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September 30, 2009

VIA COURIER

Mr. Joseph Mellone
Construction Official
City of Hackensack
410 East Railroad Avenue
Hackensack, NJ 07601

RE: Bergen Passaic LTACH, LLC
320 Summit Avenue
Block 344, Lots 3, 4, 5 & 14
OEA No. 090501

Dear Mr. Mellone:

Enclosed herewith please find eighteen (18) copies of the Traffic Assessment Study – Bergen Passaic Long Term Acute Care Hospital (LTACH) in connection with the above captioned Application. This Traffic Assessment Study has been prepared by our office and is dated September 28, 2009. By copy of this letter we are sending a copy directlyto the Zoning Board's traffic consultant Frank Miskovich of Birdsall Engineering. This report is submitted in advance of the next hearing date on October 15, 2009.

Should you have any questions or comments, please do not hesitate to contact our office.

Very truly yours,

Eric L. Keller, P.E., P.P.
Executive Vice President

Enclosures

cc: Frank Miskovich, PE, CME w/ encl.
Richard Pineles w/encl.
Joseph Basralian, Esq. w/ encl.

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W\

TRAFFIC ASSESSMENT STUDY

BERGEN PASSAIC LONG TERM ACUTE CARE HOSPITAL (LTACH)

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

Prepared for:

BERGEN PASSAIC LTACH
433 Hackensack Avenue
Hackensack, New Jersey 07601

Prepared by:

OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, New Jersey 07927

September 28, 2009
OEA File No. 090501

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TRAFFIC ASSESSMENT STUDY
BERGEN PASSAIC LONG TERM ACUTE CARE HOSPITAL (LTACH)
CITY OF HACKENSACK
BERGEN COUNTY, NEW JERSEY

September 28, 2009

PREPARED FOR:

BERGENPASSAIC LTACH
433 Hackensack Avenue
Hackensack, New Jersey 07601

PREPARED BY:

OMLAND ENGINEERING ASSOCIATES, INC.
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Professional Engineer
License No. 32054

TRAFFIC ASSESSMENT STUDY
BERGEN PASSAIC LONG TERM
ACUTE CARE HOSPITAL (LTACH)
CITY OF HACKENSACK
BERGEN COUNTY, NEW JERSEY

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CITY OF HACKENSACK
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INTRODUCTION

The purpose of this Traffic Assessment Study is to identify and address any traffic and parking impacts associated with the redevelopment of this site for a multi-purpose medical facility. The parcels that comprise this site are identified on the City Tax Maps as Block 344, Lots 3, 4, 5 and 14. The site is located between Prospect Avenue and Summit Avenue, approximately half way between Golf Place and Berry Street. The tract contains approximately 1.15 acres and currently contains four residential dwellings including detached garages, paved driveways and other accessory structures. Figure 1 illustrates the location of the site with respect to the surrounding street network.

In preparing this Traffic Assessment Study, we have met and discussed with representatives of Bergen Passaic LTACH to gain an understanding of the various programs and services proposed to be provided in this facility. We have also conducted several site visits, reviewed available information, conducted traffic counts and contacted the City and County to obtain available historical data related to the adjacent roadway network.

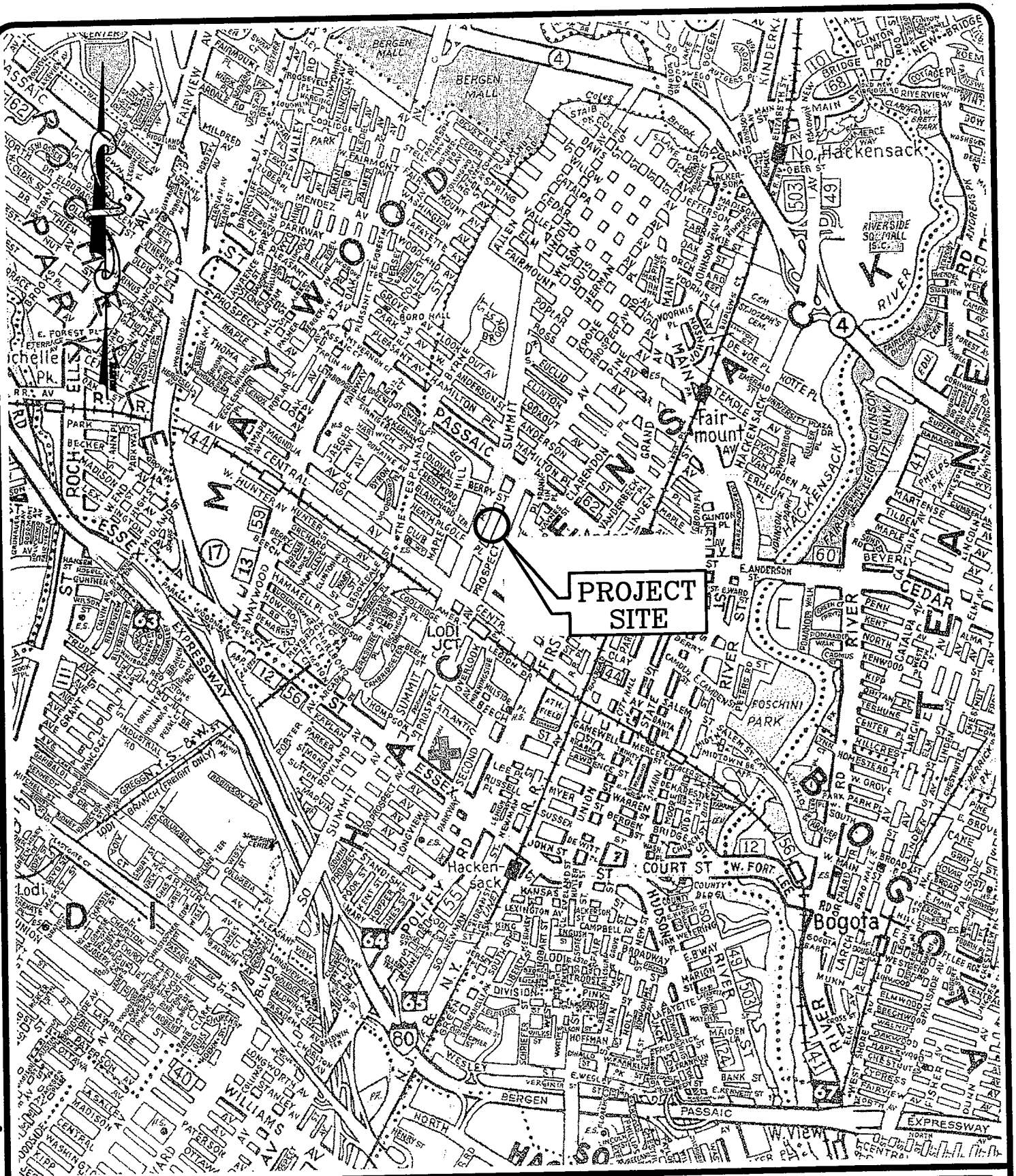
The proposed development program includes the following components:

- 144 bed long term acute care hospital
- 84 station dialysis center
- 250 person adult day care center

These components are proposed to be developed in a single, integrated facility to take advantage of synergies among the various uses, including the ability to share parking and transport vehicles.

The objective of this study is to identify any operational and functional issues associated with the proposed operations, project the traffic and parking demands of the proposed development program, assess the adequacy of the proposed parking and site circulation and evaluate the operations of the future facility's impact on the adjoining street network. Primary components of this study include the description of existing conditions of area roadways, the site and traffic volumes; projection of future traffic and parking usage based upon the development program; a discussion of functional and operational improvements to address site activity and usage; and an evaluation of traffic operations along adjacent streets.

The following sections will describe, in greater detail, existing and future conditions forecast to occur at the site and on the adjacent roadway, the levels of service and operation of Prospect Avenue, Summit Avenue, Central Avenue, Passaic Street and the site driveways and conclusions and recommendations regarding operational and functional changes to the site's access, parking and circulation.



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NJ Certificate of Authorization
No. 24GA28043700

DATE: 9/15/09 SCALE: 1"=2000' CHKD.:

PROJ.: 090501

FIGURE 1

LOCATION MAP

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

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EXISTING CONDITIONS

The tract currently contains four residential structures and other accessory structures. One structure, 329 Prospect Avenue, has a driveway which intersects Prospect Avenue, while the other three structures (318, 320 and 324 Summit Avenue) and their respective driveways intersect with Summit Avenue. The adjacent uses along Prospect Avenue are two 7 story apartment complexes with surface parking. Driveways serving these two uses are proximate to the side property lines of the subject parcel. Across Prospect Avenue and extending along Prospect Avenue in both directions are high-density apartment buildings reaching as much as 21 stories.

The adjacent uses along Summit Avenue consist of residential structures, though some contain medical offices as home occupations. Similar type structures and uses exist along Summit Avenue further to the north and south as well as on the west side of the street. A synagogue (Temple Beth El) is located on the southwest corner of Summit Avenue and Golf Place. This pattern of single family homes continues westerly of Summit Avenue through the adjacent neighborhood, though there are several garden apartment complexes along The Esplanade. There is also an elementary school (Nellie K. Parker) along Central Avenue between The Esplanade and Maple Hill Drive.

The following subsections include a brief description of the key roadways and intersections in the vicinity of the subject site.

Prospect Avenue

Prospect Avenue is an urban collector extending from State Route 17 at its southern terminus to Ross Avenue on the north. Prospect Avenue is a segment of a general grid pattern of streets in this section of Hackensack, which includes other north-south streets such as Summit Avenue, Clarendon Place, 1st Street, 2nd Street and Railroad Avenue. In the vicinity of the site, Prospect Avenue contains one travel lane in each direction, with limited areas of on-street parking. The posted speed limit is 25 MPH.

The intersection of Central Avenue with Prospect Avenue is controlled by a fixed time traffic signal operating on a 60 second cycle. The signal operates under a two-phase timing plan. The Prospect Avenue approaches consist of shared through and right turn lanes, with dedicated left turn lanes. The Central Avenue approaches each contain a single lane serving through, right turn and left turn movements, although the pavement is wide enough for through and right turn traffic to bypass left turning vehicles. The traffic signal at this intersection is owned and maintained by the County of Bergen.

The intersection of Passaic Street (CR 62) with Prospect Avenue is controlled by a fixed time traffic signal operating on a 90 second cycle. The signal operates under a two-phase timing plan. The southbound Prospect Avenue approach consists of a single shared lane accommodating all movements, while the northbound approach has two travel lanes to accommodate through traffic and left turn and right turn movements. The eastbound and westbound approaches of Passaic Street both have dedicated left turn

lanes with a shared through and right lane. The traffic signal at this intersection is owned and maintained by the County of Bergen.

Summit Avenue (County Route 57)

Summit Avenue (County Route 57) is an urban minor arterial which begins at Passaic Street (County Route 62) on the north and extending across Interstate 80, Route 17 and Route 46 into Wood-Ridge to the south. Summit Avenue extends north of Passaic Street to its terminus at Coles Avenue though this segment is under municipal jurisdiction. In the vicinity of the site, Summit Avenue has two travel lanes with a posted speed limit of 35 MPH. Parking is generally permitted along both sides of the street.

The intersection of Central Avenue with Summit Avenue is controlled by a fixed time traffic signal operating on a 60 second cycle. The signal operates under a two-phase timing plan. The Summit Avenue approaches consist of shared through and right lanes, with exclusive left turn lanes. The Central Avenue approaches each contain a single lane serving through, right turn and left turn movements, although the pavement is wide enough for through and right turn traffic to bypass left turning vehicles. The traffic signal at this intersection is owned and maintained by the City of Hackensack.

The intersection of Passaic Street (County Route 62) with Summit Avenue is controlled by a fixed time traffic signal operating on a 90 second cycle. The signal operates under a two-phase timing plan. The Summit Avenue approaches consist of shared through and right lanes, with exclusive left turn lanes. The Passaic Street approaches each contain a single lane serving through, right turn and left turn movements, although the pavement is wide enough for through and right turn traffic to bypass left turning vehicles. The traffic signal at this intersection is owned and maintained by the City of Hackensack.

Traffic Volumes

Traffic and pedestrian volumes were collected at the four (4) major intersections proximate to the site. These intersections include the following:

1. Prospect Avenue with Central Avenue
2. Prospect Avenue with Passaic Street
3. Summit Avenue with Central Avenue
4. Summit Avenue with Passaic Street

These manual intersection turning movement counts were conducted on Wednesday, April 30, 2008 and Thursday, May 1, 2008 between 6:45 and 9:00 AM and between 4:00 and 6:00 PM. The count information from three of the four studied intersections indicates that the predominant movement along Summit Avenue and Prospect Avenue is southbound during the AM peak hour and northbound during the PM peak hour. At the intersection of Summit Avenue with Central Avenue the predominant movements on Summit Avenue are northbound during the AM peak hour and southbound during the PM peak hour.

The peak hour used for traffic analysis purposes represents the most critical period or periods when there is the greatest demand and therefore, the greatest capacity requirements. Peak hours for suburban and urban settings focus on the peak commuter hours when motorists are traveling between their homes and their places of business.

The street (commuter) peak hours were identified as generally occurring between 7:30 AM and 8:30 AM and between 4:45 PM and 5:45 PM, although the peak hours at individual intersections may begin 15 minutes earlier. The AM and PM peak hour volumes used for analysis purposes are depicted in Figure 2.

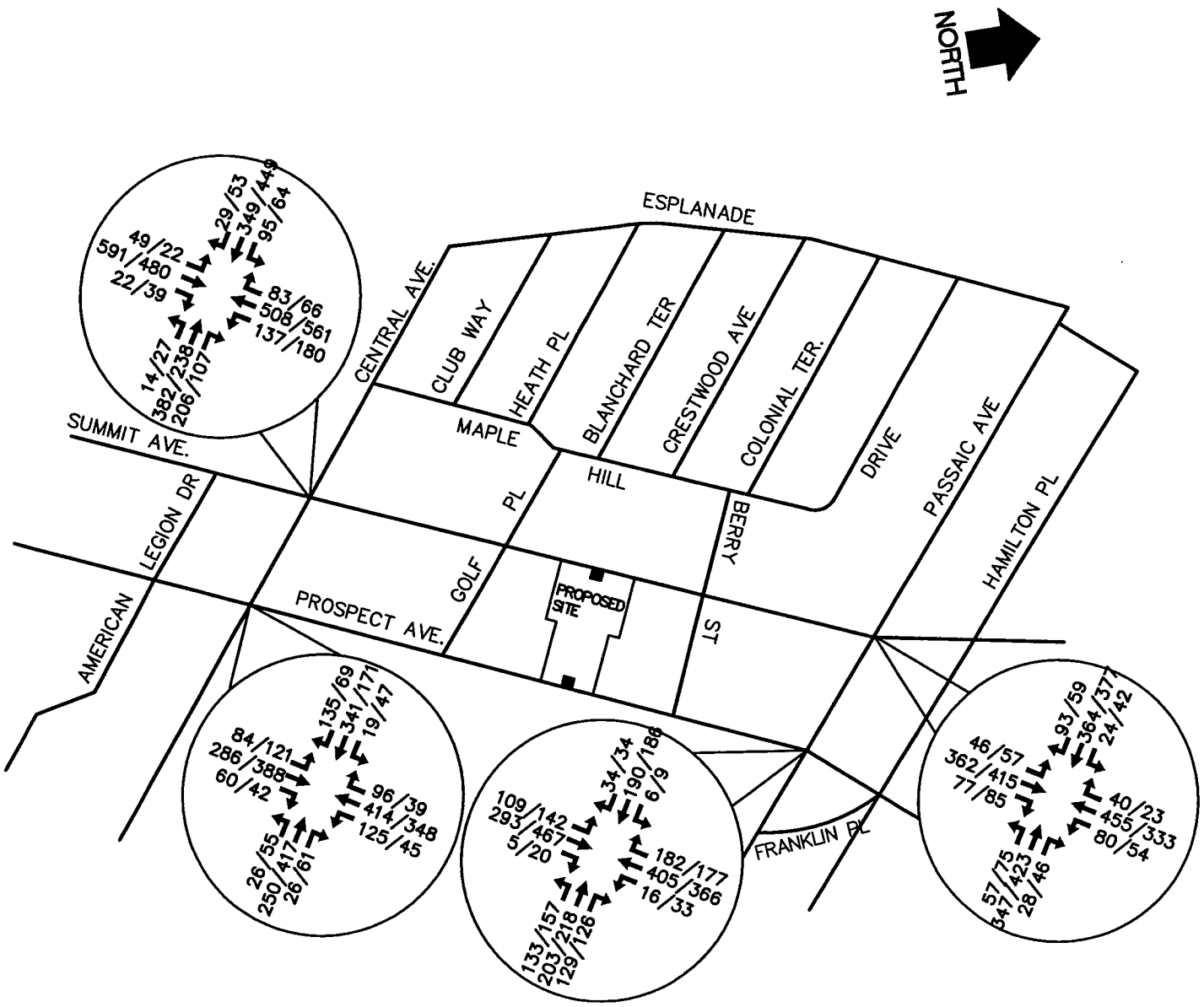
In addition, automatic traffic recorders (ATR's) were installed on Summit Avenue and Prospect Avenue, proximate to the site. These data recorders collected continuous traffic volume data from Saturday, June 6, 2009 through Saturday, June 13, 2009 on each roadway. These data were summarized by direction in 15 minute increments. The purpose of these mainline traffic counts were two-fold, one to verify the intersection traffic volumes collected in the Spring of 2008; and two, to determine the temporal distribution of the traffic volumes on each roadway.

These data are summarized in Table 1. As shown in this table, the traffic volumes along Summit Avenue are consistently higher than those along Prospect Avenue. The average daily traffic along Summit Avenue is approximately 14,000 vehicles per day, while Prospect Avenue is slightly less with approximately 12,000 vehicles per day. These daily traffic volumes are consistent with each street's functional classification of urban minor arterial and urban collector, respectively.

Further, the peak traffic activity along Summit Avenue occurs between 7:30 AM and 8:30 AM and between 4:45 PM and 5:45 PM, which corresponds to the intersection counts. The traffic volumes during these two peak hours are at approximately the same level with the midday period (9:00 AM to 4:00 PM) generally at levels 75 to 90 percent of the commuter peak hours.

For Prospect Avenue, the peak AM traffic volumes also occur between 7:45 AM and 8:45 AM, corresponding to the intersection counts. During the PM peak hour, there is little hourly variation between 3:00 PM and 6:00 PM. The midday period for Prospect Avenue is also generally at 70 to 90 percent of the peak commuter hours, similar to Summit Avenue.

We also compared the peak hour traffic data from the ATR equipment in June 2009 to that collected from the manual intersection counts at the four intersections in April/May 2008. We found that the manual intersection count data for Summit Avenue and Central Avenue was equal to or greater than that collected from the ATR equipment. This validates the intersection count data and supports that it is a representative sample of existing conditions for use in the capacity analyses. Copies of the traffic count data are contained in Appendix III.



LEGEND

XX/XX – AM/PM PEAK HOUR TRAFFIC VOLUMES

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FIGURE 2

EXISTING TRAFFIC VOLUMES

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

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TABLE 1
HOURLY VOLUMES

	Summit Avenue				Prospect Avenue			
	Northbd	Southbd	Total	Percent of Peak Hour	Northbd	Southbd	Total	Percent of Peak Hour
6:00 AM – 7:00 AM	162	225	387	38	117	188	305	34
7:00 AM – 8:00 AM	372	468	840	81	380	323	703	79
8:00 AM – 9:00 AM	465	553	1,018	99	434	452	886	99
9:00 AM – 10:00 AM	399	393	792	77	308	326	634	71
10:00 AM – 11:00 AM	379	389	768	74	333	309	642	72
11:00 AM – 12:00 PM	412	403	815	79	328	327	655	73
12:00 PM – 1:00 PM	403	438	841	79	345	358	703	75
1:00 PM – 2:00 PM	427	440	867	81	328	355	683	73
2:00 PM – 3:00 PM	484	483	967	91	422	411	833	89
3:00 PM – 4:00 PM	498	509	1,007	94	476	443	919	98
4:00 PM – 5:00 PM	529	507	1,036	97	461	452	913	98
5:00 PM – 6:00 PM	578	487	1,065	100	454	457	911	98

Capacity Analyses

The manual counts of intersection turning movement volumes were analyzed to determine the intersection levels of service at each study location during each analysis period. The four intersections were analyzed based upon the traffic directive of each signal as verified in the field. The methodology presented in the 2000 Highway Capacity Manual, Chapter 18, "Signalized Intersections" was used for the analysis of these intersections. Calculations were made using the Highway Capacity Software, Version 5.21. The definitions of levels of service for signalized and unsignalized intersections are presented in Appendix I.

The methodology for signalized intersections addresses two measurements of a signal's effectiveness in accommodating conflicting traffic movements; capacity and level of service (LOS).

Capacity is defined for each approach as a maximum number of vehicles that may pass through that approach given the prevailing roadway and signalization conditions. The calculated capacity is compared to the actual traffic flow rate on individual intersection approaches. The flow rate of a given intersection approach is the existing observed or future calculated volume adjusted for the peak hour factor, number of lanes and percentage of turns. The volume to capacity ratio (v/c ratio) indicates the proportion of available capacity that is being used.

The second measure of effectiveness is average stopped delay per vehicle (seconds/vehicle), which determines the level of service. The greater the average stopped delay per vehicle the lower the level of service. LOS A has the lowest average stopped delay per vehicle (less than 10.0 second per vehicle) while LOS F has the highest (greater than 80.0 seconds per vehicle).

Table 2 presents the levels of service for the AM and PM peak hours at the four (4) existing studied signalized intersections. As shown in this table, calculated levels of service at these signalized intersections generally provide more than acceptable levels of service under existing conditions. Acceptable levels of service are those levels of operation that accommodate existing traffic volumes with a reasonable amount of delay and do not result in long queues of traffic on any intersection approach. The one exception is the southbound left turn of Summit Avenue at Central Avenue, which currently operates at LOS E during the AM peak hour. Capacity analysis worksheets for all intersections are provided in Appendix II.

TABLE 2
LEVEL OF SERVICE SUMMARY
SIGNALIZED INTERSECTIONS

Intersection	Existing		2011 No-Build		2011 Build	
	AM	PM	AM	PM	AM	PM
Prospect Avenue & Central Avenue						
EB Central Ave. Left/Thru/Right	20.8/C	16.1/B	22.2/C	16.7/B	23.1/C	16.8/B
WB Central Ave. Left/Thru/Right	15.9/B	24.2/C	16.4/B	27.0/C	17.0/B	27.3/C
NB Prospect Ave. Left	18.6/B	17.0/B	21.6/C	18.2/B	22.4/C	20.1/C
NB Prospect Ave. Thru/Right	16.2/B	18.0/B	16.7/B	18.8/B	17.0/B	18.8/B
SB Prospect Ave. Left	16.3/B	13.4/B	17.3/B	13.9/B	18.2/B	15.4/B
SB Prospect Ave. Thru/Right	21.7/C	17.3/B	23.2/C	17.9/B	23.8/C	19.1/B
Overall	19.0/B	19.2/B	20.1/C	20.5/C	20.8/C	21.0/C
Prospect Avenue & Passaic Street						
EB Passaic St. Left	9.3/A	9.3/A	9.3/A	9.4/A	9.3/A	9.4/A
EB Passaic St. Thru/Right	11.5/B	11.2/B	11.7/B	11.4/B	12.1/B	12.0/B
WB Passaic St. Left	12.5/B	12.7/B	13.0/B	13.3/B	14.6/B	16.3/B
WB Passaic St. Thru/Right	13.7/B	13.3/B	14.2/B	13.7/B	14.2/B	13.7/B
NB Prospect Ave. Left/Thru/Right	11.6/B	13.2/B	11.9/B	13.8/B	12.0/B	14.3/B
SB Prospect Ave. Left/Thru/Right	28.1/C	21.5/C	34.7/C	24.4/C	36.5/D	25.5/C
Overall	17.9/B	15.4/B	20.4/C	16.6/B	21.1/C	17.3/B
Summit Avenue & Central Avenue						
EB Central Ave. Left/Thru/Right	22.4/C	20.5/C	27.4/C	23.0/C	48.3/D	23.6/C
WB Central Ave. Left/Thru/Right	21.9/C	13.9/B	24.9/C	14.5/B	25.4/C	15.0/B
NB Summit Ave. Left	14.5/B	11.4/B	17.4/B	12.6/B	18.5/B	13.2/B
NB Summit Ave. Thru/Right	20.4/C	16.3/B	22.6/C	17.2/B	23.9/C	17.3/B
SB Summit Ave. Left	66.7/E	33.3/C	148.8/F	52.2/D	167.3/F	53.9/D
SB Summit Ave. Thru/Right	20.6/C	21.7/C	22.9/C	24.4/C	23.8/C	28.5/C
Overall	23.7/C	19.7/B	31.1/C	22.9/C	36.9/D	24.4/C
Summit Avenue & Passaic Street						
EB Passaic St. Left/Thru/Right	25.1/C	25.1/C	26.6/C	27.0/C	28.5/C	27.2/C
WB Passaic St. Left/Thru/Right	25.1/C	32.7/C	27.0/C	39.3/D	27.6/C	40.5/D
NB Summit Ave. Left	18.0/B	16.5/B	19.1/B	16.8/B	19.5/B	17.2/B
NB Summit Ave. Thru/Right	22.4/C	23.8/C	23.3/C	25.0/C	23.4/C	25.3/C
SB Summit Ave. Left	19.6/B	18.2/B	21.0/C	19.2/B	21.1/C	19.5/B
SB Summit Ave. Thru/Right	24.1/C	19.7/B	25.3/C	20.2/C	25.6/C	20.2/C
Overall	23.8/C	25.5/C	25.2/C	28.1/C	26.0/C	28.6/C

Legend: Average control delay in seconds/Level of Service

PROPOSED CONDITIONS

The proposed redevelopment of this tract seeks to provide an integrated health care facility to provide needed services to the general public. The planned services for this health care facility include the following:

- 144 bed long term acute care hospital (LTACH)
- 84 station dialysis center
- 250 person adult day care center

The proposed building housing these services will also contain a multi-story, below-grade parking structure, delivery facilities, access driveways, pedestrian facilities and a park. The vehicular access to this site will include the following elements:

1. A two-way driveway from Prospect Avenue that will provide access into the garage for auto, van and truck traffic.
2. A loading driveway from Prospect Avenue, along the northerly property line, for refuse service, bulk oxygen deliveries and limited other deliveries that cannot be accommodated in the garage.
3. A one-way loop driveway to and from Summit Avenue that provides convenience drop off for visitors and patients of this health care facility; as well as emergency service access as requested by the City Fire Department.
4. A two-way driveway from Summit Avenue that will provide access into the garage for only auto traffic. The clearance for this garage access will limit the height and size of the vehicles that may enter and exit.

Pedestrian access will be provided from a walkway from Prospect Avenue along the south side of the access driveway and from Summit Avenue, through the park. Both of these walkways will lead to a plaza area adjacent to the building's main entrance. There are also other internal walkways that provide seating and strolling opportunities within landscaped portions of the site.

While the long-term acute care facility uses the term "hospital", this facility does not provide the type and range of services found in traditional hospital/medical centers such as Hackensack University Medical Center. An LTACH is regulated by the State's Department of Health and Senior Services (DHSS). DHSS defines (per web site) an LTAC as "*a fully licensed acute care or specialty hospital that maintains an average length of stay of at least 25 days annually. An LTAC specializes in the interdisciplinary, physician-led treatment of patients with catastrophic or acute illness/injury superimposed on complex or multiple co-morbidities. A critical mass of patients is necessary to allow for the development of specialized hospital programs and technology for intensive medical management to optimize the patients' medical and functional capacity. LTACs fill an important role in the continuum because they address the needs of a growing patient population that cannot be effectively treated in more traditional health-care settings. LTACs provide a range of intensive services including trauma and*

cancer treatment, respiratory therapy for ventilator-dependent patients, pain and wound management and rehabilitation."

