilworth Avenue. The service road is generally un-striped and wide enough to operate as a two-lane roadway.

- *Kenilworth Terrace*

Kenilworth Terrace is a two-lane, bi-directional roadway running parallel to the Kenilworth Avenue service road. It services several residential streets that form a network through the Parkside Development.

- *Hayes Street & Jay Street*

Hayes Street is one-way northbound and Jay Street is one-way southbound north of Kenilworth Terrace, NE. They are bi-directional between Kenilworth Terrace and Kenilworth Avenue. These roads are residential roads and provide access to Metrobus.

Figure 3 presents the local roadway network of the study area and existing lane use and configurations. The complex five legged intersection of Nannie Helen Burroughs Avenue and Kenilworth Avenue (Southbound) was recently reconfigured as a part of Kenilworth Avenue Corridor Study (KACS), May 2007 (illustrated in Figure 4). The lane configurations in the baseline conditions were updated to reflect these improvements.

### ***Baseline Conditions Capacity Analysis***

The prior approved second stage application (for Z.C. Case No. 05-28A) of the Parkside PUD included approximately 112 townhouse units with at least 136 parking spaces, and 98 units of senior housing with 25 parking spaces. Figure 5 shows the total future traffic peak hour volumes from the prior Traffic Impact Study to be used as baseline volumes in this analysis. No additional growth rate was applied to these peak hour volumes to derive baseline traffic conditions, since they have already been projected up to year 2010.



The complex five legged intersection of Nannie Helen Burroughs Avenue and Kenilworth Avenue (Southbound) was recently reconfigured as a part of Kenilworth Avenue Corridor Study (KACS), May 2007. The capacity analysis in the baseline conditions was updated to reflect these improvements.

Table 1 shows the Capacity (Level of Service) Analysis results for Baseline Conditions. The results for Baseline Conditions are summarized below:

- *Baseline Conditions without the Parkside Health Care Center*
  - The local streets immediately surrounding Parkside operate with low delays;
  - Six unsignalized intersections closest to the Parkside development are projected to operate at acceptable Levels of Service;
  - The Nannie Helen Burroughs Avenue/Minnesota Avenue intersection would continue to operate unacceptably in both morning and afternoon peak hours;
  - The intersections of Kenilworth (SB) and Kenilworth Terrace with Nannie Helen Burroughs Avenue now operate as two intersections under one traffic signal. After the improvements, these intersections would operate at acceptable LOS D during both morning and evening peak hours under the baseline conditions.