Therefore, while this facility is termed a "hospital" it does not provide the same type or range of services found in a traditional hospital. This distinction between an LTACH and a traditional hospital is important from a traffic and parking perspective as these demands and impacts from an LTACH are much reduced. An LTACH treats a small component of the entire range of services provided in a traditional hospital setting. In an LTACH there are no outpatient procedures, surgical procedures, maternity/neo-natal care to list just a few of the services typically provided at traditional hospitals. Industry references do not provide traffic or parking data for an LTACH and because of the significant functional differences from a traditional hospital, the available data for a hospital land use is not appropriate for an LTACH.

Research has been conducted to identify the existence of other similar LTACH facilities within the area. This research has not identified any freestanding LTACH's located within the State of New Jersey that could be examined from a traffic and parking perspective. Other LTACH sites do exist but are in combination with additional land uses. In Rochelle Park an LTACH in combination with a Sub-Acute care facility (Bristol Manor) does exist but would generate different trip and parking generation rates than the proposed use due to the activities of the Sub-Acute care facility.

The proposed dialysis facility will serve both patients in the LTACH as well as patients from the surrounding community. Those coming to the facility from the surrounding community will include patients residing in nursing homes, senior housing facilities (independent and/or assisted living) as well as from private homes. Those patients coming from nursing homes and senior housing facilities will predominantly be transported by passenger vans associated with this facility or other medical vans, while those from private homes will be a mix of the vans and private autos dependent upon the specific patient circumstances.

Industry references also do not provide traffic or parking data for a dialysis center which has different characteristics than typical medical office land uses. Typical medical office uses serve patients that generally can drive themselves to the office and involve shorter duration visits. However, due to the nature of the treatment (approximately 3.5 hour duration) and its effects on the patients, patients of the dialysis center do not drive themselves and if not brought by medical transport are dropped off by a family member or friend. Therefore, application of a standard medical office parking ratio to the proposed dialysis center is inappropriate and will overestimate the required parking for such a facility.

Adult day care facilities are also licensed and regulated by the State DHSS which defines them as "*a facility ... to provide preventative, diagnostic, therapeutic and rehabilitative services under medical and nursing supervision to meet the needs of functionally impaired adult participants.*" Reviewing the DHSS web site, the closest adult day care facilities are located in the adjacent communities of Maywood and Teaneck, with no facilities located in the southern portion of Bergen County except for one in Lyndhurst.

Industry references also do not provide traffic or parking data for adult day care facilities. Due to the patients' conditions and functional impairments, it is anticipated that a majority of these patients will be transported by the passenger vans associated with this facility or other medical vans. In fact, under the State regulations for adult day care centers (NJAC 8:86-1.4c), these facilities *shall* (emphasis added) provide transportation for participants of the adult day care to and from their homes. As indicated to us by the applicant, the cost of this transportation is covered under Medicare/Medicaid reimbursement for the adult day care activities. While our traffic and parking analyses have assumed that 80 percent of the participants will be brought by medical transports/passenger vans, actual experience at other similar facilities is closer to 90 percent, further reducing the number and frequency of private automobiles dropping off participants in this program.

Application of parking requirements for community centers to the adult day care use is inconsistent with the operation of the facility and the demographics of the participants. Generally, community center activities will involve participants/visitors driving themselves to the facility with a small percentage brought by bus or van. The proposed adult day care, as it involves participants that must meet certain medical conditions and functional impairments, will predominantly involve the use of medical transports/ passenger vans to bring participants to the facility, with practically no parking demand for the participants. For those participants that are brought by family and/or friends, they will be dropped off and the driver will leave not requiring a parking space.

The below-grade parking structure consists of five levels with access provided from both the east side (Prospect Avenue) and the west side (Summit Avenue). The western portion of the garage consists of a sloped plate parking arrangement where vehicle parking is provided on the ramps which also provide for vertical movement within the structure. This portion of the garage has two-way circulation on all of the ramps throughout the structure. The eastern portion of the garage is arranged with flat plates that are accessed from the circulation routes that extend through the western portion of the garage. One-way clockwise circulation is provided in the eastern portion of the garage. The parking structure contains a total of 407 parking spaces with 9 of them being accessible spaces in conformance with ADA requirements. In addition to the 407 spaces, there are 10 spaces allocated to medical transports/passenger vans and loading/deliveries.

Pedestrian circulation within the garage will follow standard patterns of movement along the parking aisles toward the elevators and stairs located in the central portion of the garage. The elevators and stairs will convey people between the respective floors of the garage to the building lobby. From there, they will transfer to a separate elevator bank that will transport them to the various floors of the building.

The parking structure will also contain delivery facilities as well as drop off and parking facilities for the passenger vans used in transporting patients. Vehicle clearance of 12'-6" is provided from the Prospect Avenue driveway into the first level of the garage. Four (4) dedicated loading spaces are provided on the first level for single-unit trucks, panel trucks, box vans and other smaller delivery vehicles. There are six (6) spaces provided for medical transport/passenger vans adjacent to the loading spaces. The loading spaces and the medical transport/passenger van spaces are all 11 feet wide and 43 feet

long. In addition, when the passenger transport vans are on the road picking up or dropping off dialysis and adult day care patients, these spaces can also be used for deliveries should that become necessary.

Year 2011 No-Build Conditions

The Year 2011 has been selected as the future design year when the proposed facility is estimated to be constructed and fully occupied. This future analysis year will be used as the basis for estimating background traffic growth on the surrounding street system. As the site is located in a stable, urban environment, traffic growth is anticipated to be generated from regional growth pressures and not from any specific development project(s). This presumption is supported by the comparison of the 2008 intersection counts with the 2009 mainline counts which showed flat or negative traffic growth. Therefore, the use of an annualized growth rate from 2008 to 2011 is an appropriate, representative estimate for future traffic conditions.

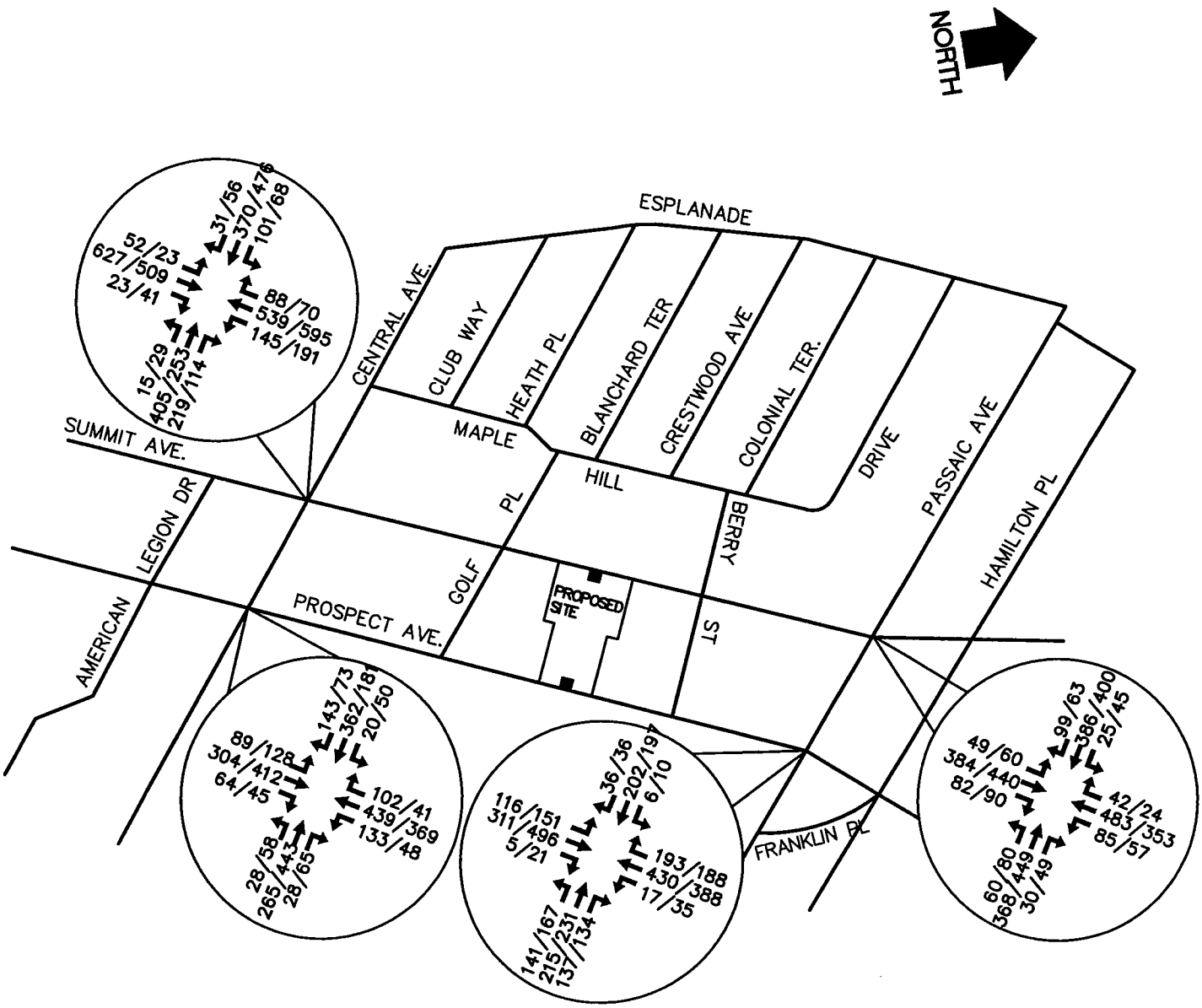
An annual growth rate of 2 percent was used to calculate the future traffic volumes on the adjacent street network. This annual growth rate was based on the NJDOT "Access Permit Table on Annual Background Growth Rates" issued in April, 2007. This translates to an overall compounded growth rate for the three-year period (2008 to 2011) of 6.12 percent.

Year 2011 No-Build traffic volumes are presented in Figure 3 for the AM and PM peak hours. These volumes were used to evaluate future operations without the proposed redevelopment at the four studied intersections.

As shown in Table 2, calculated levels of service at the studied signalized intersections will continue to generally provide more than acceptable levels of service during both peak hours, except for the southbound Summit Avenue left turn at Central Avenue. This approach movement is calculated to degrade from existing conditions to operate at LOS F during the AM peak hour. This current low level of operation is a result of the lack of a protected turn phase and the traffic volumes. The level of service could be improved by providing a lead green phase for the northbound and southbound Summit Avenue left turn lanes and providing exclusive turn lanes along Central Avenue. In our field reconnaissance, we observed that both legs of the 38-foot wide Central Avenue cross section were signed to prohibit parking. This condition potentially enables the striping of the cartway as a three-lane approach in each direction; two approach lanes and one departure lane. These improvements would address the existing and calculated no-build deficiencies that currently exist at this intersection. The resultant levels of service would be at LOS D or better on all approach movements.

Trip Generation

As stated previously, the proposed uses within this proposed facility are not land uses that have published trip generation rates from industry sources. In addition to reviewing the ITE Trip Generation Manual (the predominant source document), we have also researched the ITE web site for published articles and studies for trip generation



LEGEND

XX/XX – AM/PM PEAK HOUR TRAFFIC VOLUMES

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No. 24GA28043700

DATE: 9/15/09 SCALE: NTS CHKD.:

PROJ.: 090501

FIGURE 3

YEAR 2011 NO-BUILD TRAFFIC VOLUMES

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

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information for these uses and have not found any published data. Further, as discussed previously, the proposed land uses have different functions and operations than other studied medical land uses, rendering the use of published data as not representative of the proposed uses.

Therefore, the trip generation characteristics of the three proposed uses within this development were developed in discussion with the operator based upon staffing, patient and visitor activity associated with each of the three uses. Our discussion of the trip generation methodology is divided into three components, one for each of the proposed uses, as each have different operating and functional characteristics. After the discussion of each use, a summary of the trip generation for the entire project is provided.

The LTACH is a 24-hour operation for the care of the patients residing within the facility. As stated previously, the patients in an LTACH have an average length of stay of 25 days or more. The staff for an LTACH comprises two basic groups, those responsible for the care of the patients, which are on three (3) shifts; and the administrative/support staff which follows a more traditional work schedule. The patient-care staff shifts are from 7 AM to 3 PM, 3 PM to 11 PM and 11 PM to 7 AM. The administrative/support staff generally work from 8:30 AM to 5:00 PM. The arrival patterns for the employees occur one-half hour before the start of their shift with departures occurring one-half hour after their shift. The number of employees per shift and per category is summarized in Table 3. These staff levels are based on the 144 beds in the LTACH being fully occupied, which is a very conservative projection.

TABLE 3
LTACH EMPLOYEE POPULATION

Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
Patient Care			
7:00 AM - 3:00 PM	6:30 AM - 7:00 AM	3:00 PM - 3:30 PM	130
3:00 PM - 11:00 PM	2:30 PM - 3:00 PM	11:00 PM - 11:30 PM	109
11:00 PM - 7:00 AM	10:30 PM - 11:00 PM	7:00 AM - 7:30 AM	62
Administrative/Support			
8:30 AM - 5:00 PM	8:00 AM - 8:30 AM	5:00 PM - 5:30 PM	70

In addition to the trip generation associated with the employee population of the LTACH, there will also be activity associated with patient intakes and releases as well as associated visitor trips to the patients. These activities are much more variable than the employee activity, however estimates have been developed to estimate a reasonable and representative traffic impact of these activities. A very conservative estimate has been made of 12 patient admissions and 12 patient discharges would occur each day and they are assumed to occur uniformly throughout the day from 8 AM to 8 PM. Due to the condition of the patients, all of the admissions would occur via medical transport. Each admission and each discharge results in two vehicle trips, one inbound and one outbound.

Visitor activity is also assumed to occur throughout the day with visiting hours being 8 AM to 8 PM. It is assumed that each patient will receive a visitor every other day, resulting in 72 visitors each day. These were also assumed to occur uniformly throughout the day, resulting in 6 visitors per hour or 12 trips per hour (one inbound, one outbound).

The proposed dialysis unit will contain 84 treatment stations, which will accommodate three treatment shifts per day. Each dialysis treatment takes approximately 3.5 hours, with the first patient shift beginning at 6 AM and the last patients leaving after 5:30 PM. The staff for the dialysis unit comprises two basic groups, those responsible for the care of the patients, which are on two (2) shifts; and the administrative/support staff which follows a more traditional work schedule. The patient-care staff shifts are from 5:30 AM to 2 PM and from 9:30 AM to 6 PM. The administrative/support staff generally work from 8:30 AM to 5:00 PM. The number of employees per shift and per category is summarized in Table 4. These staff levels are based on the 84 treatment stations in the dialysis unit being fully occupied, which is a conservative projection.

TABLE 4
DIALYSIS UNIT EMPLOYEE POPULATION

Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
Patient Care			
5:30 AM - 2:00 PM	5:00 AM - 5:30 AM	2:00 PM - 2:30 PM	22
9:30 AM - 6:00 PM	9:00 AM - 9:30 AM	6:00 PM - 6:30 PM	22
Administrative/Support			
8:30 AM - 5:00 PM	8:00 AM - 8:30 AM	5:00 PM - 5:30 PM	25

The proposed dialysis unit will serve both patients in the LTACH (an internal trip) and those from the community (an external trip). As discussed previously, a portion of the patients from the community will come from nursing homes or senior housing and will predominantly be transported by medical vans. Those patients residing in private homes may come either by medical transport or by personal autos. A summary of the patient activity levels and transport method are summarized in Table 5. Dialysis patients do not generally receive visitors during their treatment sessions and therefore no projection of visitor traffic is appropriate.

TABLE 5 DIALYSIS UNIT PATIENT TRAVEL MODE						
Treatment Periods	Travel Times		Source of Patients			Total Number of Patients
	Arrival	Departure	In-House	Van	Car	
6:00 AM - 9:30 AM	5:30 AM - 6:00 AM	9:30 AM - 10:00 AM	8	40	36	84
10:00 AM - 1:30 PM	9:30 AM - 10:00 AM	1:30 PM - 2:00 PM	8	40	36	84
2:00 PM - 5:30 PM	1:30 PM - 2:00 PM	5:30 PM - 6:00 PM	8	40	36	84

Assumptions:
1. For each treatment period, 8 patients will come from in-house LTACH census
2. For each treatment period 40 patients will be brought to center via medical transport or van
3. For each treatment period, 36 patients will be dropped off by car

The proposed adult day care program will have a capacity of 250 people. As discussed previously, the participants in the adult day care program are functionally impaired and require preventative, diagnostic, therapeutic and rehabilitative services under medical and nursing supervision. The staff for the adult day care program is on two (2) shifts, with the first shift from 6:30 AM to 3 PM and from 8:30 AM to 5 PM. The administrative/support staff generally work from 8:30 AM to 5:00 PM. The number of employees per shift is summarized in Table 6. These staff levels are based on a full occupancy of 250 adults in the adult day care program, which is a conservative projection.

TABLE 6 ADULT DAY CARE PROGRAM EMPLOYEE POPULATION			
Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
6:30 am - 3:00 pm	6:00 am - 6:30 am	3:00 pm - 3:30 pm	27
8:30 am - 5:00 pm	8:00 am - 8:30 am	5:00 pm - 5:30 pm	36

The proposed adult day care program will serve participants with qualified medical needs who live in a private home, apartment or independent living unit. The participants may not use the program on an everyday basis. The programs are for 8 hours, with varying start times, ranging from 7:00 AM to 8:30 AM depending on the participants specific needs. The participants will be transported either by passenger van or by private autos. A summary of the participant activity levels and transport method are summarized in Table 7. Adult day care participants do not generally receive visitors and therefore no projection of visitor traffic is appropriate.

TABLE 7 ADULT DAY CARE PROGRAM PARTICIPANT TRAVEL MODE				
Program Periods	Travel Times		Source of Transport	
	Arrival	Departure	Van	Car
7:00 AM - 3:00 PM	7:00 AM - 7:30 AM	3:00 PM - 3:30 PM	50	20
7:30 AM - 3:30 PM	7:30 AM - 8:00 AM	3:30 PM - 4:00 PM	50	10
8:00 AM - 4:00 PM	8:00 AM - 8:30 AM	4:00 PM - 4:30 PM	50	10
8:30 AM - 4:30 PM	8:30 AM - 9:00 AM	4:30 PM - 5:00 PM	50	10

Assumptions:
1. Capacity of adult day care center is 250 participants
2. Eighty percent of participants arrive via passenger van (200 participants)
3. Twenty percent of participants are dropped off by family members (50 participants)
4. Ten participants per van

The above discussion of employee population levels do not directly correlate to vehicle trips as not all employees will drive or will drive alone. Public transportation in this section of Hackensack is readily accessible to the proposed development and due to its urban character, walk and bicycle trips are also reasonable transportation modes. There are six (6) bus lines that are within a reasonable (1/4 mile) walking distance of the redevelopment site that provide convenient service to other areas of Hackensack and to neighboring communities in Bergen and Passaic Counties. A summary of the bus stops and bus lines that are located in the vicinity of the project site are included as Appendix IV.

A trip mode survey was performed at the Prospect Heights Care Center to determine the modal split of a similar work force as would be expected for the proposed facility. The results of this survey are presented in Table 8. As shown in this table, 5 percent of the employees either take public transportation or other non-auto modes to travel to and from their work place. It is also interesting to note that 11 percent are dropped off, which will affect the parking demand for the proposed facility. The parking requirements of this proposed development are addressed in a subsequent section of this report.

TABLE 8 MODE OF TRAVEL – PROSPECT HEIGHTS CARE CENTER	
Mode of Travel	Percent Usage
Drive to Work	84%
Dropped Off	11%
Public Transportation	3%
Walk/Bicycle	2%

Although the survey did not include a question regarding the number of vehicle occupants in the category "Drive to Work", based upon 2000 Census Journey-to-Work data for the subject census tract and for Hackensack as a whole, it is likely that approximately 12 to 14 percent of the vehicles had more than one employee.

All of the above data on proposed activity has been compiled, by hour and category of use, to determine the combined trip generation for the proposed redevelopment program. The employee trip usage has been adjusted to account for dropoff/carpool activity, public transportation usage and other non-auto travel modes. The supporting calculations are provided in Appendix V. The street peak hour trip generation for the proposed facility is provided in Table 9.

As the proposed use is not permitted in the two zones which comprise the tract, we have examined the potential trip generation based on conforming land uses for the site. The analysis is based on a review of the zoning ordinance, the current development on each of the parcels and the existing land uses adjacent to the site. The existing zoning on the site is split with the Prospect Avenue portion of the site being zoned R-3 High Density Multifamily Residential (Block 344, Lot 14) while the Summit Avenue portion is zoned R-1 One Family Residential Zone (Block 344, Lots 3-5).

Based on a review of the existing zoning, we foresee that the existing single-family homes on Summit Avenue could each be converted to 2,000 square foot doctor's offices and that the Prospect Avenue parcel could be developed with a 10-story high-rise apartment building containing 68 units. This building design assumes a step-back of the building above the sixth floor to provide adequate setbacks and a mix of surface and structured parking.

TABLE 9
TRIP GENERATION SUMMARY

Land Use	Size	AM Peak Hour (7:30 AM – 8:30 AM)			PM Peak Hour (4:30 PM – 5:30 PM)		
		In	Out	Total	In	Out	Total
PROPOSED USE							
LTACH	144 Bed	74	4	78	7	74	81
Dialysis Unit	84 Station	24	0	24	0	24	24
Adult Day Care	250 People	64	30	94	15	49	64
TOTAL		162	34	196	22	147	169
PERMITTED USE							
Apartments	68 Units	5	16	21	21	13	34
Medical Offices	6000 SF	12	3	15	6	16	22
TOTAL		17	19	36	27	29	56

Trip Distribution

The trip distribution for the project is based on traffic patterns on the adjacent roadways and the ease of access to various state highways such as Routes 4, 17, 46 and Route I-80.

The site has frontage on both Prospect and Summit Avenues with a main entrance proposed for Prospect Avenue and a secondary garage entrance planned for Summit Avenue. The garage access to Summit Avenue will be provided with a height limitation restricting its use to passenger cars. It is planned that the medical transports, patient drop offs and deliveries of supplies would use the Prospect Avenue driveway. Employees would utilize both access points to better distribute traffic volumes traveling to/from the site, depending upon their place of residence. A U-shaped driveway is also proposed along the Summit Avenue frontage to facilitate drop-offs to the site.

The directions of approach for the project and for each access point are presented in Figure 4. The distributed site generated traffic volumes are illustrated in Figure 5.

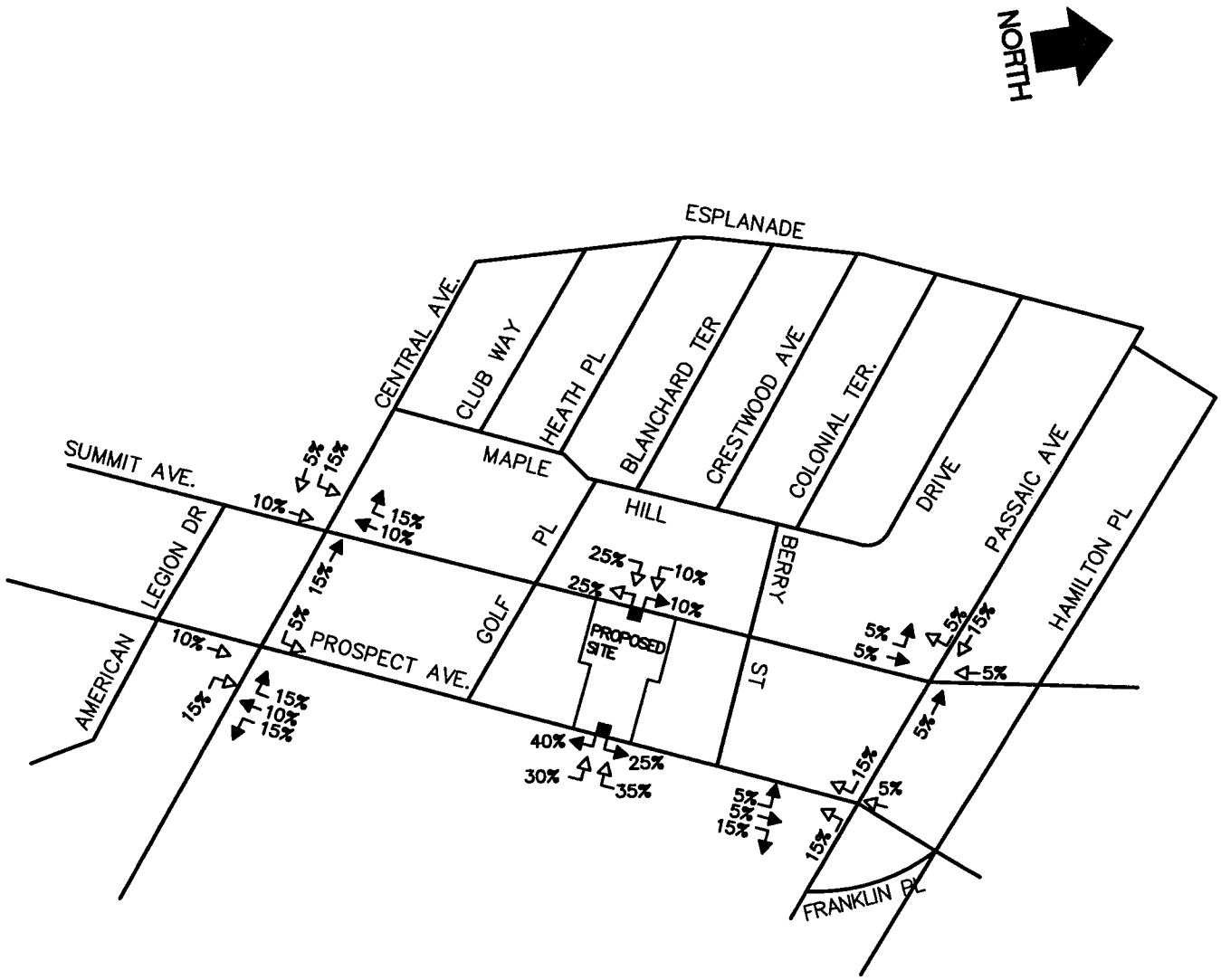
Year 2011 Build Conditions

The site generated traffic volumes were added to the Year 2011 No-Build traffic volumes to yield Year 2011 Build conditions and are illustrated in Figure 6. The Year 2011 Build AM and PM peak hour volumes are used to analyze operations at the four studied intersections given the completion and occupancy of the proposed facility.

As shown in Table 2, calculated levels of service at the four (4) signalized intersections for Year 2011 Build conditions will generally continue to provide more than acceptable levels of service during both peak hours, except for the southbound Summit Avenue left turn at Central Avenue. This approach movement is calculated to remain at LOS F during the AM peak hour as was calculated under No-Build conditions. Again, this current low level of operation is a result of the lack of a protected turn phase and the traffic volumes.

We examined potential mitigation measures to address this condition. This operational deficiency can be remedied by adding exclusive left turn lanes on the eastbound and westbound Central Avenue approaches and providing advance green phases for the southbound approach on Summit Avenue and the eastbound approach on Central Avenue.

The level of service summary for this intersection with the proposed mitigation is provided in Table 10. As shown in this table, the no build conditions at this intersection with the mitigation eliminate the LOS F condition that would exist during the AM peak hour without mitigation while maintaining LOS D or better on all of the other approach movements. Under Build conditions, the various approach movements remain at LOS D or better with generally negligible changes in the average delay.



LEGEND

⇦ – ARRIVAL

⇦ – DEPARTURE

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DATE: 9/15/09 SCALE: NTS CHKD.:

PROJ.: 090501

FIGURE 4

DIRECTIONS OF APPROACH

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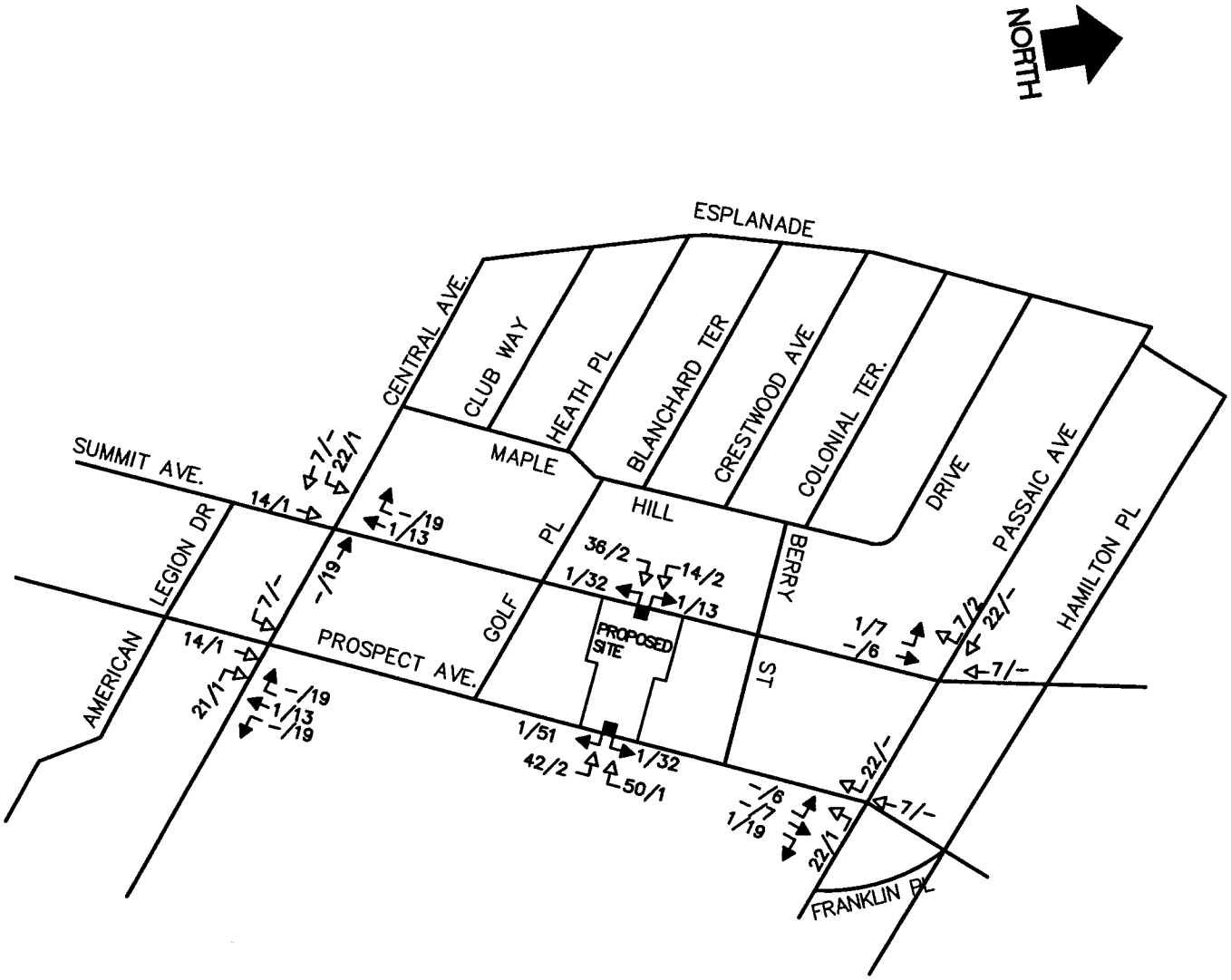

LEGEND

⇦ – ARRIVAL

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FIGURE 5

SITE GENERATED TRAFFIC VOLUMES

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

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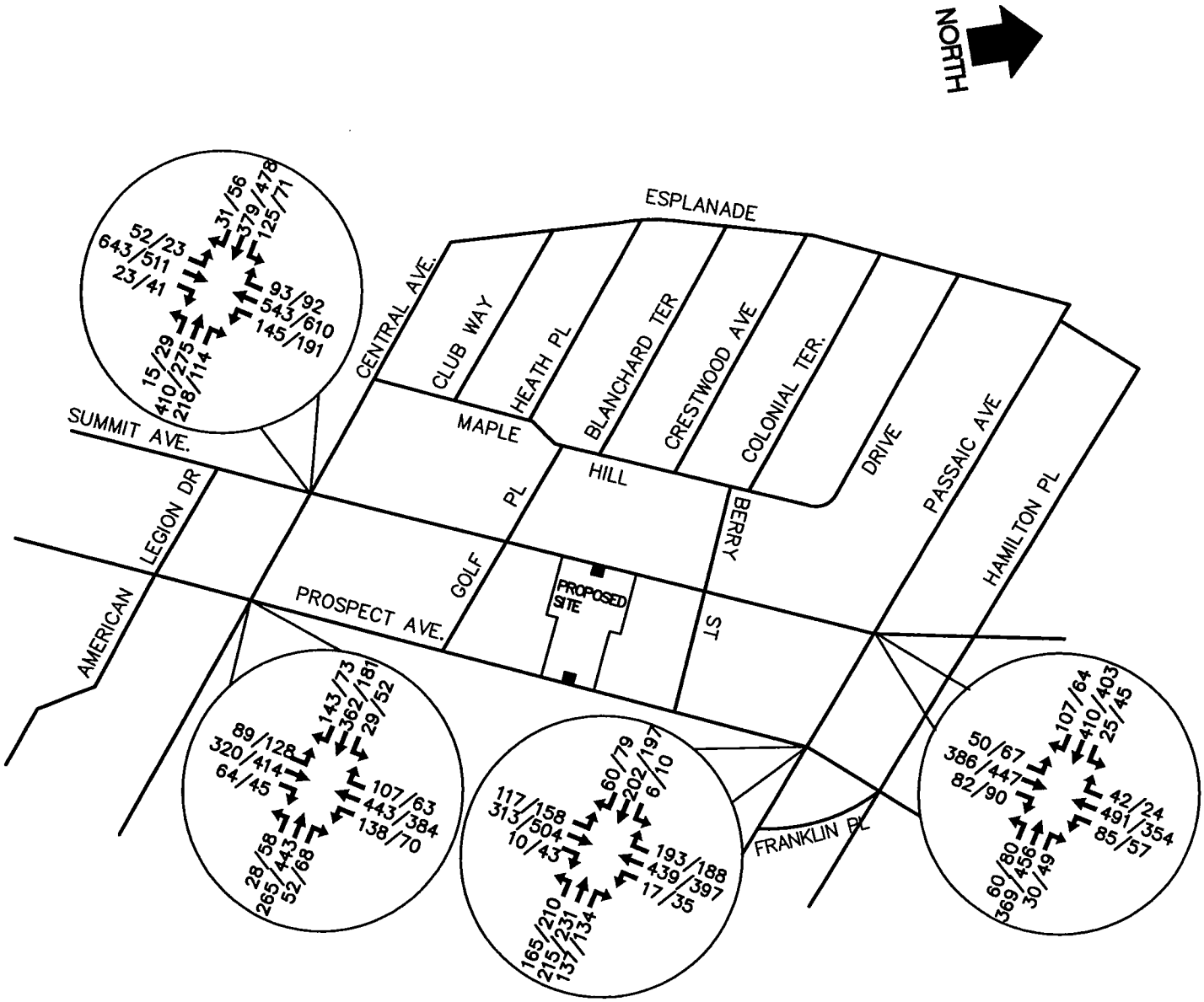

LEGEND

XX/XX — AM/PM PEAK HOUR TRAFFIC VOLUMES

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PROJ.: 090501

FIGURE 6

YEAR 2011 BUILD TRAFFIC VOLUMES

CITY OF HACKENSACK, BERGEN COUNTY, NEW JERSEY

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TABLE 10 LEVEL OF SERVICE SUMMARY SIGNALIZED INTERSECTION WITH MITIGATION				
Intersection	2011 No-Build		2011 Build	
	AM	PM	AM	PM
Summit Avenue & Central Avenue				
EB Central Ave. Left	29.2/C	18.1/B	46.6/D	17.0/B
EB Central Ave. Thru/Right	17.7/B	24.9/C	17.9/B	22.7/C
WB Central Ave. Left	18.1/B	21.3/C	17.8/B	21.4/C
WB Central Ave. Thru/Right	51.2/D	27.3/C	51.5/D	28.2/C
NB Summit Avenue Left	19.1/B	17.3/B	19.4/B	18.3/B
NB Summit Ave. Thru/Right	47.5/D	28.4/C	51.8/D	28.5/C
SB Summit Ave. Left	47.3/D	36.8/D	48.4/D	37.1/D
SB Summit Ave. Thru/Right	48.2/D	42.5/D	51.0/D	51.8/D
Overall	42.5/D	31.5/C	45.1/D	33.9/C

We have also performed capacity analyses of the unsignalized intersections between the garage access driveways and Prospect Avenue and Summit Avenue. Capacity analyses were not performed of the circular driveway on the Summit Avenue side or the service driveway on the Prospect Avenue side due to the low volumes and generally off-peak usage.

The methodology for unsignalized intersections calculates the maximum number of vehicles (capacity), based on traffic gap acceptance, dependent upon various parameters, that could utilize a given movement in comparison to the actual demand for that movement within the specific peak hour. The methodology addresses the ability of a vehicle to successfully complete a turn across conflicting traffic based on the number of acceptable gaps provided in the dominant vehicular flow. Average total delay, in seconds per vehicle, is calculated for each constrained traffic movement and used to determine each movement's level of service. Levels of service for unsignalized intersections are only computed for those movements that are impeded or constrained by flows on the major street (e.g. all movements on the side streets and left turns from the major street).

Table 11 presents the levels of service for the AM and PM peak hours at the proposed unsignalized intersections. As shown in this table, calculated levels of service will provide more than acceptable levels of service, i.e., these levels of operation accommodate existing traffic volumes with a reasonable amount of delay and do not result in long queues of traffic on any intersection approach.

TABLE 11 LEVEL OF SERVICE SUMMARY UNSIGNALIZED INTERSECTIONS		
Intersection	2011 Build	
	AM	PM
Prospect Avenue & Garage Driveway		
EB Garage Dwy. Left/Right	18.0/C	19.2/C
NB Prospect Ave. Left	9.4/A	8.6/A
Summit Avenue & Garage Driveway		
WB Garage Dwy. Right	31.7/D	30.6/D
SB Summit Ave. Left	9.5/A	9.0/A

Legend: Average stopped delay in seconds/Level of Service

PARKING DEMAND ANALYSIS

As was described in the Trip Generation section, the land uses contained in the proposed facility are not covered by industry reference manuals. Likewise there is no published data on parking demands for these proposed uses. As was developed for the trip generation, a parking demand analysis was performed based upon the population of the various use groups (employees, patients and visitors), the modal split of each category (auto, medical transport, public transportation, walk, etc.) and the temporal distribution of their arrivals and departures.

The initial parameter applied in this analysis was to determine what percentage of the various use groups would generate a parking demand. Based upon the information presented in Table 8, five percent (5%) of employees are anticipated to utilize non-auto modes of travel and therefore will not require a parking space. In addition, 11% of the employees are anticipated to be dropped off at work, while generating a vehicle trip, does not generate a parking demand as the vehicle does not stay. Further, it is unlikely that all of the surveyed employees drive to work alone and that there is some level of carpooling. This is supported by 2000 Census data which indicates that 12 to 14 percent of auto trips were comprised of carpools. This factor was not specifically addressed in the analyses but was subsumed in the category of "dropped off".

Next we examine the patients associated with the dialysis program and the adult day care. A majority of these patients are brought by medical transport/van and do not require a parking space other than the area where the transports/vans drop off. Some of the dialysis program's patients are resident in the LTACH and do not require any type of vehicle trip. Those patients/participants brought by private autos primarily involve drop off activity in the garage or in the circular driveway; and it is very unlikely for these patients/participants to drive themselves. It is possible that the driver of one of the private autos may park to bring the patient/participant into the facility, but it would be a short duration parking event as the driver would leave after bringing the patient/participant to the dialysis center or adult day care.

The final component of the parking demand is visitors. It is assumed that all visitors will drive to the facility and park. As was described in the Trip Generation section, visitors are limited to the LTACH component and are assumed to be distributed throughout the day.

While the City zoning ordinances contain a parking requirement for hospitals, an LTACH does not provide the type of services and programs found in a traditional hospital and therefore does not generate the same type of parking demand. As was described in the Trip Generation section, there are significant differences between these two types of medical uses which generates different trip demands and concurrently different parking demands.

Table 12 presents an hourly breakdown of parking demand for the proposed facility. This table includes both arrivals and departures which allows calculation of the cumulative occupancy of the proposed parking structure. As seen in Table 12, the

maximum calculated parking demand is 373 spaces based upon the level of employees, patients, participants and visitors. This again assumes that all of the beds in the LTACH and all of the stations (for all 3 rotations) in the dialysis center are occupied and that the adult day care is at full occupancy. This is a very conservative approach in evaluating parking demands.

The design of the parking structure has resulted in a capacity of 407 parking spaces not including the ten (10) additional spaces for medical transports, passenger vans and delivery vehicles. Therefore, the parking demand analysis has calculated that the garage will reach a maximum occupancy of approximately 92 percent, which is a satisfactory design parameter. This allows for turnover of vehicles and reduces the length of searching for a parking space. We further note that this peak parking demand occurs for only approximately 30 minutes during the day and evening shift overlap. Excluding this shift overlap period, the maximum occupancy of the garage is approximately 74 percent, which generally occurs between 9:00AM and 2:30 PM. The occupancy of the garage after the shift overlap is at approximately 60 percent of the capacity up to 5:30 PM when the occupancy drops again when the remaining day shift employees leave.

SITE PLAN REVIEW

As previously mentioned, two points of access will be provided to the parking structure, one each from Prospect Avenue and Summit Avenue. Both driveways will provide for two-way operations. The Summit Avenue driveway will be provided with a height restriction limiting its use to passenger cars. In addition, there are two other limited purpose driveways proposed for the development. One is a U-shaped, one-way driveway (12' wide) to and from Summit Avenue that provides convenience drop off for visitors and patients of this health care facility; as well as emergency service access as requested by the City Fire Department. The other is a service drive that extends from Prospect Avenue along the northern edge of the site. This service drive accommodates refuse pickups, bulk oxygen deliveries and limited other deliveries that cannot be accommodated in the garage. All other delivery activity will enter the site through the Prospect Avenue driveway into the loading area in the garage.

The Prospect Avenue garage access will permit full movement of vehicles with no turn restrictions either onto or off of Prospect Avenue. However, both the Summit Avenue garage access and the one way loop driveway will only permit exiting vehicles to turn right onto northbound Summit Avenue. This turn prohibition is reinforced both with signage and with the angling of the curb returns. Entering traffic from Summit Avenue to both driveways is proposed to permit both right and left turn movements.

The service drive off of Prospect Street will be utilized on a limited basis for food service deliveries, bulk oxygen deliveries and refuse collection (compactor). The frequency of activity on this driveway is approximately three (3) times per week, with the predominant use being for food service deliveries. The food service and bulk oxygen deliveries will be made utilizing small tractor trailers (WB-40), while the refuse collection will be made using a single-unit truck to pick up and place the compactor unit. A summary of expected truck deliveries are contained in Appendix VI.

The orientation of the building and the service facilities will require this limited number of vehicles to back into the service drive. This type of maneuver is frequently found in urban areas and can be accomplished safely with LTACH staff assistance. The number of maneuvers is limited and can be controlled to off-peak travel periods. This further allows exiting truck traffic to have clear lines of sight along Prospect Street as they exit. The available sight distances for trucks leaving this service driveway are 465 feet to the south and 510 feet to the north along Prospect Avenue. Exiting truck traffic (both tractor trailer and single unit vehicles) from the service driveway will momentarily cross the center line of Prospect Avenue, however, given the amount of sight distance, this maneuver can be made without impacting vehicular traffic along Prospect Avenue. As an alternative, truck traffic could be limited to left turn egress, which would require crossing both lanes of traffic, as occurs with any left turn movement.

The garage driveway to and from Prospect Avenue will also accommodate single unit trucks, vans and medical transports/passenger vans. These vehicles will generally consist of panel trucks and box vans with an occasional single-unit truck. It is calculated that there will be on average 20 trucks/vans per week making deliveries in

addition to the daily activities of the medical transports/passenger vans serving the patients and participants of the programs at this facility. A single-unit truck (SU-30) can maneuver into and out of the garage driveway without crossing the center line of Prospect Avenue. Other smaller delivery and passenger vans can also maneuver without crossing into opposing traffic as they have better turning radii than larger vehicles. The available sight distance from the garage driveway is 420 feet to the north and 375 feet to the south along Prospect Avenue.

The design of the interior driveways will also allow for adequate circulation of emergency and delivery vehicles. All small trucks, ambulances and passenger vans that enter the parking structure will enter the site on Prospect Avenue and descend to the top level of the garage for loading and unloading of passengers or goods. The parking structure has been designed with adequate vertical clearance and greater aisle widths to accommodate the various truck sizes and types.

The layout of the parking structure provides a minimum internal aisle width of 25 feet between parking spaces in the main portions of the garage where 90-degree head in parking is provided. This design provides adequate width for two-way traffic circulation and parking maneuvers. The one-way drive aisles in the garage are 18 feet in width where angled parking (65°) is proposed. This is consistent with design guidelines for parking garages that recommend an aisle width of between 11 and 18.5 feet.

The parking spaces are proposed to be 9 feet wide and 18 feet deep for perpendicular and angled parking spaces. Parallel parking spaces are also proposed in the parking garage with dimensions of 9 feet in width and 21.5 feet in length. Based on the recognized standard engineering criteria for parking spaces, these sizes are consistent with design criteria for parking garages and for the typical motor vehicle fleet utilized by the motoring public.

CONCLUSIONS

Based upon our data collection efforts, research and analyses, it is our professional opinion that the proposed traffic associated with the Bergen Passaic LTACH has no adverse impact on traffic operations within the study area. Overall, we find that there are no significant traffic operations problems within the study area under existing or future year conditions except for the intersection of Summit Avenue with Central Avenue. This intersection currently experiences a poor level of service under existing conditions which will be exacerbated by regional traffic growth, regardless of the redevelopment of this site.

Prospect Avenue is categorized as an urban collector street and Summit Avenue as an urban minor arterial under the Hackensack Master Plan and NJDOT street classification system. The hourly and daily traffic volumes collected for these two streets are consistent with these functional classifications. These data indicate that Summit Avenue consistently carries more traffic than Prospect Avenue, even though the density of land uses along Prospect Avenue are greater in the vicinity of this site.

To address the existing operational deficiency at the intersection of Summit Avenue with Central Avenue, a mitigation plan has been developed to not only address the incremental impact of the proposed redevelopment but also those found under existing conditions. This mitigation project, which would be implemented as an off-tract improvement of the redevelopment, would include the addition of exclusive left turn lanes along Central Avenue and the introduction of lead green indications for the existing left turn lanes along Summit Avenue. This mitigation project would improve the intersection operations to provide LOS D or better conditions on all approaches during both peak hours. This will provide improved operations over what currently exists at this location now and in the future

An advantage of this proposed redevelopment project is that the employee work shifts do not correspond with peak commuter periods, resulting in a significant portion of traffic occurring at non-peak hours. This advantage is furthered by the different schedules for the LTACH, dialysis and adult day care components which vary amongst themselves. The arrangement of garage access driveways allows site traffic to be generated to two arterial streets within Hackensack, Prospect Avenue and Summit Avenue. Since the garage structure is interconnected between the two driveways, traffic entering and exiting through either driveway can reach any part of the garage.

Truck traffic serving the site will be limited to the Prospect Avenue side of the development, with the majority of the delivery activity being handled within the garage at the internal loading facilities. Limited truck deliveries and refuse collection will be made via a surface service drive with 2 to 3 vehicles per week using this driveway. The driveways are designed to accommodate the type and frequency of truck traffic expected for this facility.

The parking for this facility is contained wholly in the belowground parking garage, which contains 407 parking spaces plus an additional 10 spaces for medical transports,

passenger vans and delivery vehicles. Not every employee, patient or participant trip to the site results in a single-occupant vehicle trip to the site. Based upon a trip survey of Prospect Heights Care Center, approximately 5 percent of employees use public transportation or walk, while an additional 10 percent are dropped off at work. It is also likely that the remaining employees do not all drive to work by themselves and that there is some level of carpooling that occurs. However, to be conservative, this potential has not been incorporated into our analyses. Many of the patients and participants at the dialysis center and adult day care will be transported by medical/passenger vans as will all of the LTACH patients.

Given the employee shift schedules, staffing levels and modal splits, there is more than adequate parking available to handle the peak shift overlap which occurs around 3 PM. The peak parking demand, at the shift overlap, is calculated to be 373 spaces, approximately 92 percent of the garage capacity. This peak demand occurs for a limited period of time approximately 30 minutes during the day and evening shift overlap. Outside this time frame the peak garage occupancy is calculated to be approximately 74 percent of capacity.

In summary, we find that the street network serving the proposed Bergen Passaic LTACH and the surrounding community is adequate to accommodate the traffic needs and demands of the system. It is our professional opinion that the traffic generated by the proposed redevelopment project will have a minimal impact on the traffic operations of area streets and intersections and that an adequate parking supply is provided. The design of the site improvements, including the proposed driveways and parking lots, will more than adequately serve the needs of the facility and provide adequate facilities for emergency and other municipal services.

APPENDIX I

LEVEL OF SERVICE DEFINITIONS

DEFINITION OF LEVELS OF SERVICE

FOR SIGNALIZED INTERSECTIONS

Throughout this report, intersection capacities are defined in terms of Level of Service from Level A to Level F. A description of each range of Level of Service for signalized intersections as described in the Highway Capacity Manual is as follows:

Level of Service A

Describes operations with very low control delay, i.e., less than 10.0 sec. per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of Service B

Describes operations with a control delay in the range of 10.1 to 20.0 sec. per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay.

Level of Service C

Describes operations with control delay in the range of 20.1 to 35.0 sec. per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level of Service D

Describes operations with control delay in the range of 35.1 to 55.0 sec. per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E

Describes operations with control delay in the range of 55.1 to 80.0 sec. per vehicle. LOS E is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of Service F

Describes operations with control delay in excess of 80.0 sec. per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS	
Level of Service	Stopped Delay per Vehicle (sec.)
A	0.0 to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	>80.0

LEVEL OF SERVICE CRITERIA

FOR UNSIGNALIZED INTERSECTIONS

The computations to determine levels of service at two-way stop controlled (TWSC) intersections utilize a gap acceptance methodology. This method computes the potential capacity of each minor traffic stream in accordance with a formula based upon the amount of traffic in the conflicting traffic stream and the critical gap for that movement. The potential capacities for each movement are adjusted to account for impedance and the use of shared lanes.

Impedance factors account for the utilization of available gaps in various traffic streams in a prioritized manner. Higher ranked minor traffic streams will utilize gaps before lower ranked minor traffic streams. The capacity of lower ranked traffic streams is affected by the amount of traffic utilizing higher ranked traffic streams.

Rank 1 traffic streams include through and right-turning traffic flows along the major road which are assumed to be unimpeded by any of the minor traffic streams.

Rank 2 traffic streams are minor traffic flows that include left turns from the major road and right turns from the minor road. Rank 2 traffic streams must yield only to the major road through and right-turning traffic streams of Rank 1.

Rank 3 traffic streams are minor traffic flows that include crossing movements at four-legged intersections and left-turning traffic at three-legged intersections. Rank 3 traffic streams must yield not only to the major traffic streams (Rank 1), but also to the conflicting major street left-turn movement (Rank 2).

Rank 4 traffic streams are minor traffic flows (at four-legged intersections only) that include left turns from the minor road. Rank 4 traffic streams have the potential to be impeded by major street left-turning traffic (Rank 2), minor street right-turning traffic (Rank 2), and minor street crossing movements (Rank 3).

The level of service criteria for two-way stop controlled intersections is presented in the following table:

LEVEL OF SERVICE CRITERIA FOR TWSC INTERSECTIONS	
Level of Service	Average Total Delay (Sec./Veh.)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

The proposed level of service criteria for two-way stop controlled intersections are somewhat different from the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on the minor approaches of unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection.