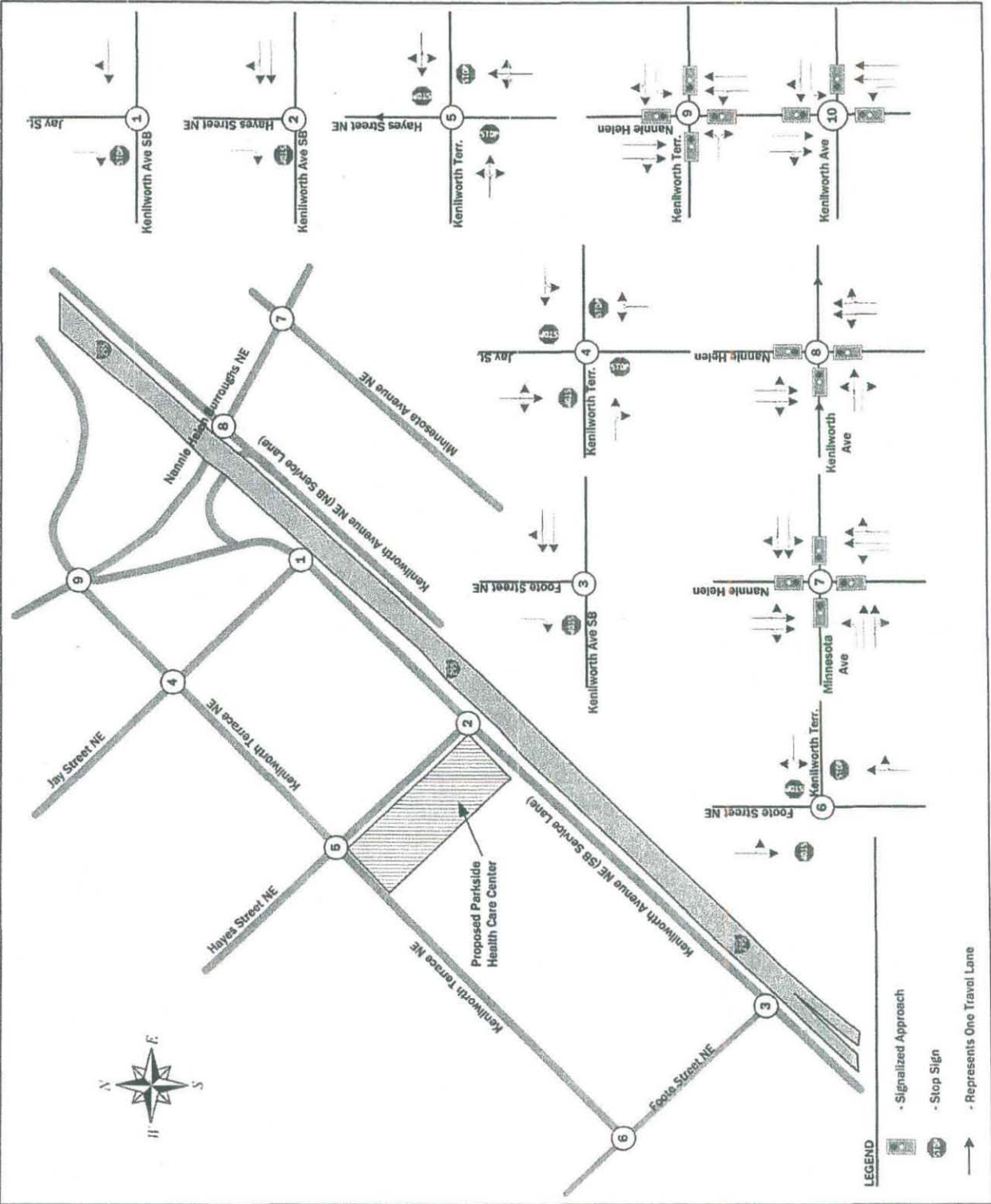


Figure 3 Existing Lane Configurations

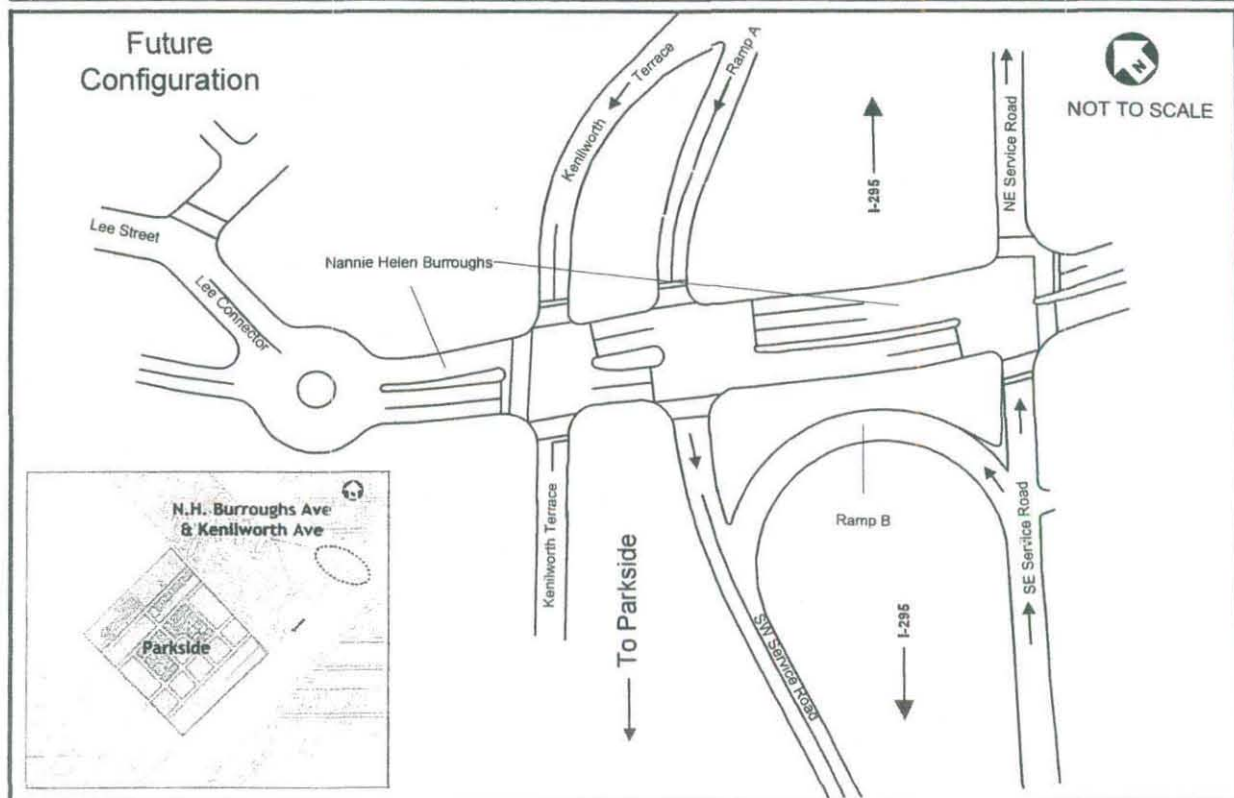
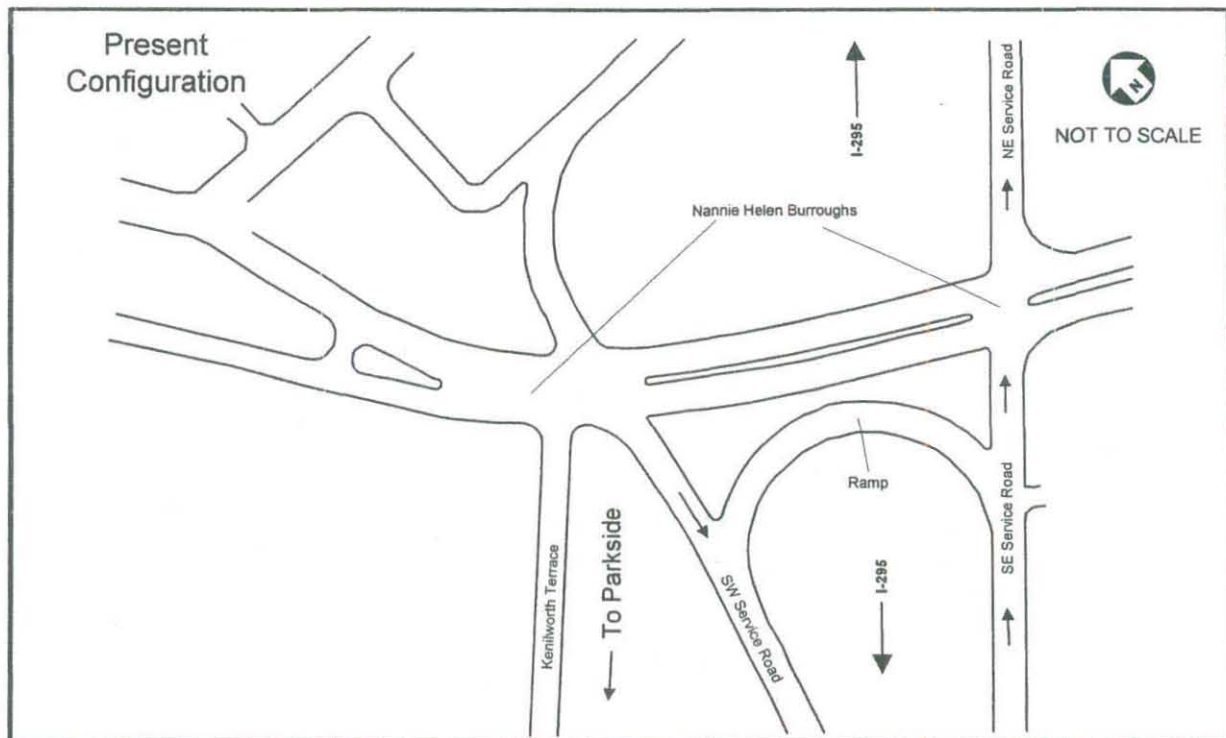