APPENDIX II

CAPACITY ANALYSES

IIA EXISTING CONDITIONS
IIB YEAR 2011 NO BUILD CONDITIONS
IIC YEAR 2011 BUILD CONDITIONS
IID YEAR 2011 BUILD CONDITIONS WITH MITIGATION

APPENDIX IIA

EXISTING CONDITIONS

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	19	341	135	26	250	26	84	286	60	125	414	96
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	11	0	0	3	0	0	6	0	0	8
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		510			314		88	358		132	529	
Lane Group Capacity, c		758			728		228	779		365	756	
v/c Ratio, X		0.67			0.43		0.39	0.46		0.36	0.70	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		16.1			14.0		13.7	14.2		13.5	16.3	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		4.7			1.9		4.9	1.9		2.8	5.3	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		20.8			15.9		18.6	16.2		16.3	21.7	
Lane Group LOS		C			B		B	B		B	C	
Approach Delay	20.8			15.9			16.7			20.6		

Approach LOS	C	B	B	C
Intersection Delay	19.0	X_c = 0.69	Intersection LOS	B

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	47	171	69	55	417	61	121	388	42	45	348	39
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	3	0	0	3
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		293			549		126	445		47	401	
Lane Group Capacity, c		675			724		330	787		294	765	
v/c Ratio, X		0.43			0.76		0.38	0.57		0.16	0.52	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		14.0			16.9		13.7	15.1		12.3	14.7	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		2.0			7.3		3.3	2.9		1.2	2.6	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		16.1			24.2		17.0	18.0		13.4	17.3	
Lane Group LOS		B			C		B	B		B	B	
Approach Delay	16.1			24.2			17.8			16.9		

Approach LOS	B	C	B	B
Intersection Delay	19.2	X_c = 0.66	Intersection LOS	B

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General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	6	190	34	133	203	129	109	293	5	16	405	182
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	0	0	0	1	0	0	3
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	7	249		149	373			455			674	
Lane Group Capacity, c	362	822		459	775			1260			771	
v/c Ratio, X	0.02	0.30		0.32	0.48			0.36			0.87	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.5		10.6	11.6			10.8			15.0	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.1	0.9		1.9	2.1			0.8			13.2	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.3	11.5		12.5	13.7			11.6			28.1	
Lane Group LOS	A	B		B	B			B			C	
Approach Delay	11.4			13.4			11.6			28.1		

Approach LOS	B	B	B	C
Intersection Delay	17.9	X_c = 0.68	Intersection LOS	B

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	9	186	34	157	218	126	142	467	20	33	366	177
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	3	0	0	10	0	0	2	0	0	15
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	9	229		165	351			660			591	
Lane Group Capacity, c	380	822		477	780			1295			762	
v/c Ratio, X	0.02	0.28		0.35	0.45			0.51			0.78	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.4		10.7	11.4			11.8			13.9	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.1	0.8		2.0	1.9			1.4			7.6	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.3	11.2		12.7	13.3			13.2			21.5	
Lane Group LOS	A	B		B	B			B			C	
Approach Delay	11.1			13.1			13.2			21.5		

Approach LOS	B	B	B	C
Intersection Delay	15.4	X_c = 0.61	Intersection LOS	B

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	95	349	29	14	382	206	49	591	22	137	508	83
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	16	0	0	2	0	0	6
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		491			611		51	637		143	609	
Lane Group Capacity, c		641			777		177	834		157	799	
v/c Ratio, X		0.77			0.79		0.29	0.76		0.91	0.76	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		13.8			14.0		10.4	13.8		15.4	13.8	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		8.5			7.9		4.1	6.6		51.4	6.8	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		22.4			21.9		14.5	20.4		66.7	20.6	
Lane Group LOS		C			C		B	C		E	C	
Approach Delay	22.4			21.9			20.0			29.4		
	C			C			B			C		

Approach LOS				
Intersection Delay	23.7	X_c = 0.85	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	64	449	53	27	238	107	22	480	39	180	561	66
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	5	0	0	6	0	0	2	0	0	4
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		567			369		22	522		182	630	
Lane Group Capacity, c		754			753		162	829		241	802	
v/c Ratio, X		0.75			0.49		0.14	0.63		0.76	0.79	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		13.7			11.6		9.7	12.7		13.7	14.0	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		6.8			2.3		1.7	3.6		19.6	7.6	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		20.5			13.9		11.4	16.3		33.3	21.7	
Lane Group LOS		C			B		B	B		C	C	
Approach Delay	20.5			13.9			16.1			24.3		
	C			B			B			C		

Approach LOS				
Intersection Delay	*19.7*	X_c = *0.77*	Intersection LOS	*B*

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HCS+™ DETAILED REPORT

General Information

Analyst	RLV
Agency or Co.	Omland Engineerg. Assoc., Inc.
Date Performed	9/9/2009
Time Period	AM Peak

Site Information

Intersection	Summit Ave. & Passaic Ave.
Area Type	All other areas
Jurisdiction	Bergen Co.
Analysis Year	Exist. 2008
Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	24	364	93	57	347	28	46	362	77	80	455	40
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	8	0	0	3	0	0	6	0	0	7
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			1		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 94.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		514			466		50	470		87	531	
Lane Group Capacity, c		769			710		233	812		280	824	
v/c Ratio, X		0.67			0.66		0.21	0.58		0.31	0.64	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		20.5			20.4		15.9	19.4		16.7	20.2	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		4.6			4.7		2.1	3.0		2.9	3.9	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		25.1			25.1		18.0	22.4		19.6	24.1	
Lane Group LOS		C			C		B	C		B	C	
Approach Delay	25.1			25.1			22.0			23.4		

Approach LOS	C	C	C	C
Intersection Delay	23.8	X_c = 0.66	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Exist. 2008
		Project ID	090501: LTACH Existing Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	42	377	59	75	423	46	57	415	85	54	333	23
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	6	0	0	2
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 94.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		492			562		59	514		56	369	
Lane Group Capacity, c		741			691		361	812		246	825	
v/c Ratio, X		0.66			0.81		0.16	0.63		0.23	0.45	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		20.4			22.6		15.5	20.1		16.0	18.0	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		4.7			10.1		1.0	3.7		2.1	1.8	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		25.1			32.7		16.5	23.8		18.2	19.7	
Lane Group LOS		C			C		B	C		B	B	
Approach Delay	25.1			32.7			23.0			19.5		

Approach LOS	C	C	C	B
Intersection Delay	25.5	X_c = 0.72	Intersection LOS	C

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APPENDIX IIB

2011 NO BUILD CONDITIONS

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	20	362	143	28	265	28	89	304	64	133	439	102
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	11	0	0	3	0	0	6	0	0	8
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		541			334		94	381		140	561	
Lane Group Capacity, c		757			724		204	779		346	756	
v/c Ratio, X		0.71			0.46		0.46	0.49		0.40	0.74	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		16.5			14.2		14.2	14.5		13.8	16.8	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		5.7			2.1		7.3	2.2		3.5	6.5	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		22.2			16.4		21.6	16.7		17.3	23.2	
Lane Group LOS		C			B		C	B		B	C	
Approach Delay	22.2			16.4			17.6			22.1		

Approach LOS	C	B	B	C
Intersection Delay	20.1	X_c = 0.73	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	50	181	73	58	443	65	128	412	45	48	369	41
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	3	0	0	3
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		311			584		133	473		50	424	
Lane Group Capacity, c		663			722		311	787		272	765	
v/c Ratio, X		0.47			0.81		0.43	0.60		0.18	0.55	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		14.3			17.5		14.0	15.4		12.4	15.0	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		2.4			9.5		4.3	3.4		1.5	2.9	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		16.7			27.0		18.2	18.8		13.9	17.9	
Lane Group LOS		B			C		B	B		B	B	
Approach Delay	16.7			27.0			18.7			17.5		

Approach LOS	*B*	*C*	*B*	*B*
Intersection Delay	*20.5*	X_c = *0.70*	Intersection LOS	*C*

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HCS+™ DETAILED REPORT

General Information

Analyst	RLV
Agency or Co.	Omland Engineerg. Assoc., Inc.
Date Performed	9/9/2009
Time Period	AM Peak

Site Information

Intersection	Prospect Ave. & Passaic Ave.
Area Type	All other areas
Jurisdiction	Bergen Co.
Analysis Year	No Build 2011
Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	6	202	36	141	215	137	116	311	5	17	430	193
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	0	0	0	1	0	0	3
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	7	265		158	396			483			715	
Lane Group Capacity, c	343	822		445	775			1235			770	
v/c Ratio, X	0.02	0.32		0.36	0.51			0.39			0.93	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.6		10.8	11.8			11.0			15.6	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.1	1.0		2.2	2.4			0.9			19.1	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.3	11.7		13.0	14.2			11.9			34.7	
Lane Group LOS	A	B		B	B			B			C	
Approach Delay	11.6			13.9			11.9			34.7		

Approach LOS	B	B	B	C
Intersection Delay	20.4	X_c = 0.72	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	10	197	36	167	231	134	151	496	21	35	388	188
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	3	0	0	10	0	0	2	0	0	15
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	11	242		176	374			701			627	
Lane Group Capacity, c	361	822		465	780			1273			759	
v/c Ratio, X	0.03	0.29		0.38	0.48			0.55			0.83	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.5		10.9	11.6			12.1			14.4	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.2	0.9		2.3	2.1			1.7			10.0	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.4	11.4		13.3	13.7			13.8			24.4	
Lane Group LOS	A	B		B	B			B			C	
Approach Delay	11.3			13.5			13.8			24.4		

Approach LOS	*B*	*B*	*B*	*C*
Intersection Delay	*16.6*	X_c = *0.65*	Intersection LOS	*B*

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	101	370	31	15	405	219	52	627	23	145	539	88
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	16	0	0	2	0	0	6
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		520			649		54	675		151	646	
Lane Group Capacity, c		620			776		150	834		129	799	
v/c Ratio, X		0.84			0.84		0.36	0.81		1.17	0.81	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		14.6			14.6		10.8	14.3		16.5	14.3	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		12.8			10.4		6.6	8.3		132.3	8.6	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		27.4			24.9		17.4	22.6		148.8	22.9	
Lane Group LOS		C			C		B	C		F	C	
Approach Delay	27.4			24.9			22.2			46.8		
	C			C			C			D		

Approach LOS				
Intersection Delay	*31.1*	X_c = *1.00*	Intersection LOS	*C*

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	68	476	56	29	253	114	23	509	41	191	595	70
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	5	0	0	6	0	0	2	0	0	4
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		602			394		23	553		193	668	
Lane Group Capacity, c		751			750		134	829		218	802	
v/c Ratio, X		0.80			0.53		0.17	0.67		0.89	0.83	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		14.2			11.9		9.8	13.0		15.1	14.5	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		8.8			2.6		2.8	4.2		37.1	9.9	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		23.0			14.5		12.6	17.2		52.2	24.4	
Lane Group LOS		C			B		B	B		D	C	
Approach Delay	23.0			14.5			17.0			30.6		
	C			B			B			C		

Approach LOS				
Intersection Delay	22.9	X_c = 0.84	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information

Analyst	*RLV*
Agency or Co.	*Omland Engineerg. Assoc., Inc.*
Date Performed	*9/9/2009*
Time Period	*AM Peak*

Site Information

Intersection	*Summit Ave. & Passaic Ave.*
Area Type	*All other areas*
Jurisdiction	*Bergen Co.*
Analysis Year	*No Build 2011*
Project ID	*090501: LTACH No Build Conditions.*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	25	386	99	60	368	30	49	384	82	85	483	42
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	8	0	0	3	0	0	6	0	0	7
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			1		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 94.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		546			494		53	500		92	563	
Lane Group Capacity, c		768			698		210	811		257	824	
v/c Ratio, X		0.71			0.71		0.25	0.62		0.36	0.68	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		21.1			21.0		16.2	19.9		17.1	20.7	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		5.5			6.0		2.9	3.5		3.9	4.6	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		26.6			27.0		19.1	23.3		21.0	25.3	
Lane Group LOS		C			C		B	C		C	C	
Approach Delay	26.6			27.0			22.9			24.7		

Approach LOS	C	C	C	C
Intersection Delay	25.2	X_c = 0.70	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	45	400	63	80	449	49	60	440	90	57	353	24
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	6	0	0	2
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 94.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		523			597		63	546		59	391	
Lane Group Capacity, c		733			676		343	812		222	825	
v/c Ratio, X		0.71			0.88		0.18	0.67		0.27	0.47	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		21.1			23.8		15.7	20.6		16.3	18.2	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		5.9			15.5		1.2	4.4		2.9	1.9	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		27.0			39.3		16.8	25.0		19.2	20.2	
Lane Group LOS		C			D		B	C		B	C	
Approach Delay	27.0			39.3			24.1			20.1		

Approach LOS	C	D	C	C
Intersection Delay	28.1	X_c = 0.78	Intersection LOS	C

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APPENDIX IIC

2011 BUILD CONDITIONS

Detailed Report

HCS+™ DETAILED REPORT

General Information

Analyst	RLV
Agency or Co.	Omland Engineerg. Assoc., Inc.
Date Performed	9/11/2009
Time Period	AM Peak

Site Information

Intersection	Prospect Ave. & Central Ave.
Area Type	All other areas
Jurisdiction	Bergen Co.
Analysis Year	Build 2011
Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	29	362	143	28	265	52	89	320	64	138	443	107
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	11	0	0	3	0	0	6	0	0	8
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		551			360		94	398		145	570	
Lane Group Capacity, c		747			720		197	780		332	755	
v/c Ratio, X		0.74			0.50		0.48	0.51		0.44	0.75	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		16.7			14.5		14.4	14.6		14.1	16.9	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		6.4			2.5		8.1	2.4		4.1	6.9	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		23.1			17.0		22.4	17.0		18.2	23.8	
Lane Group LOS		C			B		C	B		B	C	
Approach Delay	23.1			17.0			18.0			22.7		

Approach LOS	*C*	*B*	*B*	*C*
Intersection Delay	*20.8*	X_c = *0.75*	Intersection LOS	*C*

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	52	181	73	58	443	68	128	414	45	70	384	63
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	3	0	0	3
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		313			587		133	475		73	463	
Lane Group Capacity, c		657			721		279	787		270	760	
v/c Ratio, X		0.48			0.81		0.48	0.60		0.27	0.61	
Total Green Ratio, g/C		0.43			0.43		0.43	0.43		0.43	0.43	
Uniform Delay, d_1		14.4			17.6		14.4	15.4		12.9	15.5	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		2.5			9.8		5.7	3.4		2.5	3.6	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		16.8			27.3		20.1	18.8		15.4	19.1	
Lane Group LOS		B			C		C	B		B	B	
Approach Delay	16.8			27.3			19.1			18.6		

Approach LOS	B	C	B	B
Intersection Delay	21.0	X_c = 0.71	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	6	202	60	165	215	137	117	313	10	17	439	193
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	0	0	0	1	0	0	3
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	7	292		185	396			493			725	
Lane Group Capacity, c	343	812		422	775			1230			771	
v/c Ratio, X	0.02	0.36		0.44	0.51			0.40			0.94	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.8		11.3	11.8			11.1			15.7	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.1	1.2		3.3	2.4			1.0			20.8	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.3	12.1		14.6	14.2			12.0			36.5	
Lane Group LOS	A	B		B	B			B			D	
Approach Delay	12.0			14.3			12.0			36.5		

Approach LOS	B	B	B	D
Intersection Delay	21.1	X_c = 0.73	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Prospect Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	0	2	0	0	1	0
Lane Group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	10	197	79	210	231	134	158	504	43	35	397	188
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type, AT	3	3		3	3			3			3	
Unit Extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR Volumes	0	0	3	0	0	10	0	0	2	0	0	15
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	-2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2			0			0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	11	287		221	374			740			637	
Lane Group Capacity, c	361	805		426	780			1260			757	
v/c Ratio, X	0.03	0.36		0.52	0.48			0.59			0.84	
Total Green Ratio, g/C	0.45	0.45		0.45	0.45			0.45			0.45	
Uniform Delay, d_1	9.2	10.8		11.8	11.6			12.3			14.6	
Progression Factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay, d_2	0.2	1.2		4.5	2.1			2.0			10.9	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0			0.0			0.0	
Control Delay	9.4	12.0		16.3	13.7			14.3			25.5	
Lane Group LOS	A	B		B	B			B			C	
Approach Delay	11.9			14.7			14.3			25.5		

Approach LOS	*B*	*B*	*B*	*C*
Intersection Delay	*17.3*	X_c = *0.68*	Intersection LOS	*B*

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	125	379	31	15	410	219	52	643	23	145	543	93
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	16	0	0	2	0	0	6
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		555			654		54	692		151	657	
Lane Group Capacity, c		569			776		142	834		124	798	
v/c Ratio, X		0.98			0.84		0.38	0.83		1.22	0.82	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		16.2			14.6		10.9	14.5		16.5	14.4	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		32.1			10.8		7.6	9.4		150.8	9.4	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		48.3			25.4		18.5	23.9		167.3	23.8	
Lane Group LOS		D			C		B	C		F	C	
Approach Delay	48.3			25.4			23.5			50.6		
	D			C			C			D		

Approach LOS				
Intersection Delay	36.9	X_c = 1.10	Intersection LOS	D

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	71	478	56	29	275	114	23	511	41	191	610	92
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	5	0	0	6	0	0	2	0	0	4
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 3	Y =	Y =	Y =	Y = 3	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		607			416		23	555		193	705	
Lane Group Capacity, c		748			753		124	829		216	799	
v/c Ratio, X		0.81			0.55		0.19	0.67		0.89	0.88	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		14.3			12.1		9.9	13.0		15.2	15.1	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		9.3			2.9		3.3	4.3		38.7	13.5	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		23.6			15.0		13.2	17.3		53.9	28.5	
Lane Group LOS		C			B		B	B		D	C	
Approach Delay	23.6			15.0			17.1			34.0		
	C			B			B			C		

Approach LOS				
Intersection Delay	24.4	X_c = 0.85	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	25	410	107	60	369	30	50	386	82	85	491	42
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	8	0	0	3	0	0	6	0	0	7
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			1		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 94.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		581			495		54	503		92	572	
Lane Group Capacity, c		769			688		203	812		255	824	
v/c Ratio, X		0.76			0.72		0.27	0.62		0.36	0.69	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		21.7			21.2		16.3	19.9		17.1	20.8	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		6.8			6.4		3.2	3.5		3.9	4.8	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		28.5			27.6		19.5	23.4		21.1	25.6	
Lane Group LOS		C			C		B	C		C	C	
Approach Delay	28.5			27.6			23.0			25.0		

Approach LOS	C	C	C	C
Intersection Delay	26.0	X_c = 0.72	Intersection LOS	C

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Approach LOS	C	C	C	C
Intersection Delay	26.0	X_c = 0.72	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Passaic Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	0	1	0	0	1	0	1	1	0	1	1	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	45	403	64	80	456	49	67	447	90	57	354	24
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up Lost Time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT		3			3		3	3		3	3	
Unit Extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	6	0	0	5	0	0	6	0	0	2
Lane Width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B		2			2		0	0		0	0	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 42.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 94.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		527			604		70	554		59	392	
Lane Group Capacity, c		732			676		342	812		216	825	
v/c Ratio, X		0.72			0.89		0.20	0.68		0.27	0.48	
Total Green Ratio, g/C		0.45			0.45		0.45	0.45		0.45	0.45	
Uniform Delay, d_1		21.2			23.9		15.8	20.7		16.4	18.3	
Progression Factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay, d_2		6.0			16.6		1.3	4.6		3.1	2.0	
Initial Queue Delay, d_3		0.0			0.0		0.0	0.0		0.0	0.0	
Control Delay		27.2			40.5		17.2	25.3		19.5	20.2	
Lane Group LOS		C			D		B	C		B	C	
Approach Delay	27.2			40.5			24.4			20.1		

Approach LOS	C	D	C	C
Intersection Delay	28.6	X_c = 0.79	Intersection LOS	C

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	RLV
Agency/Co.	Omland Engrg. Assoc., Inc
Date Performed	9/11/2009
Analysis Time Period	AM peak

Site Information

Intersection	LTACH Dwy. & Prospect Ave.
Jurisdiction	Municipal
Analysis Year	Build 2011

Project Description: 090501: LTACH Driveway and Prospect Ave. - Build Cond.

East/West Street: Prospect Driveway

North/South Street: Prospect Avenue

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	49	392			640	57
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	51	412	0	0	673	60
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	8		14			
Peak-Hour Factor, PHF	0.95	1.00	0.95	0.95	1.00	0.95
Hourly Flow Rate, HFR (veh/h)	8	0	14	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	51						22	
C (m) (veh/h)	872						298	
v/c	0.06						0.07	
95% queue length	0.19						0.24	
Control Delay (s/veh)	9.4						18.0	
LOS	A						C	
Approach Delay (s/veh)	--	--					18.0	
Approach LOS	--	--					C	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RLV*
Agency/Co.	*Omland Engrg. Assoc., Inc*
Date Performed	*9/11/2009*
Analysis Time Period	*PM peak*

Site Information

Intersection	*LTACH Dwy. & Prospect Ave.*
Jurisdiction	*Municipal*
Analysis Year	*Build 2011*

Project Description *090501: LTACH Driveway and Prospect Ave. - Build Cond.*

East/West Street: *Prospect Driveway* | North/South Street: *Prospect Avenue*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*527*			*525*	*8*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*7*	*554*	*0*	*0*	*552*	*8*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*37*		*59*			
Peak-Hour Factor, PHF	*0.95*	*1.00*	*0.95*	*0.95*	*1.00*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*38*	*0*	*62*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*7*						*100*	
C (m) (veh/h)	*1011*						*353*	
v/c	*0.01*						*0.28*	
95% queue length	*0.02*						*1.14*	
Control Delay (s/veh)	*8.6*						*19.2*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--					*19.2*	
Approach LOS	--	--					*C*	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	RLV
Agency/Co.	Omland Engrg. Assoc., Inc
Date Performed	9/11/2009
Analysis Time Period	AM peak

Site Information

Intersection	LTACH Dwy. & Summit Ave.
Jurisdiction	Municipal
Analysis Year	Build 2011

Project Description: 090501: LTACH Driveway and Summit Ave. - Build Cond.

East/West Street: Summit Driveway

Intersection Orientation: North-South

North/South Street: Summit Avenue

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		731	40	16	707	
Peak-Hour Factor, PHF	1.00	0.95	0.95	0.95	0.95	1.00
Hourly Flow Rate, HFR (veh/h)	0	769	42	16	744	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				9		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	9	0	3
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		16		12				
C (m) (veh/h)		815		147				
v/c		0.02		0.08				
95% queue length		0.06		0.26				
Control Delay (s/veh)		9.5		31.7				
LOS		A		D				
Approach Delay (s/veh)	--	--	31.7					
Approach LOS	--	--	D					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RLV*
Agency/Co.	*Omland Engrg. Assoc., Inc*
Date Performed	*9/11/2009*
Analysis Time Period	*PM peak*

Site Information

Intersection	*LTACH Dwy. & Summit Ave.*
Jurisdiction	*Municipal*
Analysis Year	*Build 2011*

Project Description *090501: LTACH Driveway and Summit Ave. - Build Cond.*

East/West Street: *Summit Driveway* | North/South Street: *Summit Avenue*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*641*	*5*	*2*	*676*	
Peak-Hour Factor, PHF	*1.00*	*0.95*	*0.95*	*0.95*	*0.95*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*674*	*5*	*2*	*711*	*0*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*37*		*14*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.95*	*1.00*	*0.95*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*38*	*0*	*14*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (veh/h)		*2*		*52*				
C (m) (veh/h)		*913*		*192*				
v/c		*0.00*		*0.27*				
95% queue length		*0.01*		*1.05*				
Control Delay (s/veh)		*9.0*		*30.6*				
LOS		*A*		*D*				
Approach Delay (s/veh)	--	--	*30.6*					
Approach LOS	--	--	*D*					

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APPENDIX IID

2011 CONDITIONS WITH MITIGATION

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions. NBSB Lead LT

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	101	370	31	15	405	219	52	627	23	145	539	88
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	A	A	A	P	P	P	A	P	P	A	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT	3	3		3	3		3	3		3	3	
Unit Extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	16	0	0	2	0	0	6
Lane Width	12.0	12.5		12.0	12.5		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 4.0	G = 34.0	G =	G =	G = 5.0	G = 35.0	G =	G =
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	105	415		16	633		54	675		151	646	
Lane Group Capacity, c	160	838		312	668		181	721		181	690	
v/c Ratio, X	0.66	0.50		0.05	0.95		0.30	0.94		0.83	0.94	
Total Green Ratio, g/C	0.46	0.46		0.38	0.38		0.48	0.39		0.48	0.39	
Uniform Delay, d_1	19.8	17.2		17.8	27.1		18.2	26.4		20.1	26.4	
Progression Factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k	0.23	0.11		0.50	0.50		0.11	0.50		0.37	0.50	
Incremental Delay, d_2	9.4	0.5		0.3	24.1		0.9	21.1		27.2	21.8	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay	29.2	17.7		18.1	51.2		19.1	47.5		47.3	48.2	
Lane Group LOS	C	B		B	D		B	D		D	D	
Approach Delay	20.0			50.4			45.4			48.0		
	C			D			D			D		

Approach LOS				
Intersection Delay	42.5	X_c = 0.95	Intersection LOS	D

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/9/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	No Build 2011
		Project ID	090501: LTACH No Build Conditions. NBSB LT Phasing

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	68	476	56	29	253	114	23	509	41	191	595	70
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Pretimed (P) or Actuated (A)	P	P	P	P	P	P	A	P	P	A	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT	3	3		3	3		3	3		3	3	
Unit Extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	5	0	0	6	0	0	2	0	0	4
Lane Width	12.0	12.5		12.0	12.5		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 4.0	G = 32.0	G =	G =	G = 5.0	G = 37.0	G =	G =
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	69	533		29	365		23	553		193	668	
Lane Group Capacity, c	304	794		196	632		181	758		254	733	
v/c Ratio, X	0.23	0.67		0.15	0.58		0.13	0.73		0.76	0.91	
Total Green Ratio, g/C	0.43	0.43		0.36	0.36		0.50	0.41		0.50	0.41	
Uniform Delay, d_1	16.3	20.4		19.7	23.5		17.0	22.3		24.2	25.0	
Progression Factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k	0.50	0.50		0.50	0.50		0.11	0.50		0.31	0.50	
Incremental Delay, d_2	1.7	4.5		1.6	3.8		0.3	6.1		12.6	17.5	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay	18.1	24.9		21.3	27.3		17.3	28.4		36.8	42.5	
Lane Group LOS	B	C		C	C		B	C		D	D	
Approach Delay	24.1			26.9			27.9			41.2		

Approach LOS	C	C	C	D
Intersection Delay	31.5	X_c = 0.80	Intersection LOS	C

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	AM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions. NBSB Lead LT

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	125	379	31	15	410	219	52	643	23	145	543	93
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or Actuated (A)	A	A	A	A	A	A	A	P	P	A	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT	3	3		3	3		3	3		3	3	
Unit Extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	2	0	0	16	0	0	2	0	0	6
Lane Width	12.0	12.5		12.0	12.5		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 4.0	G = 34.0	G =	G =	G = 5.0	G = 35.0	G =	G =
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	130	425		16	638		54	692		151	657	
Lane Group Capacity, c	160	838		304	668		181	721		181	690	
v/c Ratio, X	0.81	0.51		0.05	0.96		0.30	0.96		0.83	0.95	
Total Green Ratio, g/C	0.46	0.46		0.38	0.38		0.48	0.39		0.48	0.39	
Uniform Delay, d_1	20.3	17.3		17.8	27.3		18.5	26.8		21.2	26.7	
Progression Factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k	0.35	0.12		0.11	0.46		0.11	0.50		0.37	0.50	
Incremental Delay, d_2	26.3	0.5		0.1	24.2		0.9	25.0		27.2	24.4	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay	46.6	17.9		17.8	51.5		19.4	51.8		48.4	51.0	
Lane Group LOS	D	B		B	D		B	D		D	D	
Approach Delay	24.6			50.7			49.5			50.5		
	C			D			D			D		

Detailed Report

Approach LOS				
Intersection Delay	45.1	X_c = 0.96	Intersection LOS	D

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HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RLV	Intersection	Summit Ave. & Central Ave.
Agency or Co.	Omland Engineerg. Assoc., Inc.	Area Type	All other areas
Date Performed	9/11/2009	Jurisdiction	Bergen Co.
Time Period	PM Peak	Analysis Year	Build 2011
		Project ID	090501: LTACH Build Conditions NBSB Phases

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane Group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	71	478	56	29	275	114	23	511	41	191	610	92
% Heavy Vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-Hour Factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Pretimed (P) or Actuated (A)	A	A	A	P	P	P	A	P	P	A	P	P
Start-up Lost Time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival Type, AT	3	3		3	3		3	3		3	3	
Unit Extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial Unmet Demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR Volumes	0	0	5	0	0	6	0	0	2	0	0	4
Lane Width	12.0	12.5		12.0	12.5		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	2	N	N	2	N	N	0	N	N	0	N
Parking Maneuvers, N_m												
Buses Stopping, N_B	0	2		0	2		0	0		0	7	
Min. Time for Pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 4.0	G = 32.0	G =	G =	G = 5.0	G = 37.0	G =	G =
	Y = 3	Y = 3	Y =	Y =	Y = 3	Y = 3	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	72	535		29	387		23	555		193	705	
Lane Group Capacity, c	287	794		194	633		181	758		253	730	
v/c Ratio, X	0.25	0.67		0.15	0.61		0.13	0.73		0.76	0.97	
Total Green Ratio, g/C	0.43	0.43		0.36	0.36		0.50	0.41		0.50	0.41	
Uniform Delay, d_1	16.6	20.4		19.7	23.9		18.0	22.3		24.3	25.9	
Progression Factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay Calibration, k	0.11	0.25		0.50	0.50		0.11	0.50		0.32	0.50	
Incremental Delay, d_2	0.5	2.3		1.6	4.4		0.3	6.2		12.9	25.9	
Initial Queue Delay, d_3	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay	17.0	22.7		21.4	28.2		18.3	28.5		37.1	51.8	
Lane Group LOS	B	C		C	C		B	C		D	D	
Approach Delay	22.0			27.8			28.1			48.7		
	C			C			C			D		

Approach LOS				
Intersection Delay	33.9	X_c = 0.83	Intersection LOS	C

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APPENDIX III
TRAFFIC COUNTS

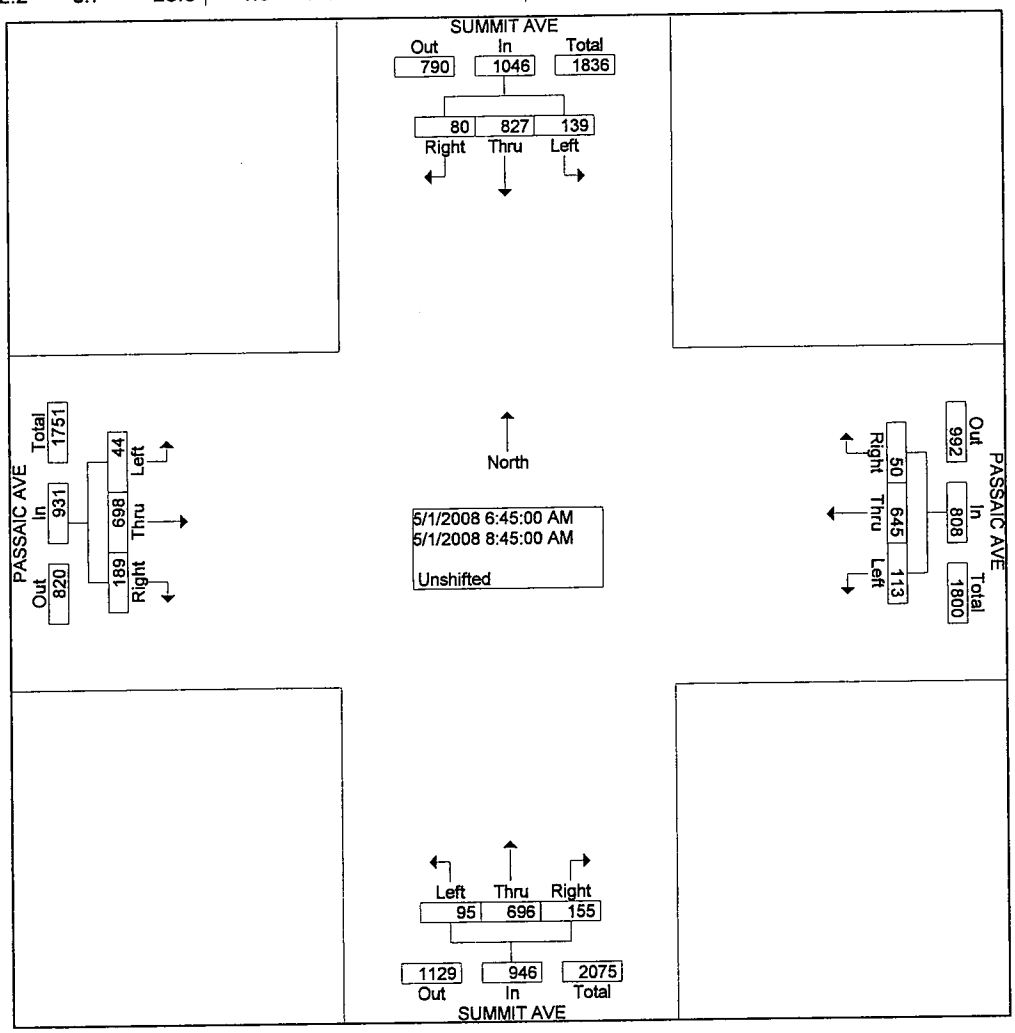
OMLAND ENGINEERING ASSOCIATES

Intersection: Summit/Passaic
Location: Hackensack, NJ
Counter: OJY
Conditions: Clear

File Name : PASSAI~1
Site Code : 00501081
Start Date : 05/01/2008
Page No : 1

Groups Printed- Unshifted

	SUMMIT AVE From North				PASSAIC AVE From East				SUMMIT AVE From South				PASSAIC AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
06:45 AM	8	54	7	69	5	20	9	34	8	45	4	57	7	26	2	35	195
Total	8	54	7	69	5	20	9	34	8	45	4	57	7	26	2	35	195
07:00 AM	7	55	9	71	4	49	9	62	10	54	7	71	19	56	5	80	284
07:15 AM	9	101	16	126	5	70	14	89	14	67	14	95	15	78	4	97	407
07:30 AM	7	113	19	139	8	76	16	100	16	83	12	111	24	79	7	110	460
07:45 AM	13	132	23	168	7	84	13	104	17	105	8	130	24	103	7	134	536
Total	36	401	67	504	24	279	52	355	57	309	41	407	82	316	23	421	1687
08:00 AM	6	117	20	143	2	97	13	112	30	84	15	129	30	108	6	144	528
08:15 AM	14	93	18	125	11	90	15	116	14	90	11	115	15	74	4	93	449
08:30 AM	7	85	12	104	5	80	7	92	22	84	15	121	33	83	6	122	439
08:45 AM	9	77	15	101	3	79	17	99	24	84	9	117	22	91	3	116	433
Total	36	372	65	473	21	346	52	419	90	342	50	482	100	356	19	475	1849
Grand Total	80	827	139	1046	50	645	113	808	155	696	95	946	189	698	44	931	3731
Apprch %	7.6	79.1	13.3		6.2	79.8	14.0		16.4	73.6	10.0		20.3	75.0	4.7		
Total %	2.1	22.2	3.7	28.0	1.3	17.3	3.0	21.7	4.2	18.7	2.5	25.4	5.1	18.7	1.2	25.0	



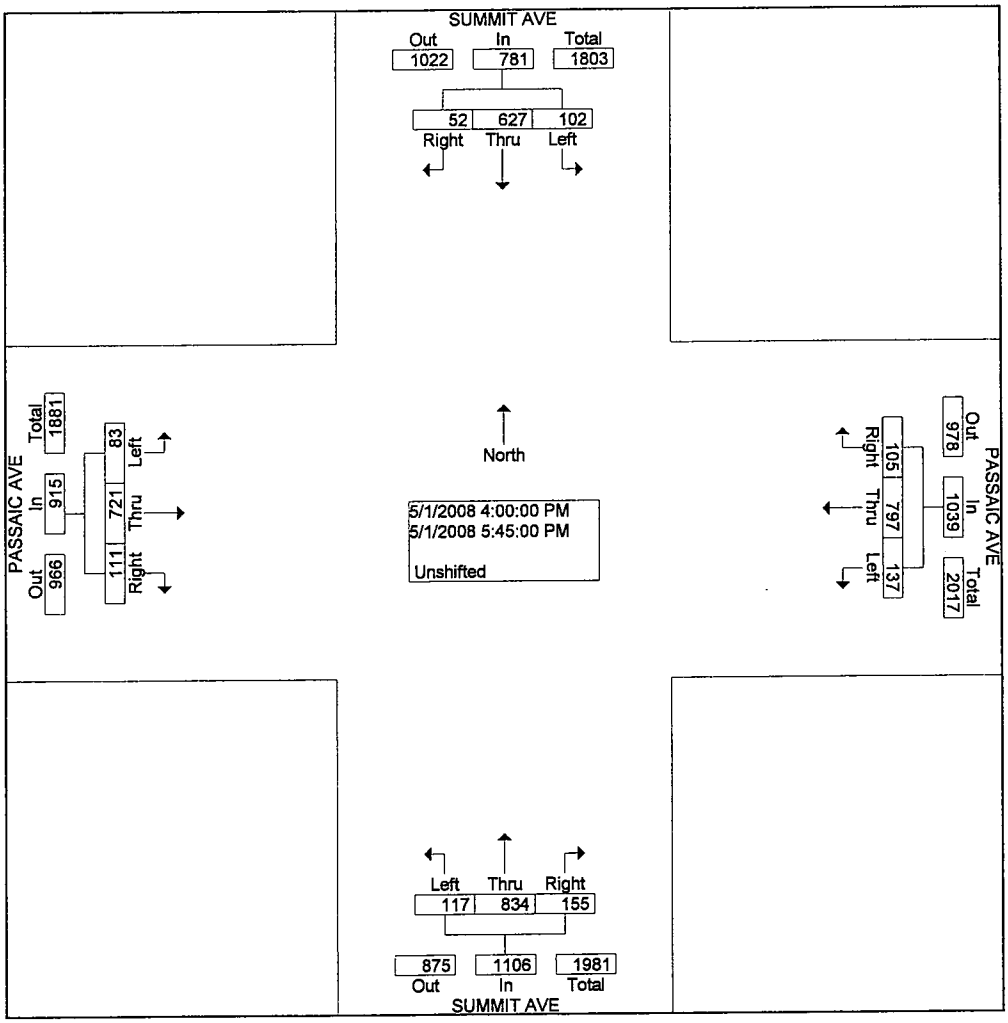
OMLAND ENGINEERING ASSOCIATES

Intersection: Summit/Passaic Ave
Location: Hackensack, NJ
Counter: OJY
Conditions:

File Name : PASSAI~2
Site Code : 05010802
Start Date : 05/01/2008
Page No : 1

Groups Printed- Unshifted

	SUMMIT AVE From North				PASSAIC AVE From East				SUMMIT AVE From South				PASSAIC AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	5	51	9	65	4	89	20	113	15	89	12	116	19	80	7	106	400
04:15 PM	8	70	17	95	4	118	20	142	19	95	19	133	18	107	9	134	504
04:30 PM	7	96	15	118	22	70	14	106	23	95	20	138	15	84	7	106	468
04:45 PM	6	90	6	102	13	105	20	138	24	110	14	148	17	98	14	129	517
Total	26	307	47	380	43	382	74	499	81	389	65	535	69	369	37	475	1889
05:00 PM	2	77	16	95	7	130	21	158	19	115	4	138	9	88	12	109	500
05:15 PM	5	79	13	97	25	97	12	134	20	104	20	144	13	84	12	109	484
05:30 PM	9	90	11	110	17	83	12	112	23	110	13	146	8	79	10	97	465
05:45 PM	10	74	15	99	13	105	18	136	12	116	15	143	12	101	12	125	503
Total	26	320	55	401	62	415	63	540	74	445	52	571	42	352	46	440	1952
Grand Total	52	627	102	781	105	797	137	1039	155	834	117	1106	111	721	83	915	3841
Apprch %	6.7	80.3	13.1		10.1	76.7	13.2		14.0	75.4	10.6		12.1	78.8	9.1		
Total %	1.4	16.3	2.7	20.3	2.7	20.7	3.6	27.1	4.0	21.7	3.0	28.8	2.9	18.8	2.2	23.8	



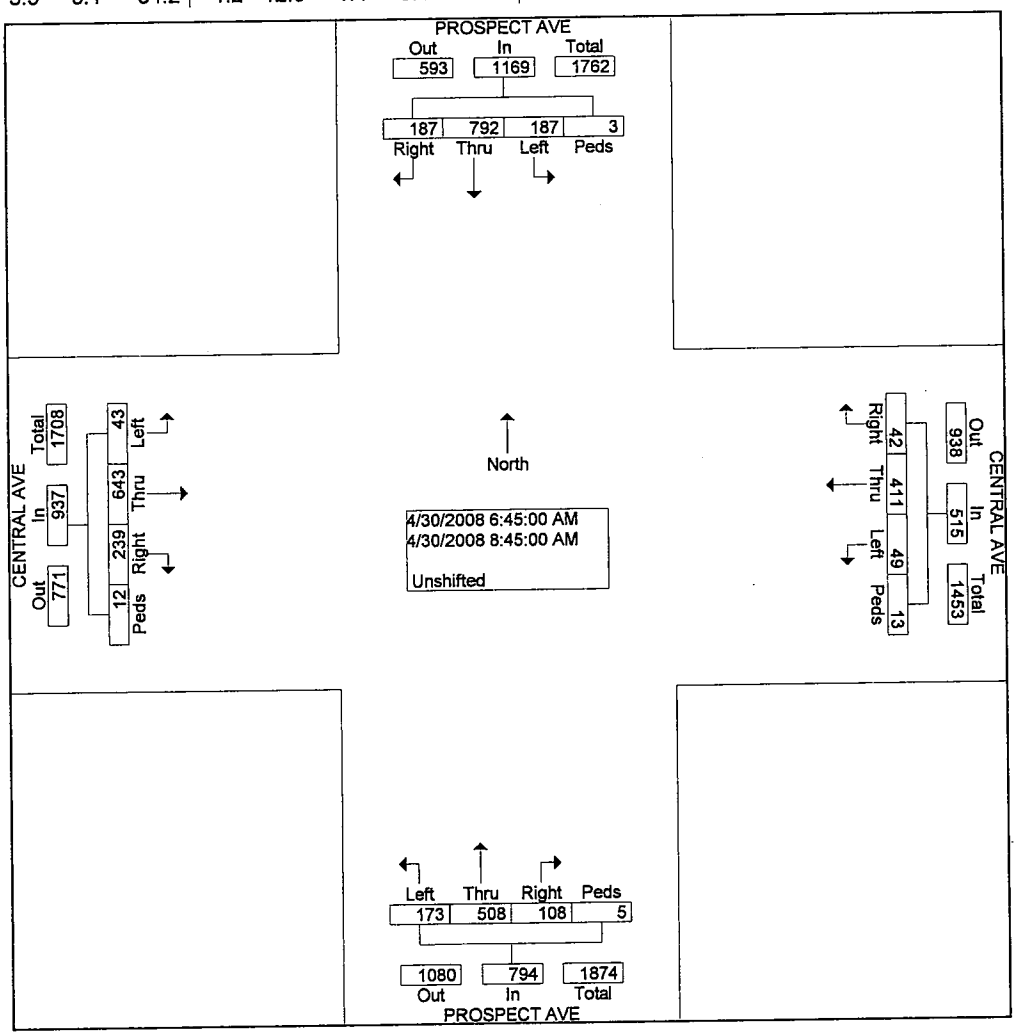
OMLAND ENGINEERING ASSOCIATES

Intersection: Prospect/Central Ave
Location:Hackensack, NJ
Counter: OJY
Conditions: Clear

File Name : PROSPE~1
Site Code : 00430081
Start Date : 04/30/2008
Page No : 1

Groups Printed- Unshifted

	PROSPECT AVE From North					CENTRAL AVE From East					PROSPECT AVE From South					CENTRAL AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:45 AM	17	65	5	0	87	2	23	5	0	30	3	35	17	1	56	29	41	4	1	75	248
Total	17	65	5	0	87	2	23	5	0	30	3	35	17	1	56	29	41	4	1	75	248
07:00 AM	19	73	11	0	103	1	28	2	0	31	3	42	16	0	61	14	45	3	0	62	257
07:15 AM	20	79	14	1	114	4	32	3	0	39	14	47	14	0	75	12	53	6	0	71	299
07:30 AM	18	88	14	1	121	5	46	1	1	53	13	53	22	0	88	26	88	4	1	119	381
07:45 AM	21	104	33	0	158	9	64	8	4	85	24	69	14	0	107	46	78	3	2	129	479
Total	78	344	72	2	496	19	170	14	5	208	54	211	66	0	331	98	264	16	3	381	1416
08:00 AM	21	101	33	0	155	5	77	6	3	91	12	72	21	0	105	52	82	6	0	140	491
08:15 AM	34	106	31	1	172	8	70	9	3	90	11	78	27	3	119	16	82	5	5	108	489
08:30 AM	20	103	28	0	151	4	39	3	2	48	13	67	22	0	102	21	99	5	2	127	428
08:45 AM	17	73	18	0	108	4	32	12	0	48	15	45	20	1	81	23	75	7	1	106	343
Total	92	383	110	1	586	21	218	30	8	277	51	262	90	4	407	112	338	23	8	481	1751
Grand Total	187	792	187	3	1169	42	411	49	13	515	108	508	173	5	794	239	643	43	12	937	3415
Apprch %	16.0	67.8	16.0	0.3		8.2	79.8	9.5	2.5		13.6	64.0	21.8	0.6		25.5	68.6	4.6	1.3		
Total %	5.5	23.2	5.5	0.1	34.2	1.2	12.0	1.4	0.4	15.1	3.2	14.9	5.1	0.1	23.3	7.0	18.8	1.3	0.4	27.4	



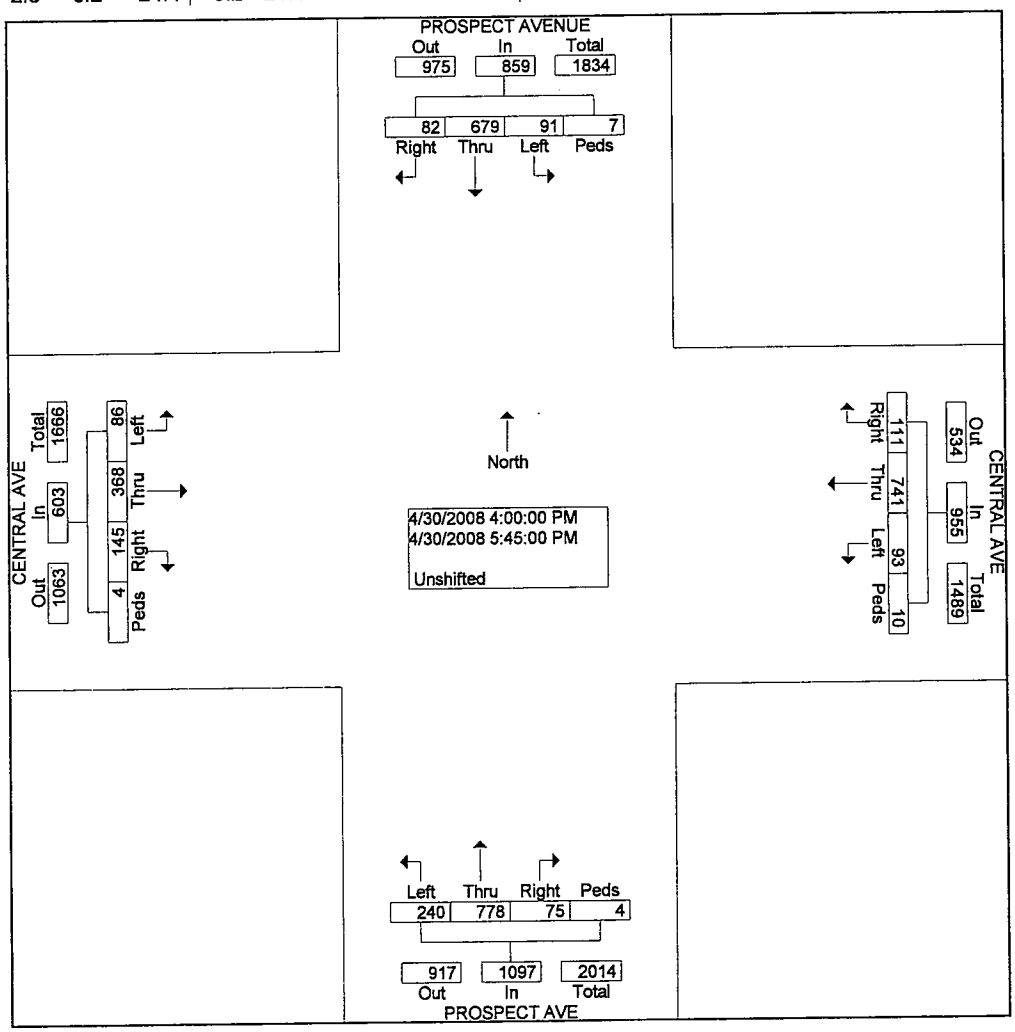
OMLAND ENGINEERING ASSOCIATES

Intersection: Prospect/Central Ave
Location: Hackensack, NJ
Counter: OJY
Conditions: Clear

File Name : PROSPE~2
Site Code : 00430082
Start Date : 04/30/2008
Page No : 1

Groups Printed- Unshifted

	PROSPECT AVENUE From North					CENTRAL AVE From East					PROSPECT AVE From South					CENTRAL AVE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	16	87	7	2	112	14	84	8	1	107	9	75	31	1	116	17	56	6	0	79	414
04:15 PM	7	71	19	0	97	10	83	10	0	103	6	97	25	2	130	17	51	12	1	81	411
04:30 PM	10	109	8	0	127	10	92	11	0	113	11	102	25	0	138	9	47	11	0	67	445
04:45 PM	11	91	12	0	114	14	115	10	0	139	13	87	34	0	134	29	44	10	2	85	472
Total	44	358	46	2	450	48	374	39	1	462	39	361	115	3	518	72	198	39	3	312	1742
05:00 PM	11	69	7	0	87	19	106	14	1	140	8	97	34	0	139	21	45	12	0	78	444
05:15 PM	7	79	18	3	107	18	104	20	3	145	10	102	28	0	140	10	35	14	0	59	451
05:30 PM	7	78	10	1	96	14	85	5	3	107	4	113	33	1	151	21	51	15	0	87	441
05:45 PM	13	95	10	1	119	12	72	15	2	101	14	105	30	0	149	21	39	6	1	67	436
Total	38	321	45	5	409	63	367	54	9	493	36	417	125	1	579	73	170	47	1	291	1772
Grand Total	82	679	91	7	859	111	741	93	10	955	75	778	240	4	1097	145	368	86	4	603	3514
Apprch %	9.5	79.0	10.6	0.8		11.6	77.6	9.7	1.0		6.8	70.9	21.9	0.4		24.0	61.0	14.3	0.7		
Total %	2.3	19.3	2.6	0.2	24.4	3.2	21.1	2.6	0.3	27.2	2.1	22.1	6.8	0.1	31.2	4.1	10.5	2.4	0.1	17.2	



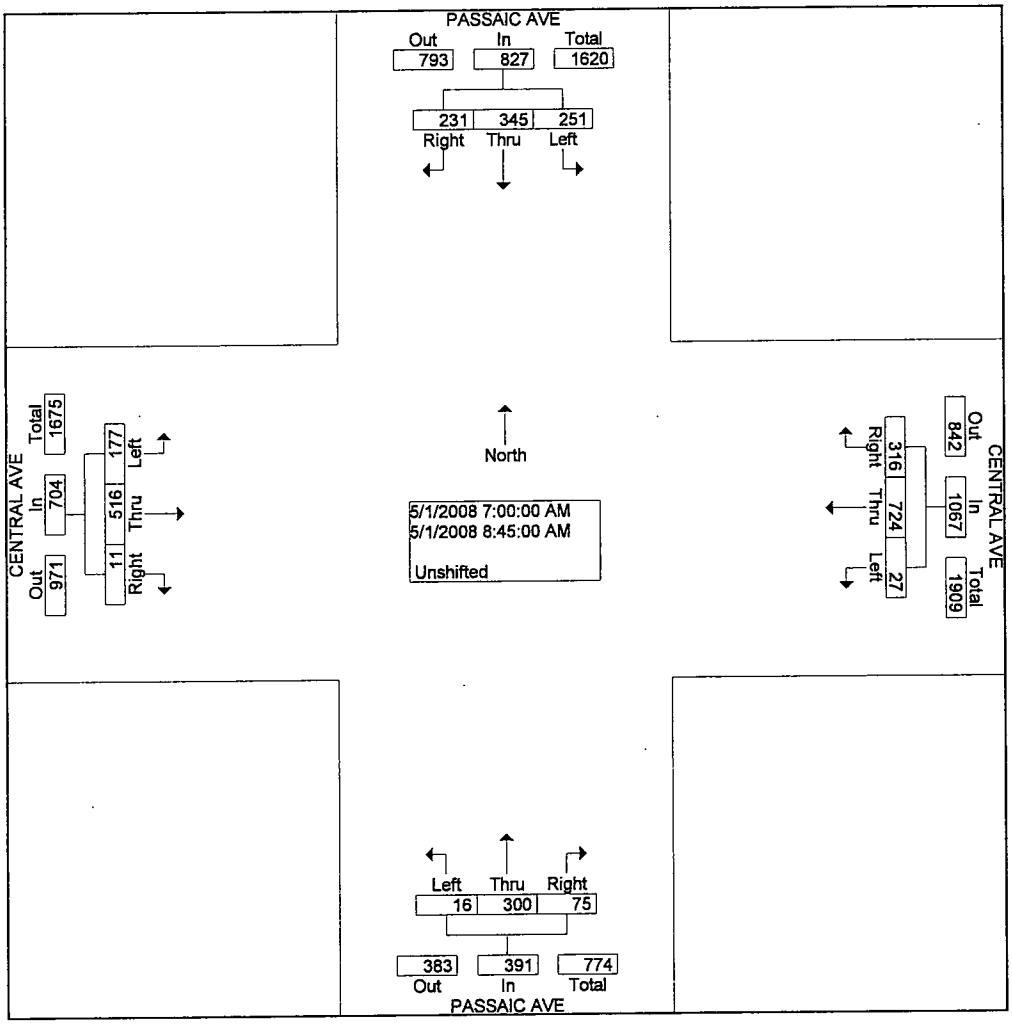
OMLAND ENGINEERING ASSOCIATES

Intersection: Prospect/Passaic Ave
Location: Hackensack, NJ
Counter: OCJ
Conditions: Clear

File Name : PROSPE~3
Site Code : 05010821
Start Date : 05/01/2008
Page No : 1

Groups Printed- Unshifted

	PASSAIC AVE From North				CENTRAL AVE From East				PASSAIC AVE From South				CENTRAL AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	20	30	25	75	23	54	1	78	6	20	1	27	1	41	10	52	232
07:15 AM	24	31	27	82	37	86	2	125	13	20	0	33	1	51	16	68	308
07:30 AM	30	36	35	101	41	63	3	107	10	41	5	56	1	57	19	77	341
07:45 AM	25	48	37	110	54	98	5	157	7	40	2	49	0	67	27	94	410
Total	99	145	124	368	155	301	11	467	36	121	8	165	3	216	72	291	1291
08:00 AM	31	64	31	126	46	115	4	165	9	74	2	85	3	77	23	103	479
08:15 AM	40	48	29	117	40	75	3	118	12	35	1	48	1	85	32	118	401
08:30 AM	33	43	36	112	42	117	4	163	6	41	1	48	1	64	27	92	415
08:45 AM	28	45	31	104	33	116	5	154	12	29	4	45	3	74	23	100	403
Total	132	200	127	459	161	423	16	600	39	179	8	226	8	300	105	413	1698
Grand Total	231	345	251	827	316	724	27	1067	75	300	16	391	11	516	177	704	2989
Apprch %	27.9	41.7	30.4		29.6	67.9	2.5		19.2	76.7	4.1		1.6	73.3	25.1		
Total %	7.7	11.5	8.4	27.7	10.6	24.2	0.9	35.7	2.5	10.0	0.5	13.1	0.4	17.3	5.9	23.6	