Figure 4 Nannie Helen Burroughs Ave and Kenilworth Ave (SB)/Kenilworth Terrace Reconfiguration

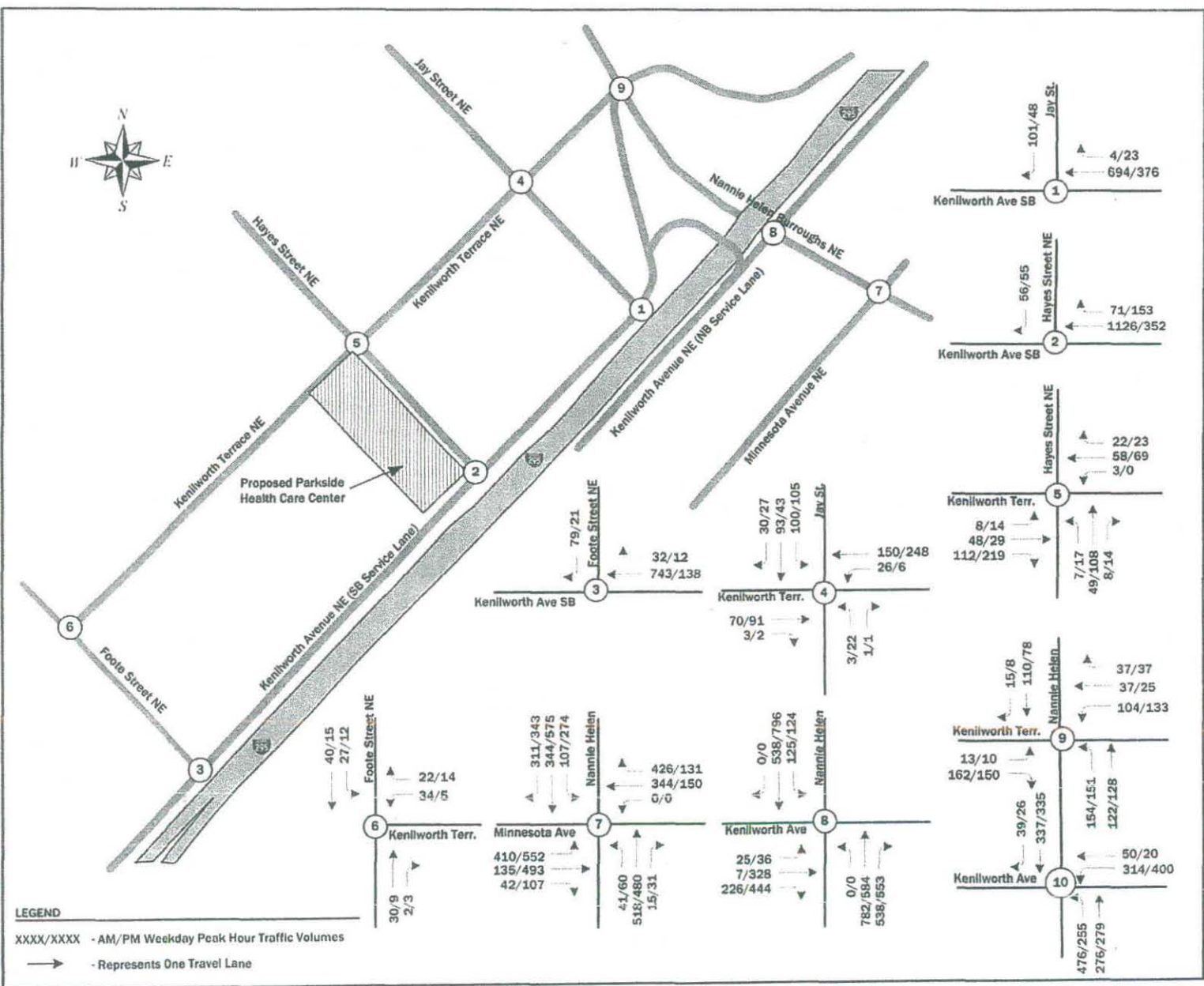


Figure 5 Baseline Traffic Peak Hour Volumes

**Table 1 –Baseline Conditions Capacity Analysis Results**

| Intersection (Approach)                        | AM Peak Hour       |          | PM Peak Hour       |          |
|------------------------------------------------|--------------------|----------|--------------------|----------|
|                                                | Delay<br>(sec/veh) | LOS      | Delay<br>(sec/veh) | LOS      |
| <b>1. Jay St. &amp; Kenilworth Ave.</b>        |                    |          |                    |          |
| Southbound (Right)                             | 17.0               | C        | 11.2               | B        |
| <b>2. Hayes St. &amp; Kenilworth Ave.</b>      |                    |          |                    |          |
| Southbound (Right)                             | 15.3               | C        | 10.4               | B        |
| <b>3. Foote St. &amp; Kenilworth Ave.</b>      |                    |          |                    |          |
| Southbound (Right)                             | 12.3               | B        | 8.8                | A        |
| <b>4. Jay St. &amp; Kenilworth Ter.</b>        |                    |          |                    |          |
| <b>Overall</b>                                 | <b>9.3</b>         | <b>A</b> | <b>9.6</b>         | <b>A</b> |
| Eastbound                                      | 9.7                | A        | 9.6                | A        |
| Westbound                                      | 7.9                | A        | 8.5                | A        |
| Northbound                                     | 8.3                | A        | 8.6                | A        |
| Southbound                                     | 9.2                | A        | 10.2               | B        |
| <b>5. Hayes St. &amp; Kenilworth Ter.</b>      |                    |          |                    |          |
| <b>Overall</b>                                 | <b>7.7</b>         | <b>A</b> | <b>8.6</b>         | <b>A</b> |
| Westbound                                      | 7.8                | A        | 8.9                | A        |
| Northbound                                     | 7.7                | A        | 8.7                | A        |
| Southbound                                     | 7.6                | A        | 8.1                | A        |
| <b>6. Foote St. &amp; Kenilworth Ter</b>       |                    |          |                    |          |
| Southbound                                     | 9.2                | A        | 8.6                | A        |
| <b>7. Minnesota Ave &amp; N.H.B Ave</b>        |                    |          |                    |          |
| <b>Overall</b>                                 | <b>91.1</b>        | <b>F</b> | <b>183.2</b>       | <b>F</b> |
| Eastbound                                      | 134.7              | F        | 356.2              | F        |
| Westbound                                      | 18.6               | B        | 15.9               | B        |
| Northbound                                     | 132.9              | F        | 120.2              | F        |
| Southbound                                     | 70.1               | E        | 47.3               | D        |
| <b>8. Kenilworth Ave (NB) &amp; N.H.B Ave</b>  |                    |          |                    |          |
| <b>Overall</b>                                 | <b>12.7</b>        | <b>B</b> | <b>24.0</b>        | <b>C</b> |
| Eastbound                                      | 7.1                | A        | 13.1               | B        |
| Westbound                                      | 7.3                | A        | 9.0                | A        |
| Northbound                                     | 54.6               | D        | 57.5               | E        |
| <b>9. Kenilworth Ter &amp; N.H.B Ave</b>       |                    |          |                    |          |
| <b>Overall</b>                                 | <b>39.7</b>        | <b>D</b> | <b>36.3</b>        | <b>D</b> |
| Eastbound                                      | 16.7               | B        | 24.8               | C        |
| Westbound                                      | 33.6               | C        | 26.1               | C        |
| Northbound                                     | 41.5               | D        | 37.9               | D        |
| Southbound                                     | 63.4               | E        | 54.6               | D        |
| <b>10. Kenilworth Ave (SB) &amp; N.H.B Ave</b> |                    |          |                    |          |
| <b>Overall</b>                                 | <b>48.4</b>        | <b>D</b> | <b>47.1</b>        | <b>D</b> |
| Eastbound                                      | 61.5               | E        | 65.3               | E        |
| Westbound                                      | 35.6               | D        | 33.7               | C        |
| Southbound                                     | 61.4               | E        | 48.6               | D        |



## **FUTURE BACKGROUND CONDITIONS**

Future Background conditions represent future traffic levels if Parkside Health Care Center was not developed. These conditions are a basis for comparison to the total future conditions, which include Parkside Health Care Center traffic.

### ***Traffic Growth***

Since the study builds up on the total future traffic of the previous second stage study, it already includes the major background developments (The Government Center) that are planned to be built in the area. In addition to that, a conservative growth rate of 1% per year was applied to major movements within the study area in order to project the future traffic to build year 2012. This conservative growth rate accounts for traffic generated by non-Parkside developments that have been planned to occur in the area.

### ***Future Background Traffic Forecast and Capacity Analysis***

Figure 6 shows the Future Background Peak Hour traffic volumes for the study area. The capacity analysis results are summarized in Table 3 alongside the capacity analysis results of Total Future Conditions to enable better comparison.





## TOTAL FUTURE TRAFFIC CONDITIONS WITH PARKSIDE HEALTH CARE CENTER

The second stage PUD for Parkside Health Care Center includes a 3- story 43,784 GSF Health Care Facility with approximately 34,230 GSF of gross floor space and cellar space. The entrance to parking is provided from Kenilworth Terrace.

### *Site Plan Review*

The Parkside Health Care Center building will be situated in the southeast portion of the site (corner of Kenilworth Terrace, Hayes Street & Kenilworth Avenue). The 12 enclosed surface parking spaces will be provided within the building and will have access from Kenilworth Terrace, NE. In addition, 73 secured parking spaces in a temporary surface lot will be provided to the west of the building and will also be accessed from the same driveway at Kenilworth Terrace, NE. The developer would also provide 10 bicycle parking spaces within the building and 4 bicycle parking spaces outside the building along Kenilworth Terrace. The latest site plan of the ground floor level is shown in Figure 7.

### *Loading*

The developer proposes to provide a 20 foot on-street parking space for trash collection along Kenilworth Terrace, NE and to designate a 20 foot on-street parking space for ambulance parking on the west side of Hayes Street, NE. Currently there is no parking lane along the west side of Hayes Street, NE adjacent to the site. The developer proposes to move the parking lane from the east side of the street to the west side that is adjacent to the site and then restrict 20 feet of the parking space as an ambulance loading area. The patient drop-off and pick-up will be located on the west side of Hayes Street just south of Kenilworth Terrace, NE.

### *Site Trip Generation*

The number of anticipated vehicle trips generated by the Parkside Health Care Center was estimated based on data provided in the Institute of Transportation Engineers (ITE)'s *Trip Generation*, 8th Edition, WMATA's *Development-Related Ridership Survey II*, and from the library of Gorove/Slade Associates.

The proposed facility would function as a primary care center that would provide diagnoses and outpatient care but not prolonged in-house medical and surgical care. ITE's *Trip Generation* manual has two landuses that would suit such a facility namely – Clinic (Code: 630) and Medical and Dental Office (code: 720). However, ITE trip rates for Clinic land use (code: 630) are lower and less extensively surveyed compared to the Medical-Dental Office land use (code: 720) trip rates. Therefore, Medical Office trip rates, which are conservatively high, were used for the trip generation of proposed facility. These trip rates were based on the size of the facility in square feet. According to the rates and equations provided by ITE, Parkside Health Care Center would generate a total of 79 AM peak hour trips (62 in and 17 out) and 110 PM peak hour trips (30 in and 80 out), as shown in Table 2 without any reduction for public transit due to its proximity to Metrorail station.