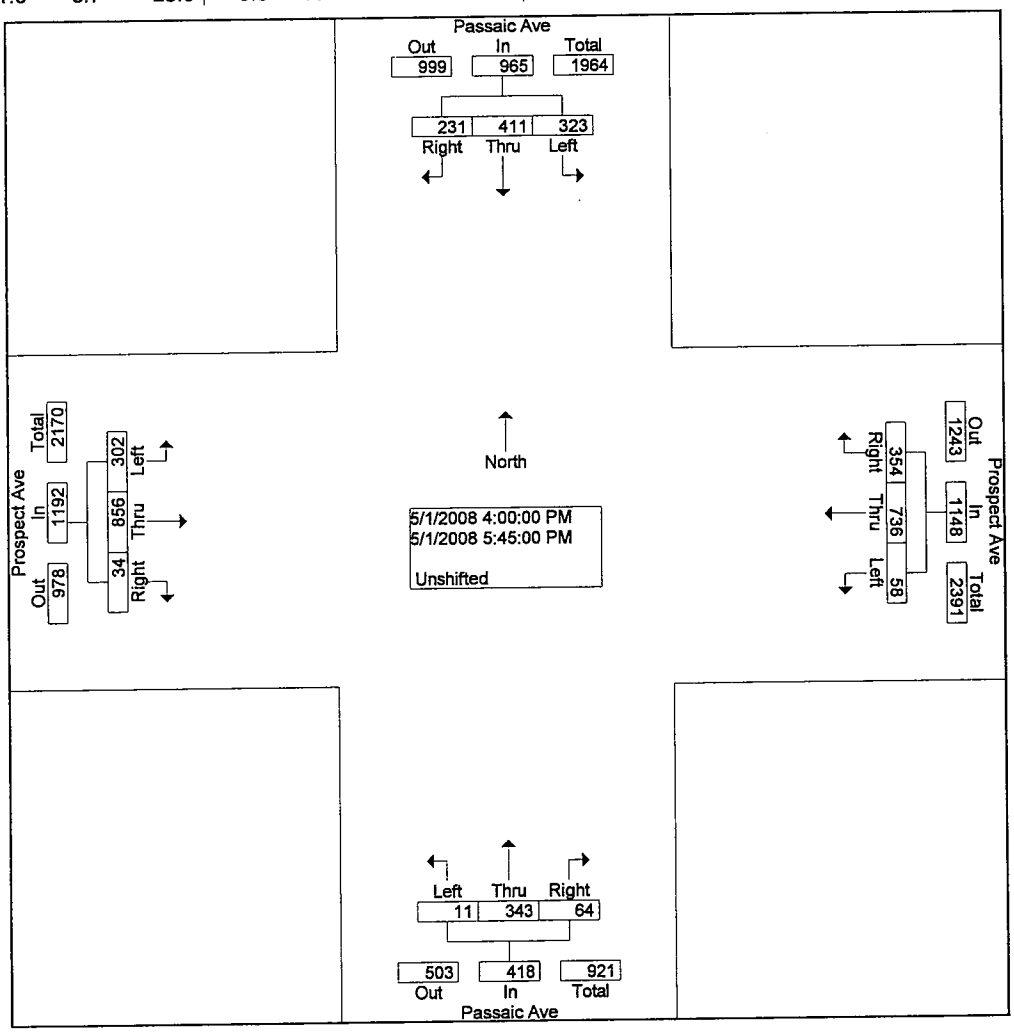
OMLAND ENGINEERING ASSOCIATES

Intersection: Prospect/Passaic Ave
Location: Hackensack, NJ
Counter: OCJ
Conditions: Clear

File Name : PROSPE~4
Site Code : 05010822
Start Date : 05/01/2008
Page No : 1

Groups Printed- Unshifted

	Passaic Ave From North				Prospect Ave From East				Passaic Ave From South				Prospect Ave From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	20	56	36	112	39	88	6	133	10	35	1	46	5	95	43	143	434
04:15 PM	26	46	43	115	40	94	6	140	6	38	0	44	5	97	45	147	446
04:30 PM	32	50	46	128	43	98	7	148	7	40	0	47	2	100	37	139	462
04:45 PM	32	55	34	121	30	102	7	139	8	42	2	52	8	117	36	161	473
Total	110	207	159	476	152	382	26	560	31	155	3	189	20	409	161	590	1815
05:00 PM	28	45	42	115	53	95	9	157	6	51	2	59	6	131	43	180	511
05:15 PM	31	55	34	120	52	85	8	145	11	52	2	65	5	110	36	151	481
05:30 PM	35	63	47	145	42	84	9	135	9	41	3	53	1	109	27	137	470
05:45 PM	27	41	41	109	55	90	6	151	7	44	1	52	2	97	35	134	446
Total	121	204	164	489	202	354	32	588	33	188	8	229	14	447	141	602	1908
Grand Total	231	411	323	965	354	736	58	1148	64	343	11	418	34	856	302	1192	3723
Apprch %	23.9	42.6	33.5		30.8	64.1	5.1		15.3	82.1	2.6		2.9	71.8	25.3		
Total %	6.2	11.0	8.7	25.9	9.5	19.8	1.6	30.8	1.7	9.2	0.3	11.2	0.9	23.0	8.1	32.0	



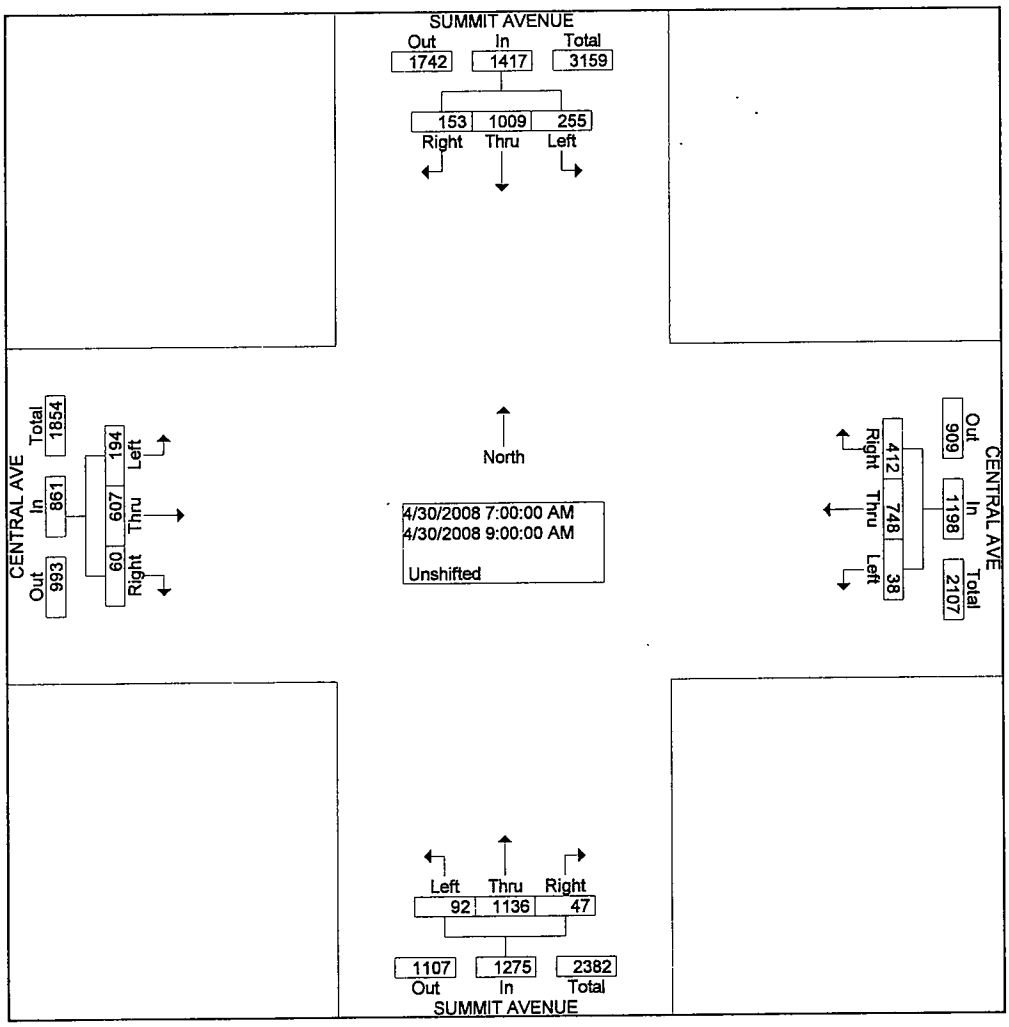
OMLAND ENGINEERING ASSOCIATES

Intersection: Summit/Central Ave
Location: Hackensack, NJ
Counter: OCJ
Conditions: Clear

File Name : SUMMIT~1
Site Code : 04300811
Start Date : 04/30/2008
Page No : 1

Groups Printed- Unshifted

	SUMMIT AVENUE From North				CENTRAL AVE From East				SUMMIT AVENUE From South				CENTRAL AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	8	77	21	106	34	50	0	84	4	70	4	78	0	54	13	67	335
07:15 AM	14	85	23	122	41	57	4	102	11	99	8	118	4	48	19	71	413
07:30 AM	16	95	17	128	50	89	6	145	3	141	7	151	8	57	23	88	512
07:45 AM	21	133	28	182	48	91	4	143	9	158	15	182	7	62	28	97	604
Total	59	390	89	538	173	287	14	474	27	468	34	529	19	221	83	323	1864
08:00 AM	26	124	32	182	52	109	3	164	2	155	9	166	8	92	26	126	638
08:15 AM	17	116	38	171	55	85	5	145	7	152	13	172	4	123	29	156	644
08:30 AM	19	135	39	193	51	97	2	150	4	126	12	142	10	72	12	94	579
08:45 AM	18	126	29	173	45	97	9	151	4	133	13	150	8	55	30	93	567
Total	80	501	138	719	203	388	19	610	17	566	47	630	30	342	97	469	2428
09:00 AM	14	118	28	160	36	73	5	114	3	102	11	116	11	44	14	69	459
Grand Total	153	1009	255	1417	412	748	38	1198	47	1136	92	1275	60	607	194	861	4751
Apprch %	10.8	71.2	18.0		34.4	62.4	3.2		3.7	89.1	7.2		7.0	70.5	22.5		
Total %	3.2	21.2	5.4	29.8	8.7	15.7	0.8	25.2	1.0	23.9	1.9	26.8	1.3	12.8	4.1	18.1	



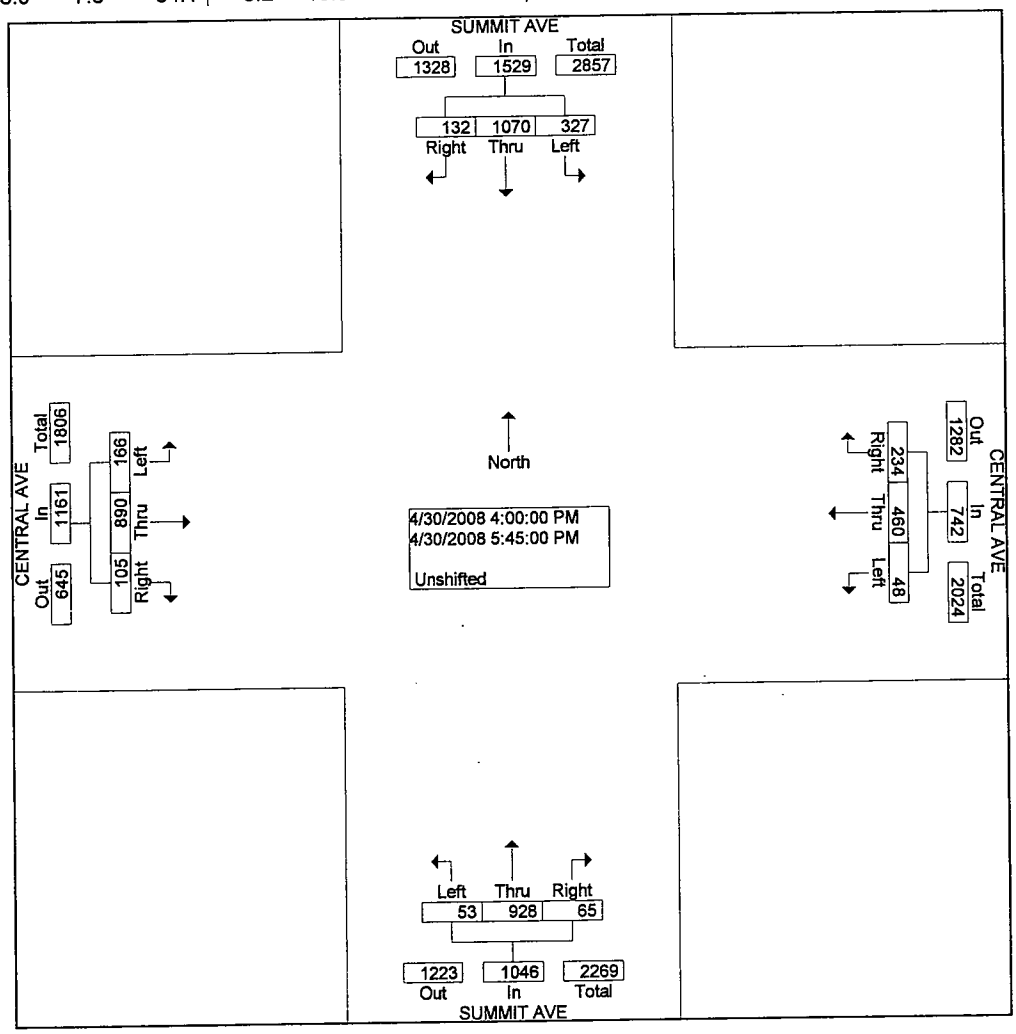
OMLAND ENGINEERING ASSOCIATES

Intersection: Summit/Central Ave
Location: Hackensack, NJ
Counter: OCJ
Conditions: Clear

File Name : SUMMIT~2
Site Code : 04300812
Start Date : 04/30/2008
Page No : 1

Groups Printed- Unshifted

	SUMMIT AVE From North				CENTRAL AVE From East				SUMMIT AVE From South				CENTRAL AVE From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	11	130	39	180	34	71	4	109	2	99	9	110	12	102	28	142	541
04:15 PM	17	117	20	154	29	57	4	90	11	113	5	129	12	83	26	121	494
04:30 PM	26	128	41	195	28	44	7	79	4	131	7	142	17	111	23	151	567
04:45 PM	11	132	33	176	24	64	6	94	9	103	11	123	15	130	17	162	555
Total	65	507	133	705	115	236	21	372	26	446	32	504	56	426	94	576	2157
05:00 PM	22	141	42	205	25	60	9	94	12	113	3	128	16	138	19	173	600
05:15 PM	18	142	55	215	27	47	7	81	9	133	5	147	10	118	18	146	589
05:30 PM	15	146	50	211	31	67	5	103	9	131	3	143	12	113	10	135	592
05:45 PM	12	134	47	193	36	50	6	92	9	105	10	124	11	95	25	131	540
Total	67	563	194	824	119	224	27	370	39	482	21	542	49	464	72	585	2321
Grand Total	132	1070	327	1529	234	460	48	742	65	928	53	1046	105	890	166	1161	4478
Apprch %	8.6	70.0	21.4		31.5	62.0	6.5		6.2	88.7	5.1		9.0	76.7	14.3		
Total %	2.9	23.9	7.3	34.1	5.2	10.3	1.1	16.6	1.5	20.7	1.2	23.4	2.3	19.9	3.7	25.9	



OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, NJ 07927
(973) 359-8400

Site Code: 090501
Summit Ave. betw. Berry St. & Golf Pl.
Hackensack, Bergen Co., NJ
Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

Start	01-Jun-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	128	85	128	85
01:00	*	*	*	*	*	*	*	*	*	*	*	*	54	80	54	80
02:00	*	*	*	*	*	*	*	*	*	*	*	*	59	55	59	55
03:00	*	*	*	*	*	*	*	*	*	*	*	*	44	29	44	29
04:00	*	*	*	*	*	*	*	*	*	*	*	*	19	18	19	18
05:00	*	*	*	*	*	*	*	*	*	*	*	*	29	29	29	29
06:00	*	*	*	*	*	*	*	*	*	*	*	*	61	65	61	65
07:00	*	*	*	*	*	*	*	*	*	*	167	159	77	85	122	122
08:00	*	*	*	*	*	*	*	*	*	*	259	220	143	130	201	175
09:00	*	*	*	*	*	*	*	*	*	*	314	304	179	223	246	264
10:00	*	*	*	*	*	*	*	*	*	*	402	377	241	214	322	296
11:00	*	*	*	*	*	*	*	*	*	*	**532**	**414**	**332**	**308**	**432**	**361**
12:00 PM	*	*	*	*	*	*	*	*	*	*	**478**	445	**334**	**319**	**406**	382
01:00	*	*	*	*	*	*	*	*	*	*	470	438	328	303	399	370
02:00	*	*	*	*	*	*	*	*	*	*	453	442	305	272	379	357
03:00	*	*	*	*	*	*	*	*	*	*	442	439	299	311	370	375
04:00	*	*	*	*	*	*	*	*	*	*	423	431	294	279	358	355
05:00	*	*	*	*	*	*	*	*	*	*	372	**497**	240	293	306	**395**
06:00	*	*	*	*	*	*	*	*	*	*	332	408	248	268	290	338
07:00	*	*	*	*	*	*	*	*	*	*	343	371	237	277	290	324
08:00	*	*	*	*	*	*	*	*	*	*	266	324	206	246	236	285
09:00	*	*	*	*	*	*	*	*	*	*	214	277	178	190	196	234
10:00	*	*	*	*	*	*	*	*	*	*	172	228	104	101	138	164
11:00	*	*	*	*	*	*	*	*	*	*	145	161	92	73	118	117
Lane	0	0	0	0	0	0	0	0	0	0	5784	5935	4231	4253	5203	5275
Day	0		0		0		0		0		11719		8484		10478	
AM Peak											11:00	11:00	11:00	11:00	11:00	11:00
Vol.											532	414	332	308	432	361
PM Peak											12:00	17:00	12:00	12:00	12:00	17:00
Vol.											478	497	334	319	406	395

III - 9

OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, NJ 07927
(973) 359-8400

Site Code: 090501
Summit Ave. betw. Berry St. & Golf Pl.
Hackensack, Bergen Co., NJ
Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

Start	08-Jun-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.	Nbd.	Sbd.
12:00 AM	47	38	38	38	59	45	60	40	69	45	91	88	*	*	61	49
01:00	25	23	30	19	32	25	36	27	38	32	75	57	*	*	39	30
02:00	20	14	17	17	21	7	16	17	20	18	36	32	*	*	22	18
03:00	19	12	14	11	16	16	19	9	20	6	38	26	*	*	21	13
04:00	19	18	18	19	26	23	15	21	19	21	22	22	*	*	20	21
05:00	47	77	51	72	50	86	47	74	50	73	20	47	*	*	44	72
06:00	167	225	162	234	162	233	161	232	159	202	76	98	*	*	148	204
07:00	372	472	366	466	376	455	387	490	360	458	**168**	**178**	*	*	338	420
08:00	**477**	**568**	**487**	**535**	**455**	**573**	**469**	**564**	437	**523**	*	*	*	*	**465**	**553**
09:00	414	397	355	367	429	441	394	375	403	383	*	*	*	*	399	393
10:00	381	406	342	365	388	378	403	395	380	400	*	*	*	*	379	389
11:00	392	421	342	359	443	409	432	416	**453**	411	*	*	*	*	412	403
12:00 PM	383	433	407	432	417	429	388	437	422	460	*	*	*	*	403	438
01:00	396	451	370	417	485	446	416	422	466	462	*	*	*	*	427	440
02:00	489	502	457	455	450	502	499	457	527	500	*	*	*	*	484	483
03:00	511	**509**	489	521	480	491	506	508	503	518	*	*	*	*	498	**509**
04:00	641	419	508	477	496	551	460	**553**	**539**	**534**	*	*	*	*	529	507
05:00	**758**	303	**538**	**565**	**516**	**554**	**537**	519	539	492	*	*	*	*	**578**	487
06:00	456	406	486	451	466	509	483	506	496	524	*	*	*	*	477	479
07:00	373	378	346	343	370	356	419	339	406	368	*	*	*	*	383	357
08:00	256	293	258	269	250	306	283	288	304	352	*	*	*	*	270	302
09:00	211	277	185	251	200	226	211	239	241	351	*	*	*	*	210	269
10:00	141	165	155	156	132	183	128	182	197	246	*	*	*	*	151	186
11:00	103	90	73	85	107	91	91	90	177	167	*	*	*	*	110	105
Lane	7098	6897	6494	6924	6826	7335	6860	7200	7225	7546	526	548	0	0	6868	7127
Day	13995		13418		14161		14060		14771		1074		0		13995	
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	11:00	08:00	07:00	07:00			08:00	08:00
Vol.	477	568	487	535	455	573	469	564	453	523	168	178			465	553
PM Peak	17:00	15:00	17:00	17:00	17:00	17:00	17:00	16:00	16:00	16:00					17:00	15:00
Vol.	758	509	538	565	516	554	537	553	539	534					578	509

Comb. Total	13995	13418	14161	14060	14771	12793	8484	24473
ADT	Not Calculated							

III - 9

OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, NJ 07927
(973) 359-8400

Site Code: 090501
Prospect Ave. betw. Berry St. & Golf Pl.
Hackensack, Bergen Co., NJ
Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

Start	01-Jun-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	64	70	64	70
01:00	*	*	*	*	*	*	*	*	*	*	*	*	40	57	40	57
02:00	*	*	*	*	*	*	*	*	*	*	*	*	45	53	45	53
03:00	*	*	*	*	*	*	*	*	*	*	*	*	20	23	20	23
04:00	*	*	*	*	*	*	*	*	*	*	*	*	15	22	15	22
05:00	*	*	*	*	*	*	*	*	*	*	*	*	29	19	29	19
06:00	*	*	*	*	*	*	*	*	*	*	*	*	63	68	63	68
07:00	*	*	*	*	*	*	*	*	*	*	*	*	102	85	102	85
08:00	*	*	*	*	*	*	*	*	*	*	222	148	145	95	184	122
09:00	*	*	*	*	*	*	*	*	*	*	272	218	163	139	218	178
10:00	*	*	*	*	*	*	*	*	*	*	**312**	286	182	187	247	236
11:00	*	*	*	*	*	*	*	*	*	*	291	**334**	**244**	**236**	**268**	**285**
12:00 PM	*	*	*	*	*	*	*	*	*	*	**338**	325	262	271	**300**	298
01:00	*	*	*	*	*	*	*	*	*	*	299	343	257	**310**	278	**326**
02:00	*	*	*	*	*	*	*	*	*	*	319	**362**	**278**	283	298	322
03:00	*	*	*	*	*	*	*	*	*	*	321	345	270	278	296	312
04:00	*	*	*	*	*	*	*	*	*	*	299	262	228	236	264	249
05:00	*	*	*	*	*	*	*	*	*	*	298	252	227	251	262	252
06:00	*	*	*	*	*	*	*	*	*	*	243	323	215	257	229	290
07:00	*	*	*	*	*	*	*	*	*	*	257	272	217	279	237	276
08:00	*	*	*	*	*	*	*	*	*	*	209	278	142	268	176	273
09:00	*	*	*	*	*	*	*	*	*	*	150	226	135	182	142	204
10:00	*	*	*	*	*	*	*	*	*	*	141	244	110	128	126	186
11:00	*	*	*	*	*	*	*	*	*	*	145	157	100	92	122	124
Lane	0	0	0	0	0	0	0	0	0	0	4116	4375	3553	3889	4025	4330
Day	0		0		0		0		0		8491		7442		8355	
AM Peak											10:00	11:00	11:00	11:00	11:00	11:00
Vol.											312	334	244	236	268	285
PM Peak											12:00	14:00	14:00	13:00	12:00	13:00
Vol.											338	362	278	310	300	326

III-111

OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, NJ 07927
(973) 359-8400

Site Code: 090501
Prospect Ave. betw. Berry St. & Golf Pl.
Hackensack, Bergen Co., NJ
Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

Start	01-Jun-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	64	70	64	70
01:00	*	*	*	*	*	*	*	*	*	*	*	*	40	57	40	57
02:00	*	*	*	*	*	*	*	*	*	*	*	*	45	53	45	53
03:00	*	*	*	*	*	*	*	*	*	*	*	*	20	23	20	23
04:00	*	*	*	*	*	*	*	*	*	*	*	*	15	22	15	22
05:00	*	*	*	*	*	*	*	*	*	*	*	*	29	19	29	19
06:00	*	*	*	*	*	*	*	*	*	*	*	*	63	68	63	68
07:00	*	*	*	*	*	*	*	*	*	*	*	*	102	85	102	85
08:00	*	*	*	*	*	*	*	*	*	*	222	148	145	95	184	122
09:00	*	*	*	*	*	*	*	*	*	*	272	218	163	139	218	178
10:00	*	*	*	*	*	*	*	*	*	*	**312**	286	182	187	247	236
11:00	*	*	*	*	*	*	*	*	*	*	291	**334**	**244**	**236**	**268**	**285**
12:00 PM	*	*	*	*	*	*	*	*	*	*	**338**	325	262	271	**300**	298
01:00	*	*	*	*	*	*	*	*	*	*	299	343	257	**310**	278	**326**
02:00	*	*	*	*	*	*	*	*	*	*	319	**362**	**278**	283	298	322
03:00	*	*	*	*	*	*	*	*	*	*	321	345	270	278	296	312
04:00	*	*	*	*	*	*	*	*	*	*	299	262	228	236	264	249
05:00	*	*	*	*	*	*	*	*	*	*	298	252	227	251	262	252
06:00	*	*	*	*	*	*	*	*	*	*	243	323	215	257	229	290
07:00	*	*	*	*	*	*	*	*	*	*	257	272	217	279	237	276
08:00	*	*	*	*	*	*	*	*	*	*	209	278	142	268	176	273
09:00	*	*	*	*	*	*	*	*	*	*	150	226	135	182	142	204
10:00	*	*	*	*	*	*	*	*	*	*	141	244	110	128	126	186
11:00	*	*	*	*	*	*	*	*	*	*	145	157	100	92	122	124
Lane	0	0	0	0	0	0	0	0	0	0	4116	4375	3553	3889	4025	4330
Day	0		0		0		0		0		8491		7442		8355	
AM Peak											10:00	11:00	11:00	11:00	11:00	11:00
Vol.											312	334	244	236	268	285
PM Peak											12:00	14:00	14:00	13:00	12:00	13:00
Vol.											338	362	278	310	300	326

M-111

OMLAND ENGINEERING ASSOCIATES, INC.
54 Horsehill Road
Cedar Knolls, NJ 07927
(973) 359-8400

Site Code: 090501
Prospect Ave. betw. Berry St. & Golf Pl.
Hackensack, Bergen Co., NJ
Latitude: 0' 0.000 Undefined
Longitude: 0' 0.000 Undefined

Start	08-Jun-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd	Nbd	Sbd
12:00 AM	27	30	35	26	37	42	47	45	39	59	87	93	*	*	45	49
01:00	20	14	9	18	25	19	32	34	23	31	58	56	*	*	28	29
02:00	14	10	8	7	10	10	13	16	14	17	33	35	*	*	15	16
03:00	6	10	9	5	8	9	13	15	14	13	29	26	*	*	13	13
04:00	11	14	11	22	16	12	16	13	13	16	23	16	*	*	15	16
05:00	36	47	36	50	42	50	35	40	35	45	33	17	*	*	36	42
06:00	106	184	125	182	124	182	113	194	115	200	79	96	*	*	110	173
07:00	328	312	293	343	336	342	311	325	300	293	**154**	107	*	*	287	287
08:00	**434**	**451**	**440**	**452**	**442**	**463**	**422**	**474**	**432**	**418**	149	**109**	*	*	**386**	**394**
09:00	268	313	318	321	310	342	320	330	323	325	*	*	*	*	308	326
10:00	315	301	316	294	332	290	335	321	368	338	*	*	*	*	333	309
11:00	313	315	345	319	329	318	317	323	337	359	*	*	*	*	328	327
12:00 PM	341	384	341	339	329	332	354	355	358	379	*	*	*	*	345	358
01:00	309	336	343	377	340	356	311	336	337	368	*	*	*	*	328	355
02:00	433	369	398	451	390	**415**	409	393	482	427	*	*	*	*	422	411
03:00	**494**	458	459	**469**	545	359	467	415	**483**	431	*	*	*	*	490	**426**
04:00	489	474	**481**	422	900	0	429	459	447	**454**	*	*	*	*	549	362
05:00	480	**479**	463	453	**969**	0	**471**	**468**	400	427	*	*	*	*	**557**	365
06:00	367	441	415	458	555	294	412	414	398	427	*	*	*	*	429	407
07:00	285	309	330	297	284	353	294	326	347	364	*	*	*	*	308	330
08:00	197	301	238	274	242	301	223	312	228	255	*	*	*	*	226	289
09:00	182	224	160	246	180	221	184	215	202	256	*	*	*	*	182	232
10:00	144	148	125	176	141	200	137	165	156	232	*	*	*	*	141	184
11:00	87	111	114	98	118	105	103	107	154	156					115	115
Lane	5686	6035	5812	6099	7004	5015	5768	6095	6005	6290	645	555	0	0	5996	5815
Day	11721		11911		12019		11863		12295		1200		0		11811	
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	07:00	08:00			08:00	08:00
Vol.	434	451	440	452	442	463	422	474	432	418	154	109			386	394
PM Peak	15:00	17:00	16:00	15:00	17:00	14:00	17:00	17:00	15:00	16:00					17:00	15:00
Vol.	494	479	481	469	969	415	471	468	483	454					557	426