## Trip Reductions

By definition, ITE's trip generation rates were derived from data collected from single-use developments where virtually all access to the development would be by private automobile (Source: *Trip Generation Handbook*, 2<sup>nd</sup> Edition, Appendix B). *Trip Generation* does not account for the potential effects of Transit Demand Management (TDM) programs, transit availability, and interaction between various on-site uses (synergy), particularly when these uses are in walking distance of each other.

Alternate Mode Reduction. According to the WMATA *Development-Related Ridership Survey 2005*, the mode choice for trips is significantly influenced by the location of the site within Metropolitan Washington and the proximity to the Metrorail station. This study was prepared to model the travel patterns of persons traveling to and from office buildings, residential developments and commercial entities close to Metrorail stations, "and to establish relationships among travel characteristics, distance, and the nature of development at each site."

A 35% reduction in trips was derived for the Medical Office use at the proposed site of the Parkside PUD. This is based on the results shown on Table 2 and 3 of the *Ridership Survey*, which show that the alternative (non-auto) mode reduction for an office building called "Courthouse Towers" located on Courthouse Metro (Orange Line) at a distance of approximately 450 feet from the metro station, (the site is at a 650 feet walking distance from the metro station) is 40%. Moreover the Table 4 of the *Ridership Survey* shows an average non-auto use of 34% for all office sites surveyed under 'Suburban-inside the beltway' category. The lower number of the above two data points, was used for analysis to account for the quality and distance of the walk from the site to the Metrorail station. The 35% mode reduction for office use was also used in Parkside Stage One PUD Traffic Impact Study.

After adjustment as a result of the reductions described above, the Parkside Health Care Center would generate a total of 51 AM peak hour trips (40 in and 11 out), 71 PM peak hour trips (19 in and 52 out), as shown in Table 2.

**Table 2 – Parkside Health Care Center Trip Generation**

| Peak Hour Volumes                                                            | AM Peak Hour |     |       | PM Peak Hour |     |       |
|------------------------------------------------------------------------------|--------------|-----|-------|--------------|-----|-------|
|                                                                              | In           | Out | Total | In           | Out | Total |
| Medical Office Building Trip Generation (ITE Land Use Code 720) <sup>1</sup> | 62           | 17  | 79    | 30           | 80  | 110   |
| Alternate Mode Reduction of 35% <sup>2</sup>                                 | -22          | -6  | -28   | -11          | -28 | -39   |
| Net Peak Hour Trips                                                          | 40           | 11  | 51    | 19           | 52  | 71    |

Source: 1. Institute of Transportation Engineers, *Trip Generation Manual*, 8<sup>th</sup> Edition, Year 2008

2. Parkside Mixed-Use Development, (Stage One PUD) Traffic Study, August 8, 2005.



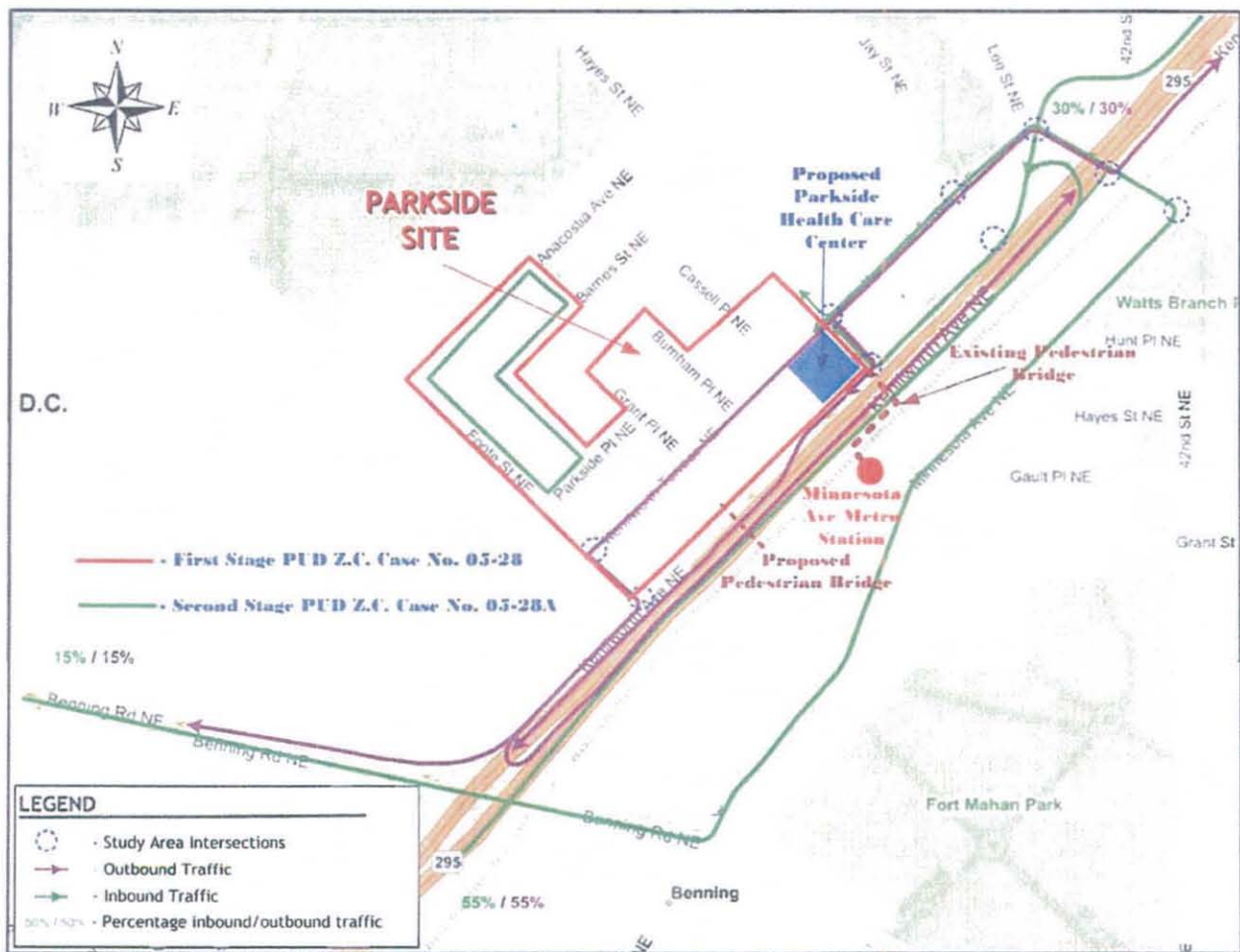
### ***Site Trip Distribution***

The regional trip distribution for an office use as shown in Figure 8 is based on the trip distribution used in the Parkside Mixed-Use Development, Stage One PUD, Traffic Impact Study. The site trips generated by the proposed Parkside Health Care Center were distributed based on this regional distribution pattern. The site generated weekday AM and PM peak hour volumes are shown in Figure 9.