Comb. Total	11721	11911	12019	11863	12295	9691	7442	20166
ADT	Not Calculated						

III - 12

APPENDIX IV
PUBLIC TRANSPORTATION
(BUS) SCHEDULES

To New Milford or Cresskill

Weekdays

PARAMUS Bergen Town Center	HACKENSACK Central Ave. at State St.	HACKENSACK (Sears) Anderson St. at Main St.	TEANECK Cedar Ln. at Teaneck Rd.	TEANECK (Armory) Teaneck Rd. at Liberty Rd.	BERGENFIELD Washington Ave. at Main St.	DUMONT Washington Ave. at E. Quackenbush Ave.	CRESSKILL Union Ave. at County Rd.	NEW MILFORD Madison Ave. at River Rd.
910	924	930	938	945	949	953	959	–
1010	1024	1030	1038	1045	1049	1053	–	1059
1110	1124	1130	1138	1145	1149	1153	1159	–
1210	**1224**	**1230**	**1238**	**1245**	**1249**	**1253**	–	**1259**
110	**124**	**130**	**138**	**145**	**149**	**153**	**159**	–
210	224	230	238	245	249	253	–	259
310	324	330	338	345	349	353	359	–
410	424	430	438	445	449	453	–	459
510	524	530	538	545	549	553	559	–
610	624	630	638	645	649	653	–	659
710	724	730	738	745	749	753	759	–
810	824	830	838	845	849	853	–	859
1010	1024	1030	1038	1045	1049	1053	–	1059

Saturdays

PARAMUS Bergen Town Center	HACKENSACK Central Ave. at State St.	HACKENSACK (Sears) Anderson St. at Main St.	TEANECK Cedar Ln. at Teaneck Rd.	TEANECK (Armory) Teaneck Rd. at Liberty Rd.	BERGENFIELD Washington Ave. at Main St.	DUMONT Washington Ave. at E. Quackenbush Ave.	CRESSKILL Union Ave. at County Rd.	NEW MILFORD Madison Ave. at River Rd.
910	924	929	935	942	946	950	956	–
1010	1025	1031	1039	1046	1051	1055	–	1100
1110	1125	1131	1139	1146	1151	1155	**1201**	–
1210	**1225**	**1231**	**1239**	**1246**	**1251**	**1255**	–	**100**
110	**125**	**131**	**139**	**146**	**151**	**155**	**201**	–
210	225	231	239	246	251	255	–	300
310	327	334	342	350	356	400	406	–
410	427	434	442	450	456	501	–	506
510	527	534	542	550	556	600	606	–
610	627	634	642	650	656	701	–	706
710	727	732	738	746	750	754	759	–
810	824	828	834	842	846	850	–	855
1010	1024	1028	1034	1042	1046	1050	–	1055

A.M. - Light face type

P.M. - Bold face type

NJ Transit Information

Schedule, Fare and Lost & Found

Transit Information & Lift Equipped Bus Reservations 1 (973) 275-5555
Text Telephone (TT) 1 (800) 772-2287
Lost & Found 1 (800) 442-7272 ext.2350

Bergen County Transit Information Center. . . . 1 (201) 336-6450

Journal Square Transportation Center Information 1 (800) 234-7284
AMTRAK Information 1 (800) 872-7245
NY Waterway Bus/Ferry Information. 1 (800) 53-FERRY
Long Island Railroad Information 1 (718) 217-5477
Metro-North Commuter Railroad Information . . 1 (212) 532-4900
Newark Airport Ground Transportation Information 1 (800) 247-7433
NYC Transit Authority Information (Bus and Subway) 1 (718) 330-1234
PATH Information 1 (800) 234-7284

Service on this line is operated by Academy Express, under contract to NJ TRANSIT.

NO SERVICE WILL BE OPERATED ON SUNDAYS.

Security Hot Line
1 (888) TIPS NJT
To report suspicious activities or packages.

Fare Information

This is an exact fare line. Passengers are required to have exact fare when boarding buses on this line. One dollar bills and most U.S. coins are accepted. Drivers do not carry money and cannot make change.

How to determine your fare

Your fare is based on the number of zones you travel through. Check the map on this schedule to see how many zones you travel. Each time you cross a zone boundary, you must pay for another zone.

Cash Fares

Zone	1	2	Transfer
Adult	$1.35	$2.15	$0.65
Children & Sr. Citizens	$0.65	$1.00	$0.30

Transfers must be purchased when boarding bus.

Reduced Fare Program

Children's Fares - Ages 5-11 save 50% or more from regular one-way fares at all times. Up to three children ages four and under ride free with a passenger paying any fare.

Senior Citizens 62 and older and passengers with disabilities can travel on-board NJ TRANSIT trains, buses, and light rail vehicles at a reduced fare of one-half the regular one-way fare or less at all times.

Seniors Citizens 62 and older may be asked to present a valid ID (any ID or document printed with your date of birth and issued by a government, social service, or mass transportation agency) to obtain the reduced fare. Valid ID for Seniors 65 and older also includes the MTA Reduced Fare Card; PA Senior Citizen Transit ID or PACE Card; PATH Senior Fare Card; or Medicare Card. **Passengers with disabilities** must present an NJ TRANSIT Reduced Fare ID or Medicare Card to obtain the reduced fare. Call (973) 378-6401 for more information on the Reduced Fare Program.

Monthly Passes are available for frequent riders at a substantial discount from the regular fare. Buy a pass at a NJ TRANSIT ticket agent or through NJ TRANSIT Mail-Fare, One Penn Plaza East, Newark, NJ 07105-2246. Call 1(800) 648-0215 for more information.

You Can Ride With Your Rail Pass

Passengers with NJ TRANSIT rail monthly or weekly passes printed with a bus-zone number may use their passes on NJ TRANSIT buses up to the number of imprinted bus-zones during the period that the pass is valid. Passes that are not printed with a bus-zone number will not be accepted on NJ TRANSIT buses.

Ticket Refund

Ticket Refunds are not available for one-way or round trip tickets. For all other refund requests please visit www.njtransit.com for the refund policy or call 1 (973) 275-5555 and press #1 for "Bus Information", then press #2 for "Bus Refund Information".

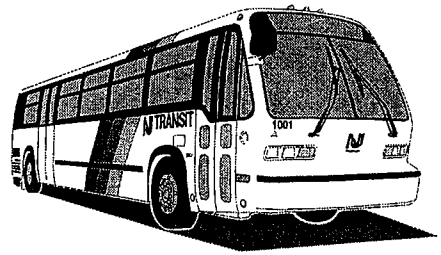
Printed with soy ink on post consumer waste recycled paper

T0753 - 5/09

753 NEW MILFORD PARAMUS

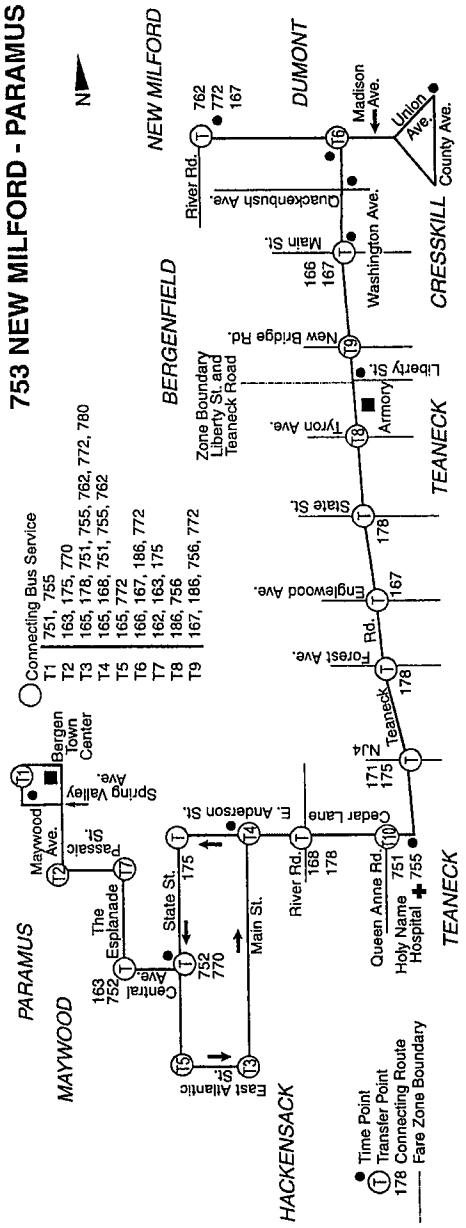
Effective: June 27, 2009

Serving: New Milford
Cresskill
Dumont
Bergenfield
Teaneck
Hackensack
Maywood
Paramus
Bergen Town Center



NJ TRANSIT
The Way To Go.
www.njtransit.com℠

753 NEW MILFORD - PARAMUS



To Paramus

Weekdays

NEW MILFORD Madison Ave. at River Rd.	CRESSKILL Union Ave. at County Rd.	DUMONT Washington Ave. at Madison Ave.	BERGENFIELD Washington Ave. at Main St.	TEANECK (Armory) Teaneck Rd. at Liberty Rd.	TEANECK Cedar Ln. at Teaneck Rd.	HACKENSACK (Sears) Main St. at Anderson St.	HACKENSACK Central Ave. at State St.	PARAMUS Bergen Town Center
–	812	818	822	827	835	842	845	855
912	–	917	921	926	934	941	944	954
–	1012	1018	1022	1027	1035	1042	1045	1055
1112	–	1119	1124	1130	1138	1145	1148	1159
–	**1212**	**1219**	**1224**	**1230**	**1238**	**1245**	**1248**	**1259**
112	–	119	124	130	138	145	148	159
–	212	219	224	230	238	245	248	259
312	–	319	324	330	338	345	348	359
–	412	418	422	427	435	442	445	455
512	–	517	521	526	534	541	544	554
–	612	618	622	627	635	642	645	655
712	–	717	721	726	734	741	744	754
912	–	917	921	926	934	941	944	954

Saturdays

NEW MILFORD Madison Ave. at River Rd.	CRESSKILL Union Ave. at County Rd.	DUMONT Washington Ave. at Madison Ave.	BERGENFIELD Washington Ave. at Main St.	TEANECK (Armory) Teaneck Rd. at Liberty Rd.	TEANECK Cedar Ln. at Teaneck Rd.	HACKENSACK (Sears) Main St. at Anderson St.	HACKENSACK Central Ave. at State St.	PARAMUS Bergen Town Center
–	812	819	824	830	837	844	848	859
912	–	918	923	928	935	942	945	956
–	1012	1020	1025	1030	1037	1044	1047	1058
1112	–	1118	1123	1128	1135	1142	1145	1156
–	**1212**	**1220**	**1225**	**1230**	**1237**	**1244**	**1247**	**1258**
112	–	118	123	128	135	142	145	156
–	212	220	225	230	237	244	247	258
312	–	318	324	330	338	346	350	402
–	412	420	426	432	440	448	452	504
512	–	518	524	530	538	546	550	602
–	612	620	626	632	640	648	652	704
712	–	718	724	730	736	743	747	757
912	–	917	922	927	933	940	944	954

All trips are operated with lift-equipped buses. If you have a disability that prevents you from using the bus, information about Access Link, NJ TRANSIT's ADA paratransit service is available by calling 1 (800) 955-2321.

A.M. - Light face type

P.M. - Bold face type

Service on this line is subsidized in part by Bergen County.

NO SERVICE WILL BE OPERATED ON SUNDAYS.

Customer Services

Commendations/ Complaints

Customer Service **1 (973) 275-5555**

Please...

For the comfort of all, observe these simple rules while riding the bus:

- No smoking.
- No eating or drinking.
- No littering.
- Use headphones if you're listening to a radio.
- Speak softly when using cellular phones.

Smoking is not allowed on buses, in terminals, or on platforms.

How to use this schedule

1. Choose the direction you wish to travel and locate the WEEKDAY, SATURDAY or SUNDAY schedule. Timepoints are listed from the beginning of the route (on the left) to the end (on the right).
2. Timepoints in the schedule correspond with the timepoint dots on the map. If your stop is between two timepoints, use the earlier time as a guide.
3. If there is a letter to the left of the times listed for the trip you wish to take, look for the explanation under or next to the schedule block.
4. Check departure location information on front, if applicable. Be sure to see other special notes for more information.
5. Be sure to check the bus destination sign before boarding the bus.

Information in this timetable is subject to change without notice. Traffic conditions, construction, and weather can affect trip time.

Holiday Service Guide

Holiday	Date	Schedule in Effect
Independence Day (Observed)	Fri. 7/3/2009	Saturday
Independence Day	Sat. 7/4/2009	Saturday
Labor Day	Mon. 9/7/2009	Saturday
Columbus Day	Mon. 10/12/2009	Weekday
Veterans Day	Wed. 11/11/2009	Weekday
Thanksgiving Day	Thu. 11/26/2009	No Service
Friday After Thanksgiving	Fri. 11/27/2009	Weekday
Christmas Eve	Thu. 12/24/2009	Weekday
Christmas Day	Fri. 12/25/2009	No Service
New Year's Eve	Thu. 12/31/2009	Weekday
New Year's Day	Fri. 1/1/2010	Saturday
Martin Luther King Jr. Day	Mon. 1/18/2010	Weekday
Presidents' Day	Mon. 2/15/2010	Weekday
Good Friday	Fri. 4/2/2010	Weekday
Memorial Day	Mon. 5/31/2010	Saturday

To Ridgewood

Weekdays

HACKENSACK Hackensack Bus Terminal	MAYWOOD (Bergen Town Center) Forest Ave. at Spring Valley Ave.	PARAMUS Bergen Regional Medical Ctr.	PARAMUS Paramus Park Mall	PARAMUS (Fashion Center) Winters Ave. at Fashion Center entrance	RIDGEWOOD - Valley Hospital Linwood Ave. at Van Dien Ave.	RIDGEWOOD (Bus Terminal) Van Neste Square	MIDLAND PARK Godwin Ave. at Erie Ave.	WORTENDYKE Godwin Ave. at Park Ave.	WYCKOFF Franklin Ave. at Morse Ave.	FRANKLIN LAKES Franklin Ave. at Campgaw Plaza	OAKLAND (Copper Tree Shop.Ctr.) Rainopo Valley Rd. & Yawpo Ave.
600	611	621	627	630	637	642	648	651	654	659	706
646	657	707	714	717	724	730	–	–	–	–	–
716	730	740	747	750	757	803	810	813	816	822	829
746	800	810	817	820	827	833	–	–	–	–	–
816	830	840	847	850	857	903	909	912	915	920	927
846	900	910	916	919	927	933	–	–	–	–	–
916	928	938	944	947	955	1001	–	–	–	–	–
1016	1028	1038	1044	1047	1055	1101	–	–	–	–	–
1116	1128	1138	1144	1147	1155	**1201**	–	–	–	–	–
1216	**1228**	**1238**	**1244**	**1247**	**1255**	**101**	–	–	–	–	–
116	**128**	**138**	**144**	**147**	**155**	**201**	–	–	–	–	–
216	**228**	**238**	**244**	**247**	**255**	**301**	–	–	–	–	–
316	**331**	**340**	**347**	**351**	**400**	**406**	**413**	**417**	**420**	**424**	**431**
416	**431**	**440**	**447**	**451**	**500**	**506**	**513**	**517**	**520**	**524**	**531**
516	**531**	**540**	**547**	**551**	**600**	**606**	**613**	**617**	**620**	**624**	**631**
616	**631**	**640**	**645**	**649**	**658**	**704**	–	–	–	–	–
716	**728**	**737**	**742**	**746**	**755**	**801**	–	–	–	–	–
816	**828**	**837**	**842**	**846**	**855**	**901**	–	–	–	–	–
916	**928**	**937**	**942**	**946**	**955**	**1001**	–	–	–	–	–

A.M. - Light face type **P.M. - Bold face type**

Security Hot Line
1 (888) TIPS NJT
To report suspicious activities or packages.

Saturdays

HACKENSACK Hackensack Bus Terminal	MAYWOOD (Bergen Town Center) Forest Ave. at Spring Valley Ave.	PARAMUS Bergen Regional Medical Ctr.	PARAMUS Paramus Park Mall	PARAMUS (Fashion Center) Winters Ave. at Fashion Center entrance	RIDGEWOOD - Valley Hospital Linwood Ave. at Van Dien Ave.	RIDGEWOOD (Bus Terminal) Van Neste Square
716	728	737	742	746	755	801
816	828	837	842	846	855	901
916	928	937	942	946	955	1001
1016	1028	1037	1042	1046	1055	1101
1116	1128	1137	1142	1146	1155	**1201**
1216	**1228**	**1237**	**1242**	**1246**	**1255**	**101**
116	**128**	**137**	**142**	**146**	**155**	**201**
216	**228**	**237**	**242**	**246**	**255**	**301**
316	**328**	**337**	**342**	**346**	**355**	**401**
416	**428**	**437**	**442**	**446**	**455**	**501**
516	**528**	**537**	**542**	**546**	**555**	**601**
616	**628**	**637**	**642**	**646**	**655**	**701**
716	**728**	**737**	**742**	**746**	**755**	**801**
816	**828**	**837**	**842**	**846**	**855**	**901**
916	**928**	**937**	**942**	**946**	**955**	**1001**

NO SERVICE will be operated on Sundays.

Please...

For the comfort of all, observe these simple rules while riding the bus:

- No smoking.
- No eating or drinking.
- No littering.
- Use headphones if you're listening to a radio.
- Speak softly when using cellular phones.

Smoking is not allowed on buses, in terminals, or on platforms.

Fare Information

This is an exact fare line. Passengers are required to have exact fare when boarding buses on this line. One dollar bills and most U.S. coins are accepted. Drivers do not carry money and cannot make change.

How to determine your fare

Your fare is based on the number of zones you travel through. Check the map on this schedule to see how many zones you travel. Each time you cross a zone boundary, you must pay for another zone.

Cash Fares

Zone	1	2	3	4	Transfer
Adult	$1.35	$2.15	$2.65	$3.20	$0.65
Children & Sr. Citizens	$0.65	$1.00	$1.20	$1.45	$0.30

Transfers must be purchased when boarding bus.

Reduced Fare Program

Children's Fares - Ages 5-11 save 50% or more from regular one-way fares at all times. Up to three children ages four and under ride free with a passenger paying any fare.

Senior Citizens 62 and older and passengers with disabilities can travel on-board NJ TRANSIT trains, buses, and light rail vehicles at a reduced fare of one-half the regular one-way fare or less at all times. **Seniors Citizens 62 and older** may be asked to present a valid ID (any ID or document printed with your date of birth and issued by a government, social service, or mass transportation agency) to obtain the reduced fare. Valid ID for Seniors 65 and older also includes the MTA Reduced Fare Card; PA Senior Citizen Transit ID or PACE Card; PATH Senior Fare Card; or Medicare Card. **Passengers with disabilities** must present an NJ TRANSIT Reduced Fare ID or Medicare Card to obtain the reduced fare. Call (973) 378-6401 for more information on the Reduced Fare Program.

Monthly Passes are available for frequent riders at a substantial discount from the regular fare. Buy a pass from a NJ TRANSIT ticket agent or ticket vending machine. Visit njtransit.com for more information.

You Can Ride With Your Rail Pass

Passengers with NJ TRANSIT rail monthly or weekly passes printed with a bus-zone number may use their passes on NJ TRANSIT buses up to the number of imprinted bus-zones during the period that the pass is valid. Passes that are not printed with a bus-zone number will not be accepted on NJ TRANSIT buses.

Ticket Refund

Ticket Refunds are not available for one-way or round trip tickets. For all other refund requests please visit www.njtransit.com for the refund policy or call 1 (973) 275-5555 and press #1 for "Bus Information", then press #2 for "Bus Refund Information".

Printed with soy ink on post consumer waste recycled paper

T0752 - 8/09

752 OAKLAND RIDGEWOOD HACKENSACK

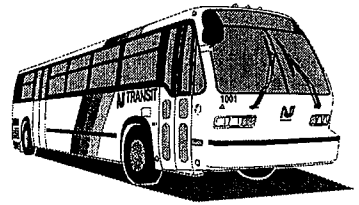
Effective: September 5, 2009

Serving: Oakland
- Copper Tree Shop. Center

Franklin Lakes
Wyckoff
Midland Park
Ridgewood
- Valley Hospital

Paramus
- Bergen Town Center
- Bergen Regional Medical Center
- Fashion Center
- Paramus Park Mall

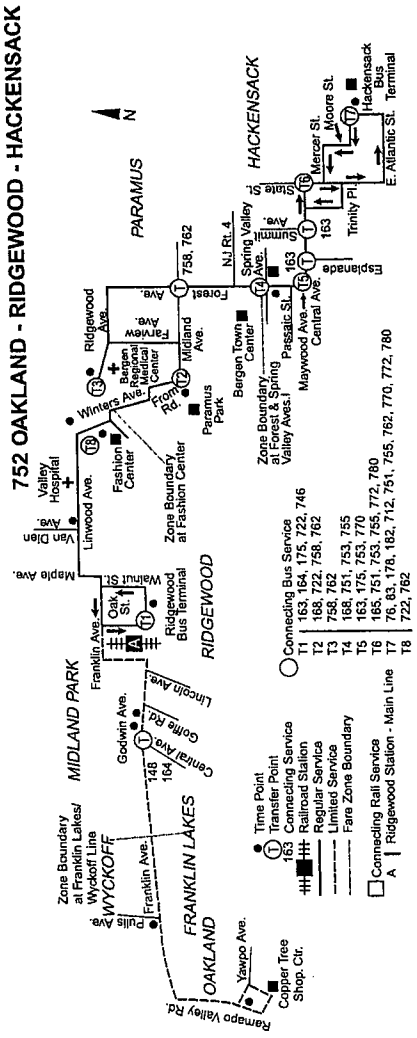
Maywood
Hackensack



Customer Service Star
Someone make your trip better? Tell us who.
njtransit.com/stars

NJ TRANSIT The Way To Go

752 OAKLAND - RIDGEWOOD - HACKENSACK



To Hackensack

Weekdays

OAKLAND (Copper Tree Shop.Ctr.) Ramapo Valley Rd. & Yawpo Ave.	FRANKLIN LAKES Franklin Ave. at Campgaw Plaza	WYCKOFF Franklin Ave. at Morse Ave.	WORTENDYKE Godwin Ave. at Park Ave.	MIDLAND PARK Godwin Ave. at Goffle Rd.	RIDGEWOOD (Bus Terminal) Van Neste Square	RIDGEWOOD - Valley Hospital Linwood Ave. at Van Dien Ave.	PARAMUS (Fashion Center) Winters Ave. at Fashion Center entrance	PARAMUS Paramus Park Mall	PARAMUS Bergen Regional Medical Ctr.	MAYWOOD (Bergen Town Center) Forest Ave. at Spring Valley Ave.	HACKENSACK Hackensack Bus Terminal
–	–	–	–	–	615	620	627	631	637	646	659
–	–	–	–	–	645	650	657	701	707	716	729
653	658	703	705	708	715	720	727	731	737	746	759
–	–	–	–	–	745	750	757	801	807	816	829
753	758	803	805	808	815	820	827	831	837	846	859
–	–	–	–	–	845	850	857	901	907	917	930
854	859	904	906	909	915	920	928	932	938	948	1001
954	959	1004	1006	1009	1015	1020	1028	1032	1038	1048	1101
–	–	–	–	–	1115	1120	1128	1132	1138	1148	**1201**
–	–	–	–	–	**1215**	**1220**	**1228**	**1232**	**1238**	**1248**	**101**
–	–	–	–	–	**115**	**120**	**128**	**132**	**138**	**148**	**201**
–	–	–	–	–	**215**	**220**	**228**	**232**	**238**	**248**	**301**
–	–	–	–	–	**315**	**320**	**328**	**332**	**338**	**347**	**402**
–	–	–	–	–	**415**	**420**	**428**	**432**	**438**	**447**	**502**
450	**455**	**501**	**504**	**508**	**515**	**520**	**528**	**532**	**538**	**547**	**602**
550	**555**	**601**	**604**	**608**	**615**	**620**	**628**	**632**	**638**	**647**	**702**
–	–	–	–	–	**715**	**720**	**728**	**732**	**738**	**747**	**759**
–	–	–	–	–	**815**	**820**	**828**	**832**	**838**	**847**	**859**
–	–	–	–	–	**915**	**920**	**928**	**932**	**938**	**947**	**959**

A.M. - Light face type **P.M. - Bold face type**

NO SERVICE will be operated on Sundays.

Customer Services

Commendations/ Complaints

Customer Service 1 (973) 275-5555

Saturdays

RIDGEWOOD (Bus Terminal) Van Neste Square	RIDGEWOOD - Valley Hospital Linwood Ave. at Van Dien Ave.	PARAMUS (Fashion Center) Winters Ave. at Fashion Center entrance	PARAMUS Paramus Park Mall	PARAMUS Bergen Regional Medical Ctr.	MAYWOOD (Bergen Town Center) Forest Ave. at Spring Valley Ave.	HACKENSACK Hackensack Bus Terminal
615	621	630	634	639	647	659
715	721	730	734	739	747	759
815	821	830	834	839	847	859
915	921	930	934	939	947	959
1015	1021	1030	1034	1039	1047	1059
1115	1121	1130	1134	1139	1147	1159
1215	**1221**	**1230**	**1234**	**1239**	**1247**	**1259**
115	**121**	**130**	**134**	**139**	**147**	**159**
215	**221**	**230**	**234**	**239**	**247**	**259**
315	**321**	**330**	**334**	**339**	**347**	**359**
415	**421**	**430**	**434**	**439**	**447**	**459**
515	**521**	**530**	**534**	**539**	**547**	**559**
615	**621**	**630**	**634**	**639**	**647**	**659**
715	**721**	**730**	**734**	**739**	**747**	**759**
815	**821**	**830**	**834**	**839**	**847**	**859**
915	**921**	**930**	**934**	**939**	**947**	**959**

Holiday Service Guide

Holiday	Date	Schedule in Effect
Labor Day	Mon. 9/7/2009	Saturday
Columbus Day	Mon. 10/12/2009	Weekday
Veterans Day	Wed. 11/11/2009	Weekday
Thanksgiving Day	Thu. 11/26/2009	No Service
Friday After Thanksgiving	Fri. 11/27/2009	Weekday
Christmas Day	Fri. 12/25/2009	No Service
New Year's Day	Fri. 1/1/2010	Saturday
Martin Luther King Jr. Day	Mon. 1/18/2010	Weekday
Presidents' Day	Mon. 2/15/2010	Weekday
Good Friday	Fri. 4/2/2010	Weekday
Memorial Day	Mon. 5/31/2010	Saturday
Independence Day	Sun. 7/4/2010	No Service
Independence Day (Observed)	Mon. 7/5/2010	Saturday
Labor Day	Mon. 9/6/2010	Saturday

NJ Transit Information

Schedule, Fare and Lost & Found

Transit Information & Lift Equipped Bus Reservations 1 (973) 275-5555
Text Telephone (TT) 1 (800) 772-2287
Lost & Found 1 (800) 442-7272 ext.2350

Bergen County Transit Information Center 1 (201) 336-6450

Journal Square Transportation Center Information 1 (800) 234-7284
AMTRAK Information 1 (800) 872-7245
NY Waterway Bus/Ferry Information. .1 (800) 53-FERRY
Long Island Railroad Information . . . 1 (718) 217-5477
Metro-North Commuter Railroad Information 1 (212) 532-4900
Newark Airport Ground Transportation Information 1 (800) 247-7433
NYC Transit Authority Information (Bus and Subway) 1 (718) 330-1234
PATH Information 1 (800) 234-7284

Service on this line is operated by Academy Express, under contract to NJ TRANSIT.