### ***Total Future Conditions Capacity Analysis***

The total future traffic scenario with Parkside Health Care Center was derived by combining the Future Background Volumes (Figure 6) and the traffic generated by the proposed Parkside Health Care Center (Figure 9). The total future AM and PM peak hour volumes are shown in Figure 10.

The capacity analysis of these total future peak hour volumes was performed in Synchro 6.0 using the same Highway Capacity Manual methodology as the previous analyses. A comparison of capacity analysis results between the Baseline and Future traffic conditions is shown in Table 3. The study area intersections operating acceptably under baseline traffic conditions continue to operate acceptably under future conditions with Parkside Health Care Center. The proposed Parkside Health Care Center is projected to have minimal traffic impacts within the study area.



**Figure 8 Regional Directional Distribution and Key Study Intersections**

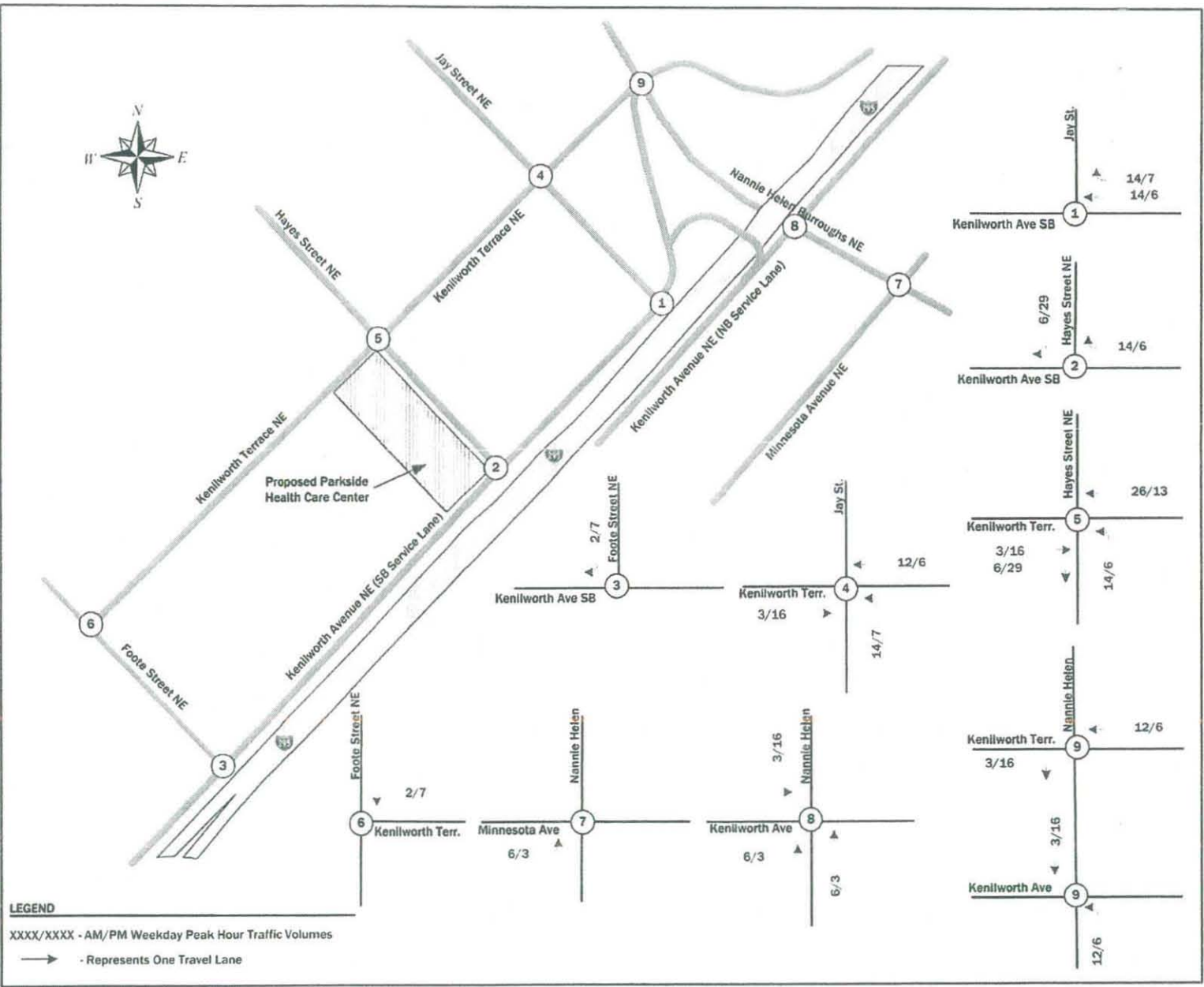
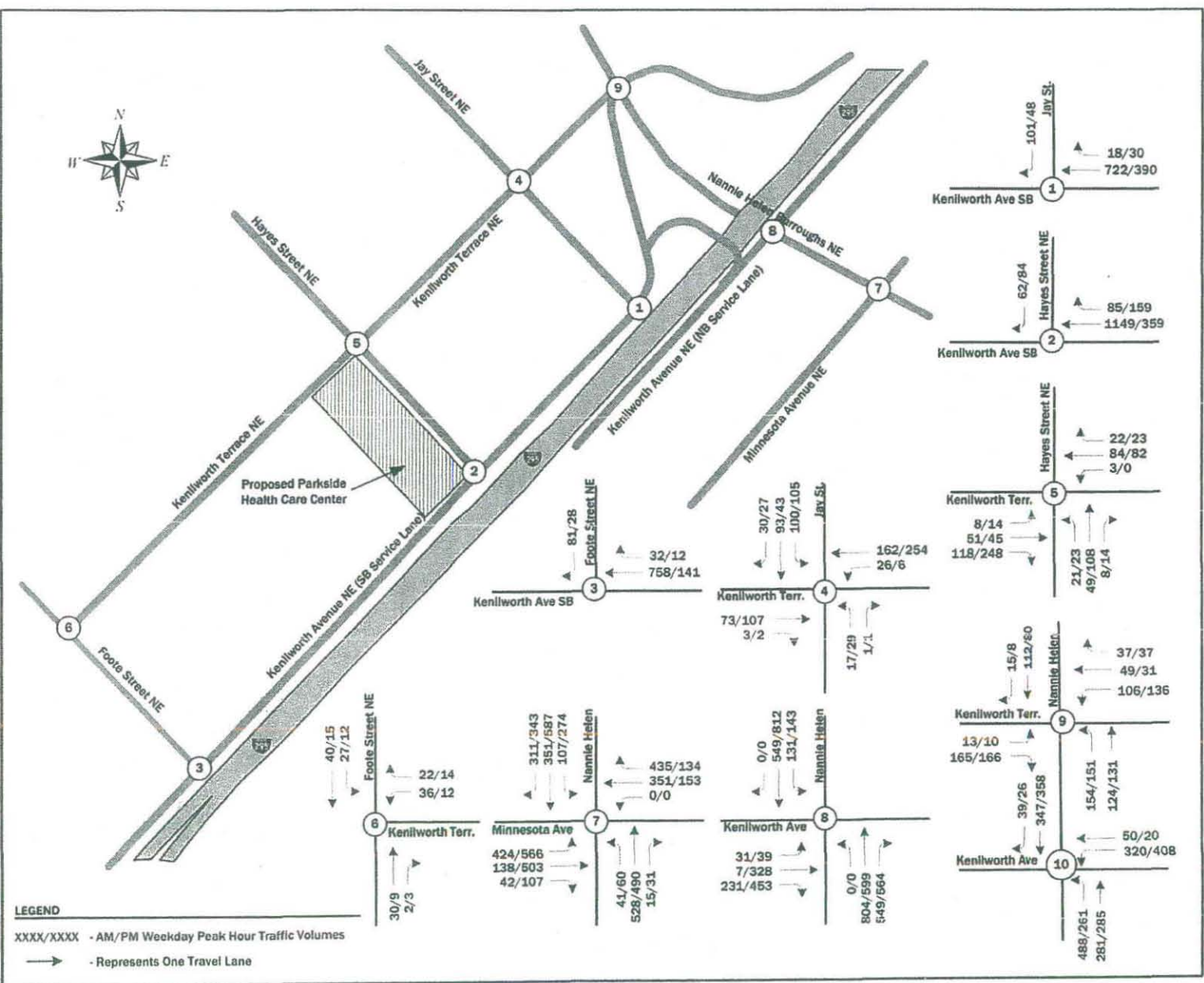


Figure 9 Parkside Health Care Center Generated Peak Hour Traffic Volumes



**Table 3 – Background and Future Capacity Analysis Results Comparison**

| Intersection (Approach)                              | AM Peak Hour       |          |                    |          | PM Peak Hour       |          |                    |          |
|------------------------------------------------------|--------------------|----------|--------------------|----------|--------------------|----------|--------------------|----------|
|                                                      | Background         |          | Future             |          | Background         |          | Future             |          |
|                                                      | Delay<br>(sec/veh) | LOS      | Delay<br>(sec/veh) | LOS      | Delay<br>(sec/veh) | LOS      | Delay<br>(sec/veh) | LOS      |
| 1. Jay St. & Kenilworth Ave.<br>Southbound (Right)   | 17.4               | C        | 17.9               | C        | 11.3               | B        | 11.4               | B        |
| 2. Hayes St. & Kenilworth Ave.<br>Southbound (Right) | 15.5               | C        | 15.8               | C        | 10.5               | B        | 10.8               | B        |
| 3. Foote St. & Kenilworth Ave.<br>Southbound (Right) | 12.4               | B        | 12.4               | B        | 8.8                | A        | 8.9                | A        |
| 4. Jay St. & Kenilworth Ter.                         |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>9.3</b>         | <b>A</b> | <b>9.4</b>         | <b>A</b> | <b>9.6</b>         | <b>A</b> | <b>9.8</b>         | <b>A</b> |
| Eastbound                                            | 9.7                | A        | 9.8                | A        | 9.6                | A        | 9.8                | A        |
| Westbound                                            | 7.9                | A        | 8.3                | A        | 8.5                | A        | 8.7                | A        |
| Northbound                                           | 8.3                | A        | 8.4                | A        | 8.6                | A        | 8.8                | A        |
| Southbound                                           | 9.2                | A        | 9.4                | A        | 10.2               | B        | 10.4               | B        |
| 5. Hayes St. & Kenilworth Ter.                       |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>7.7</b>         | <b>A</b> | <b>7.9</b>         | <b>A</b> | <b>8.6</b>         | <b>A</b> | <b>9.1</b>         | <b>A</b> |
| Westbound                                            | 7.8                | A        | 8.1                | A        | 8.9                | A        | 9.2                | A        |
| Northbound                                           | 7.7                | A        | 7.9                | A        | 8.7                | A        | 9.3                | A        |
| Southbound                                           | 7.6                | A        | 7.9                | A        | 8.1                | A        | 8.3                | A        |
| 6. Foote St. & Kenilworth Ter<br>Southbound          | 9.2                | A        | 9.3                | A        | 8.6                | A        | 8.7                | A        |
| 7. Minnesota Ave & N.H.B Ave                         |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>96.4</b>        | <b>F</b> | <b>97.9</b>        | <b>F</b> | <b>189.9</b>       | <b>F</b> | <b>190.5</b>       | <b>F</b> |
| Eastbound                                            | 142.4              | F        | 142.4              | F        | 368.0              | F        | 368.0              | F        |
| Westbound                                            | 18.6               | B        | 18.6               | B        | 15.9               | B        | 15.9               | B        |
| Northbound                                           | 139.2              | F        | 145.4              | F        | 128.3              | F        | 130.0              | F        |
| Southbound                                           | 76.6               | E        | 76.6               | E        | 47.5               | D        | 47.5               | D        |
| 8. Kenilworth Ave (NB) & N.H.B Ave                   |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>13.0</b>        | <b>B</b> | <b>13.1</b>        | <b>B</b> | <b>24.9</b>        | <b>C</b> | <b>25.4</b>        | <b>C</b> |
| Eastbound                                            | 7.4                | A        | 7.5                | A        | 13.8               | B        | 15.4               | B        |
| Westbound                                            | 7.6                | A        | 7.6                | A        | 9.1                | A        | 9.2                | A        |
| Northbound                                           | 55.3               | E        | 54.9               | D        | 60.2               | E        | 60.1               | E        |
| 9. Kenilworth Ter & N.H.B Ave *                      |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>40.0</b>        | <b>D</b> | <b>40.4</b>        | <b>D</b> | <b>36.7</b>        | <b>D</b> | <b>38.0</b>        | <b>D</b> |
| Eastbound                                            | 16.7               | B        | 16.7               | B        | 24.8               | C        | 24.8               | C        |
| Westbound                                            | 33.8               | C        | 33.8               | C        | 26.3               | C        | 26.3               | C        |
| Northbound                                           | 41.5               | D        | 41.5               | D        | 37.9               | D        | 38.1               | D        |
| Southbound                                           | 64.7               | E        | 64.7               | E        | 55.7               | E        | 59.6               | E        |
| 10. Kenilworth Ave (SB) & N.H.B Ave                  |                    |          |                    |          |                    |          |                    |          |
| <b>Overall</b>                                       | <b>49.4</b>        | <b>D</b> | <b>50.8</b>        | <b>D</b> | <b>47.7</b>        | <b>D</b> | <b>48.3</b>        | <b>D</b> |
| Eastbound                                            | 61.8               | E        | 61.7               | E        | 65.6               | E        | 65.8               | E        |
| Westbound                                            | 36.3               | D        | 39.3               | D        | 33.9               | C        | 35.1               | D        |
| Southbound                                           | 63.4               | E        | 63.4               | E        | 49.6               | D        | 49.6               | D        |



## TRANSPORTATION MANAGEMENT PLAN

This section presents a proposed Transportation Management Plan program for the Parkside Health Care Center.

The primary goal of this TMP is to reduce traffic congestion and related pollution problems in the local and regional areas of the site by influencing traveling choices and patterns towards the use of transportation modes other than single-occupant motor vehicles. The primary objective is to minimize the potential traffic and parking impacts of the proposed development on internal and external roadways, and within the adjacent residential communities. The TMP applies to the peak hour and daily trips that would be generated by all users of the development including residents, visitors, employees and patients.

The proposed Parkside Health Care Center lends itself to a TMP because of its proximity to Metrobus and Metrorail facilities. The developer agrees to develop and implement a TMP geared towards both employees and visitors of the Parkside Health Care Center. The following outlines the elements of the TMP:

1. The site was selected to take advantage of the site's proximity to the existing Minnesota Avenue Metrorail station accessible across DC-295 via the existing pedestrian bridge.
2. A staff member(s) of building management or of Parkside Health Care Center will be designated as Transportation Coordinator to be a primary point of contact responsible for coordinating the implementation of the TMP.
3. Employees will be provided with WMATA SmartBenefits for transit, resulting in pre-tax salary deductions for Metro rail/bus expenses.
4. Information regarding ridesharing opportunities will be provided via website links to [CommuterPage.com](http://CommuterPage.com).
5. The proposed site plan will provide 10 total bicycle parking spaces within the building and 4 bicycle parking spaces outside the building along Kenilworth Terrace.
6. Existing private space on Hayes Street in front of the Health Care Center will be designated as sidewalk to effectively widen the existing sidewalk on the west side of Hayes Street providing a better pedestrian experience from the pedestrian bridge to the front door of the center.
7. Provide for a taxi passenger loading and unloading at the main entrance.
8. Designate an accessible paratransit pickup, drop-off and passenger waiting area at the main entrance to the Health Care Center designated with appropriate signage. The owner should provide an accessible pathway to the area and sufficient space for loading and unloading of wheelchairs from vans.



9. Provide effective directional signage (parking, deliveries, taxi stand etc) to direct visitors and service vehicles to appropriate locations to the Health Care Center.



## CONCLUSIONS

The capacity analyses contained in this report yielded the following results:

### *Baseline Conditions*

- The local streets immediately surrounding Parkside operate with low delays;
- The results of baseline analyses show that the six unsignalized intersections closest to the Parkside development are projected to operate at acceptable Levels of Service, with negligible changes in delay;
- The Nannie Helen Burroughs Avenue/Minnesota Avenue intersection would continue to operate unacceptably in both morning and afternoon peak hours;
- The intersections of Kenilworth Avenue (SB) and Kenilworth Terrace with Nannie Helen Burroughs Avenue operate as two intersections under one traffic signal. These intersections would operate at acceptable LOS D during both morning and evening peak hours under baseline conditions.

### *Future Background Conditions*

- The future background conditions capacity analysis, with peak hour volumes obtained by projecting the baseline conditions with a growth rate of 1% per year up to build year 2012, showed similar results to the baseline conditions with only slight increases in delay.

### *Total Future Conditions*

- The total future conditions capacity analysis, with peak hour volumes obtained by combining future background peak hour volumes and Parkside Health Care Center generated traffic, showed very slight increases in delay compared to the future background conditions.
- If necessary, minor adjustments in signal timing would mitigate any increase in delays as a result of the Parkside Health Care Center.

Based on these results and the implementation of the TMP, the proposed second stage Parkside PUD associated with the proposed Parkside Health Care Center would have minimal impact on the surrounding roadway network.