Service on this line is subsidized by Bergen County.

All trips are operated with lift-equipped buses. If you have a disability that prevents you from using the bus, information about Access Link, NJ TRANSIT's ADA paratransit service is available by calling 1 (800) 955-2321.

How to use this schedule

1. Choose the direction you wish to travel and locate the WEEKDAY, SATURDAY or SUNDAY schedule. Timepoints are listed from the beginning of the route (on the left) to the end (on the right).
2. Timepoints in the schedule correspond with the timepoint dots on the map. If your stop is between two timepoints, use the earlier time as a guide.
3. If there is a letter to the left of the times listed for the trip you wish to take, look for the explanation under or next to the schedule block.
4. Check departure location information on front, if applicable. Be sure to see other special notes for more information.
5. Be sure to check the bus destination sign before boarding the bus.

Information in this timetable is subject to change without notice. Traffic conditions, construction, and weather can affect trip time.

To Paterson

Weekdays

HACKENSACK Hackensack Bus Terminal	ROCHELLE PARK Passaic St. at Rochelle Ave.	PARAMUS Garden State Plaza	FAIR LAWN Broadway at Plaza Rd.	PATERSON 11th Ave. at 43rd St.	PATERSON Broadway at 32nd St.	PATERSON Broadway Bus Terminal
500	510	–	515	519	522	534
545	555	–	600	604	607	619
615	625	–	630	634	637	649
640	650	653	659	703	706	718
705	718	721	728	732	735	747
725	738	741	748	752	755	807
745	758	801	809	813	816	828
810	824	827	835	839	842	854
835	849	852	900	904	907	919
900	914	917	925	929	932	944
930	944	947	955	959	1002	1014
1000	1014	1017	1025	1029	1032	1044
1030	1044	1047	1055	1059	1102	1114
1100	1114	1117	1125	1129	1132	1144
1130	1144	1147	1155	1159	1202	1214
1200	1214	1217	1225	1229	1232	1244
1230	1244	1247	1255	1259	102	114
100	114	117	125	129	132	144
130	144	147	155	159	202	214
200	214	217	225	229	232	244
230	244	247	255	259	302	314
300	314	317	328	333	336	348
325	339	342	353	358	401	413
345	359	402	413	418	421	433
405	419	422	433	438	441	453
425	439	442	453	458	501	513
445	459	502	513	518	521	533
505	519	522	533	538	541	553
525	539	542	553	558	601	613
545	559	602	613	618	621	633
605	619	622	633	637	640	652
630	644	647	658	702	705	717
700	714	717	728	732	735	747
800	814	817	828	832	835	847
900	914	917	928	932	935	947
1000	1014	1017	1028	1032	1035	1047
1100	1114	1117	1128	1132	1135	1147

Saturdays

HACKENSACK Hackensack Bus Terminal	ROCHELLE PARK Passaic St. at Rochelle Ave.	PARAMUS Garden State Plaza	FAIR LAWN Broadway at Plaza Rd.	PATERSON 11th Ave. at 43rd St.	PATERSON Broadway at 32nd St.	PATERSON Broadway Bus Terminal
700	713	718	725	729	732	742
810	824	829	839	843	847	900
910	924	929	939	943	947	1000
1010	1024	1029	1039	1043	1047	1100
1110	1124	1129	1139	1143	1147	1200
1210	1224	1229	1239	1243	1247	100
110	124	129	139	143	147	200
210	224	229	239	243	247	300
310	324	329	340	345	348	400
410	424	429	440	445	448	500
510	524	529	540	545	548	600
610	624	629	640	645	648	700
710	724	729	740	745	748	800
810	824	829	840	845	848	900
910	924	929	940	945	948	1000
1010	1024	1029	1040	1044	1046	1057
1110	1124	1129	1140	1144	1146	1157

A.M. - Light face type **P.M. - Bold face type**

RECEIPT FOR RIDE
Don't forget to take one!

Sundays

HACKENSACK Hackensack Bus Terminal	ROCHELLE PARK Passaic St. at Rochelle Ave.	FAIR LAWN Broadway at Plaza Rd.	PATERSON 11th Ave. at 43rd St.	PATERSON Broadway at 32nd St.	PATERSON Broadway Bus Terminal
810	824	832	836	840	853
910	924	932	936	940	953
1010	1024	1032	1036	1040	1053
1110	1124	1132	1136	1140	1153
1210	1224	1232	1236	1240	1253
110	124	132	136	140	153
210	224	232	236	240	253
310	324	335	340	343	355
410	424	435	440	443	455
510	524	535	540	543	555
610	624	635	640	643	655
710	724	735	740	743	755
810	824	835	840	843	855
910	924	935	940	943	955

Customer Services

Commendations/ Complaints

Customer Service 1 (973) 275-5555

Please...

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- No smoking.
- No eating or drinking.
- No littering.
- Use headphones if you're listening to a radio.
- Speak softly when using cellular phones.

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5. Be sure to check the bus destination sign before boarding the bus.

Information in this timetable is subject to change without notice. Traffic conditions, construction, and weather can affect trip time.

Security Hot Line
1 (888) TIPS NJT
To report suspicious activities or packages.

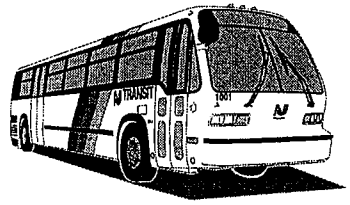
Printed with soy ink on post consumer waste recycled paper

T0770 - 9/09

770 PATERSON HACKENSACK

Effective: August 30, 2008
Revised: September 2009

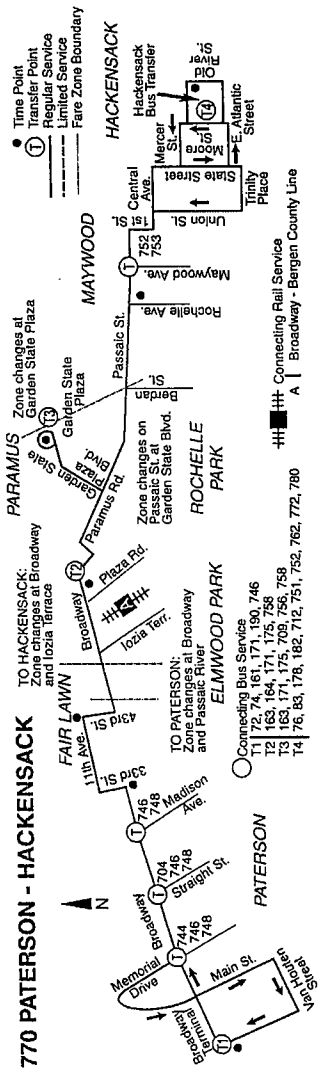
Serving:
Paterson
Elmwood Park
Fair Lawn
Broadway Station
Paramus
Garden State Plaza
Rochelle Park
Maywood
Hackensack



Customer Service Star
Someone make your trip better? Tell us who.
njtransit.com/stars

NJ TRANSIT The Way To Go.

770 PATERSON - HACKENSACK



To Hackensack

Weekdays

PATERSON Broadway Bus Terminal	PATERSON 33rd St. at Linden Rd.	PATERSON 11th Ave. at 43rd St.	FAIR LAWN Broadway at Plaza Rd.	PARAMUS Garden State Plaza	ROCHELLE PARK Passaic St. at Rochelle Ave.	HACKENSACK Hackensack Bus Terminal
515	525	528	532	–	539	550
545	555	558	602	–	609	620
610	620	623	627	–	634	645
635	645	648	652	700	703	714
655	705	708	712	720	723	736
715	728	731	737	745	748	801
735	748	751	757	805	808	821
755	808	811	817	825	828	841
815	828	831	837	845	848	901
835	848	851	857	905	910	922
900	913	916	923	931	936	948
930	943	946	953	1001	1006	1018
1000	1013	1016	1023	1031	1036	1048
1030	1043	1046	1053	1101	1106	1118
1100	1113	1116	1123	1131	1136	1148
1130	1143	1146	1153	1201	1206	1218
1200	1213	1216	1223	1231	1236	1248
1230	1243	1246	1253	101	106	118
100	113	116	123	131	136	148
130	143	146	153	201	206	218
155	208	211	218	226	231	243
215	228	231	238	246	251	303
235	248	251	258	306	313	325
255	309	312	319	327	334	346
315	330	333	340	348	355	407
335	350	353	400	408	415	427
400	415	418	425	433	440	452
420	435	438	445	453	500	512
445	500	503	510	518	525	537
505	520	523	530	538	545	557
530	545	548	555	603	610	622
600	615	618	625	633	640	652
700	710	713	717	725	730	742
800	810	813	817	825	830	842
900	910	913	917	925	930	942
1000	1010	1013	1017	1025	1030	1042

Saturdays

PATERSON Broadway Bus Terminal	PATERSON 33rd St. at Linden Rd.	PATERSON 11th Ave. at 43rd St.	FAIR LAWN Broadway at Plaza Rd.	PARAMUS Garden State Plaza	ROCHELLE PARK Passaic St. at Rochelle Ave.	HACKENSACK Hackensack Bus Terminal
600	610	613	617	–	624	635
700	712	715	721	731	734	747
800	812	815	821	831	836	848
910	923	925	932	944	949	1001
1010	1023	1025	1032	1044	1049	1101
1110	1123	1125	1132	1144	1149	1201
1210	1223	1225	1232	1244	1249	101
110	123	125	132	144	149	201
210	223	225	232	244	249	301
310	323	325	332	344	349	401
410	423	426	433	445	452	504
510	523	526	533	545	552	604
610	622	625	631	641	646	658
710	722	725	731	741	746	758
810	822	825	831	841	846	858
910	922	925	931	941	946	958
1010	1022	1025	1031	1041	1046	1058

Sundays

PATERSON Broadway Bus Terminal	PATERSON 33rd St. at Linden Rd.	PATERSON 11th Ave. at 43rd St.	FAIR LAWN Broadway at Plaza Rd.	ROCHELLE PARK Passaic St. at Rochelle Ave.	HACKENSACK Hackensack Bus Terminal
700	712	715	721	728	741
800	812	815	821	828	840
910	923	925	932	939	951
1010	1023	1025	1032	1039	1051
1110	1123	1125	1132	1139	1151
1210	1223	1225	1232	1239	1251
110	123	125	132	139	151
210	223	225	232	239	251
310	323	325	332	339	351
410	423	426	433	440	452
510	523	526	533	540	552
610	622	625	631	638	650
710	722	725	731	738	750
810	822	825	831	838	850

A.M. - Light face type **P.M. - Bold face type**

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Christmas Day	Fri. 12/25/2009	Sunday
New Year's Day	Fri. 1/1/2010	Saturday
Martin Luther King Jr. Day	Mon. 1/18/2010	Weekday
Presidents' Day	Mon. 2/15/2010	Saturday
Good Friday	Fri. 4/2/2010	Weekday
Memorial Day	Mon. 5/31/2010	Saturday

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Monthly Passes are available for frequent riders at a substantial discount from the regular fare. Buy a pass from a NJ TRANSIT ticket agent or ticket vending machine. Visit njtransit.com for more information.

You Can Ride With Your Rail Pass

Passengers with NJ TRANSIT rail monthly or weekly passes printed with a bus-zone number may use their passes on NJ TRANSIT buses up to the number of imprinted bus-zones during the period that the pass is valid. Passes that are not printed with a bus-zone number will not be accepted on NJ TRANSIT buses.

All trips are operated with lift-equipped buses. If you have a disability that prevents you from using the bus, information about Access Link, NJ TRANSIT's ADA paratransit service is available by calling 1 (800) 955-2321.

APPENDIX V
TRIP GENERATION CALCULATIONS

SUMMARY OF STAFF, PATIENTS & VISITORS
for the
LONG TERM ACUTE CARE HOSPITAL
at the
BERGEN PASSAIC LTACH

Staff

Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
7:00 am - 3:00 pm	6:30 am - 7:00 am	3:00 pm - 3:30 pm	130
3:00 pm - 11:00 pm	2:30 pm - 3:00 pm	11:00 pm - 11:30 pm	109
11:00 pm - 7:00 am	10:30 pm - 11:00 pm	7:00 am - 7:30 am	62
8:30 am - 5:00 pm	8:00 am - 8:30 am	5:00 pm - 5:30 pm	70

Assumptions:
1. Maximum capacity/occupancy of 144 beds
2. This assumes full utilization of all beds

Patients (Admissions/Discharges)

Patients Admissions/Discharges	Travel Times		Number of Patients
	Arrival	Departure	
8:00 am - 8:00 pm	8:00 am - 8:00 pm	8:00 am - 8:00 pm	24

Assumptions:
1. Twelve admissions and twelve discharges per day (24 patients per da
2. One admission/discharge per hour
3. All admissions arrive via medical transport

Visitors

Visiting Hours	Travel Times		Number of Visitors
	Arrival	Departure	
8:00 am - 8:00 pm	7:30 am - 7:30 pm	8:00 am - 8:00 pm	72

Assumptions:
1. Each patient receives one visitor every other day (72 visitors per day)
2. Six visitors per hour

SUMMARY OF STAFFING, PATIENTS & VISITORS
for the
DIALYSIS UNIT
at the
BERGEN PASSIAC LTACH

Staff

Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
5:30 am - 2:00 pm	5:00 am - 5:30 am	2:00 pm - 2:30 pm	22
8:30 am - 5:00 pm	8:00 am - 8:30 am	5:00 pm - 5:30 pm	25
9:30 am - 6:00 pm	9:00 am - 9:30 am	6:00 pm - 6:30 pm	22

Assumptions:
1. Dialysis unit has 84 treatment stations/seats
2. This assumes full utilization of all seats for 3 shifts

Patients

Treatment Times	Travel Times		Source of Patients			Total Number of Patients
	Arrival	Departure	In-House	Van	Car	
6:00 am - 9:30 am	5:30 am - 6:00 am	9:30 am - 10:00 am	8	40	36	84
10:00 am - 1:30 pm	9:30 am - 10:00 am	1:30 pm - 2:00 pm	8	40	36	84
2:00 pm - 5:30 pm	1:30 pm - 2:00 pm	5:30 pm - 6:00 pm	8	40	36	84

Assumptions:
1. For each treatment period, 8 patients will come from in-house LTACH census
2. For each treatment period, 40 patients will be delievered to center via medical transport or van
3. For each treatment period, 36 patients will be dropped off by car

Visitors

Patients at the dialysis center do not typically receive visitors

9/28/2009

SUMMARY OF STAFFING, PATIENTS & VISITORS
for the
ADULT DAY CARE
at the
Bergen Passaic LTACH

Staff

Staff Shifts	Travel Times		Number of Staff
	Arrival	Departure	
6:30 am - 3:00 pm	6:00 am - 6:30 am	3:00 pm - 3:30 pm	27
8:30 am - 5:00 pm	8:00 am - 8:30 am	5:00 pm - 5:30 pm	36

Assumptions:
1. Capacity of adult day care center is 250 participants
2. This assumes full utilization of program

Participants

Hours of Operation	Travel Times		Source of Transport	
	Arrival	Departure	Van	Car
7:00 am - 3:00 pm	7:00 am - 7:30 am	3:00 pm - 3:30 pm	50	20
7:30 am - 3:30 pm	7:30 am - 8:00 am	3:30 pm - 4:00 pm	50	10
8:00 am - 4:00 pm	8:00 am - 8:30 am	4:00 pm - 4:30 pm	50	10
8:30 am - 4:30 pm	8:30 am - 9:00 am	4:30 pm - 5:00 pm	50	10

Assumptions:
1. Eighty percent of participants arrive via passenger van (200 participants)
2. Twenty percent of participants are dropped off by family members (50 participants)
3. Ten participants per van

Visitors

Participants at the adult day care center do not typically receive visitors

TRIP GENERATION/PARKING REQUIREMENTS for ALL PROGRAMS [3]
at the
BERGEN PASSAIC LTACH

		Staff [1]			Patients/Participants						Visitors	Trips w/ Drop-Off Only [4]	Trips Requiring Parking [5]	Cumulative Parking Spaces
					Van [2]			Car						
		L	D	A	L	D	A	L	D	A	L - ONLY			
	12:00 am - 12:30 am													60
	12:30 am - 1:00 am													60
	1:00 am - 1:30 am													60
	1:30 am - 2:00 am													60
	2:00 am - 2:30 am													60
	2:30 am - 3:00 am													60
	3:00 am - 3:30 am													60
	3:30 am - 4:00 am													60
	4:00 am - 4:30 am													60
	4:30 am - 5:00 am													60
ARR	5:00 am - 5:30 am		21									0	19	78
ARR	5:30 am - 6:00 am					4			36			40	0	78
DEP	5:30 am - 6:00 am								36			36	0	78
ARR	6:00 am - 6:30 am			26								0	24	102
DEP	6:00 am - 6:30 am					4						4	0	102
ARR	6:30 am - 7:00 am	124										0	112	214
ARR	7:00 am - 7:30 am						5			20		25	0	214
DEP	7:00 am - 7:30 am	59					5			20		25	54	160
ARR	7:30 am - 8:00 am						5			10	3	15	3	163
DEP	7:30 am - 8:00 am						5			10		15	0	163
ARR	8:00 am - 8:30 am	67	24	34	1		5			10	3	16	116	279
DEP	8:00 am - 8:30am				1		5			10	3	14	3	276
ARR	8:30 am - 9:00 am						5			10	3	15	3	279
DEP	8:30 am - 9:00 am						5			10	3	15	3	276
ARR	9:00 am - 9:30 am		21		1						3	1	22	298
DEP	9:00 am - 9:30 am				1						3	1	3	295
ARR	9:30 am - 10:00 am					4			36		3	40	3	298
DEP	9:30 am - 10:00 am								36		3	36	3	295
ARR	10:00 am - 10:30 am				1						3	1	3	298
DEP	10:00 am - 10:30 am				1	4					3	5	3	295
ARR	10:30 am - 11:00 am										3	0	3	298
DEP	10:30 am - 11:00 am										3	0	3	295
ARR	11:00 am - 11:30 am				1						3	1	3	298
DEP	11:00 am - 11:30 am				1						3	1	3	295
ARR	11:30 am - 12:00 pm										3	0	3	298
DEP	11:30 am - 12:00 pm										3	0	3	295
ARR	12:00 pm - 12:30 pm				1						3	1	3	298
DEP	12:00 pm - 12:30 pm				1						3	1	3	295
ARR	12:30 pm - 1:00 pm										3	0	3	298
DEP	12:30 pm - 1:00 pm										3	0	3	295
ARR	1:00 pm - 1:30 pm				1						3	1	3	298
DEP	1:00 pm - 1:30 pm				1						3	1	3	295
ARR	1:30 pm - 2:00 pm					4			36		3	40	3	298

		Staff [1]			Patients/Participants						Visitors	Trips w/ Drop-Off Only [4]	Trips Requiring Parking [5]	Cumulative Parking Spaces
					Van [2]			Car						
		L	D	A	L	D	A	L	D	A	L - ONLY			
DEP	1:30 pm - 2:00 pm								36		3	36	3	**295**
ARR	2:00 pm - 2:30 pm				1						3	1	3	**298**
DEP	2:00 pm - 2:30 pm		21		1	4					3	5	22	**276**
ARR	2:30 pm - 3:00 pm	104									3	0	97	**373**
DEP	2:30 pm - 3:00 pm										3	0	3	**370**
ARR	3:00 pm - 3:30 pm				1		5			20	3	26	3	**373**
DEP	3:00 pm - 3:30 pm	124		26	1		5			20	3	26	138	**235**
ARR	3:30 pm - 4:00 pm						5			10	3	15	3	**238**
DEP	3:30 pm - 4:00 pm						5			10	3	15	3	**235**
ARR	4:00 pm - 4:30 pm				1		5			10	3	16	3	**238**
DEP	4:00 pm - 4:30 pm				1		5			10	3	16	3	**235**
ARR	4:30 pm - 5:00 pm						5			10	3	15	3	**238**
DEP	4:30 pm - 5:00 pm						5			10	3	15	3	**235**
ARR	5:00 pm - 5:30 pm				1						3	1	3	**238**
DEP	5:00 pm - 5:30 pm	67	24	34	1						3	1	116	**122**
ARR	5:30 pm - 6:00 pm					4			36		3	40	3	**125**
DEP	5:30 pm - 6:00 pm					4			36		3	40	3	**122**
ARR	6:00 pm - 6:30 pm				1						3	1	3	**125**
DEP	6:00 pm - 6:30 pm		21		1						3	1	22	**103**
ARR	6:30 pm - 7:00 pm										3	0	3	**106**
DEP	6:30 pm - 7:00 pm										3	0	3	**103**
ARR	7:00 pm - 7:30 pm				1						3	1	3	**106**
DEP	7:00 pm - 7:30 pm				1						3	1	3	**103**
ARR	7:30 pm - 8:00 pm											0	0	**103**
DEP	7:30 pm - 8:00 pm										3	0	3	**100**
ARR	8:00 pm - 8:30 pm											0	0	**100**
DEP	8:00 pm - 8:30 pm											0	0	**100**
ARR	10:30 pm - 11:00 pm	59										0	54	**154**
DEP	11:00 pm - 11:30 pm	104										0	94	**60**
	11:30 pm - 12:00 am													**60**

L - LTACH **D** - DIALYSIS **A** - ADULT DAY CARE
ARR - ARRIVAL **DEP** - DEPARTURE

Assumptions:

1. Five percent of staff will utilize public transportation
2. Each van carries ten patients/participants
3. All programs assumed to be at maximum occupancy/capacity
4. Patients/Participants are dropped off and don't require a parking space
5. Staff using their own vehicles (assuming a 10% dropoff factor and carpooling) and visitors who require parking spaces

APPENDIX VI
EXPECTED TRUCK DELIVERIES

Expected Truck Deliveries
for the
Bergen Passaic LTACH

Description of Goods	Type of Truck	Size of Truck	Frequency of Delivery
Groceries, Meat, Produce	Med. Tractor Trailer – 44 feet	40'	2 times per week
Paper Supplies for Dietary, Housekeeping and Nursing	Big Box Truck	30'	1 time per week
Bread and Other Baked Goods	Large Van	25'	5 times per week
Milk	Large Van	25'	2 times per week
Ice Cream	Small Box Truck	20'	1 time per week
Soda and Other Beverages	Large "Roll-up" Truck	30'	1 time every 2 weeks
Chemicals for Dietary, Laundry and Housekeeping	Large Box Truck	25'	1 time per month
Medical Supplies for Nursing	Small to Medium Box	20'	1 time per week
Durable Medical Equipment	Medium Van	25'	1 time per day
Pharmaceuticals	Large Box Truck	30'	3 times per week
Liquid Oxygen	Medium Tanker	35'	1 time per month
Waste Pickup	Med. Roll-off Truck	30'	1 time every 2 weeks
Office Supplies	Large Van	25'	1 time every 2 weeks
United Parcel Service	Large Van	30'	1 time per day
Postal Delivery (USPS)	Small Van	20'	1 time per day

APPENDIX VII
PROFESSIONAL QUALIFICATIONS

ERIC L. KELLER, P.E., P.P.
EXECUTIVE VICE PRESIDENT

EDUCATION:

Rensselaer Polytechnic Institute, Troy, New York
- Bachelor of Science, Civil Engineering

University of Maryland, College Park, Maryland
- Master of Science Program

PROFESSIONAL ASSOCIATIONS:

- Institute of Transportation Engineers

PROFESSIONAL REGISTRATION:

- Registered Professional Engineer in New Jersey, New York and Pennsylvania
- Registered Professional Planner in New Jersey

BACKGROUND AND EXPERIENCE SUMMARY:

Mr. Keller manages and oversees the firm's projects in the traffic and transportation engineering field and is also responsible for day-to-day management of the firm's site development projects. He represents Omland Engineering Associates Inc. at public hearings and on other site development, traffic and transportation engineering issues.

Mr. Keller has over twenty-five (25) years of professional site development, transportation and traffic engineering experience consulting on projects as diverse as transportation facilities, highway design and design standards, office, residential, industrial and retail developments, subdivision/site plan design, and public sector issues. Mr. Keller has prepared corridor planning studies including conceptual design plans for sections of several State and County highways; prepared comprehensive transportation studies of municipalities; developed traffic signalization plans for construction; analyzed and evaluated access interfaces between the public street network and on-site circulation system, including parking structures, for major regional shopping centers; provided traffic consulting services to municipalities on development applications and issues related to safety, signage and traffic circulation/operations; and was involved in a major urban redevelopment project evaluating the relationship between the site designs, parking/loading facilities and the street system.

OMLAND
ENGINEERING ASSOCIATES, INC.

54 Horsehill Road
Cedar Knolls, NJ 07927
Phone: 973-359-8400
Fax: 973-359-8455
E-mail: ekeller@omland.com

ERIC L. KELLER (CONT.)

Mr. Keller also has extensive experience in traffic impact analyses, highway planning, condemnation proceedings, parking optimization studies, traffic signal design, corridor analyses, terminal facilities and preparation of design plans and reports for highways. Mr. Keller has provided expert testimony before numerous municipal planning and zoning boards of adjustments. He has negotiated with county and state transportation agencies on agreements related to improvements funded by the public and private sector.

RELATED PROJECT EXPERIENCE:

- Unique Transportation Projects:

Springfield Avenue Traffic, Circulation and Parking Study, Berkeley Heights, Union County; Route 22/519 Corridor Study, Warren County, New Jersey; Franklin Township Transportation Development District Study, Somerset County, New Jersey; Warren County Transportation Development District Study and County-Wide Network Model, Warren County, New Jersey; Bergen County Satellite Transportation Center Study, Bergen County, New Jersey (UMTA Section 8 study); Faneuil Hall Marketplace, Impacts of Central Artery Construction, Boston, Massachusetts.

- Municipal Traffic Consulting Services:

Consultant to the Township of Montville, Morris County; Township of Randolph, Morris County; Township of Parsippany-Troy Hills, Morris County; Township of Berkeley Heights, Union County; Township of Edison, Middlesex County; Township of Franklin, Somerset County; Township of Hillsborough, Somerset County; Township of Westfield, Union County; Township of Chatham, Morris County; and to the Borough of Florham Park, Morris County, New Jersey.

- Intersection Improvement & Traffic Signal Design:

Avenue A and North Street, Bayonne, Hudson County; Valley Road and Morristown Road, Long Hill, Morris County; Durham Avenue and Helen Street/Bushwick Avenue, South Plainfield, Middlesex County; Raider Boulevard and Homestead Road, Hillsborough, Somerset County; Valley Road and Barbour Pond Drive, Wayne, Passaic County; East County Line Road (various intersections), Lakewood, Ocean County; River Street, City of Hackensack, New Jersey; Improvements to Twenty Intersections, Packages E and F, Hudson County, New Jersey.

- Impact and Transportation Analyses:

Moorestown Mall, Moorestown, New Jersey; The Goodyear Tire and Rubber Company, North Brunswick; The Mall at Short Hills, Millburn, N.J.; Main Street at Voorhees, Voorhees, New Jersey; Riverside Square Mall, Hackensack, New Jersey; Willowbrook Mall, Wayne, New Jersey; Uwchlan Mall, Uwchlan Township, Pennsylvania; numerous office buildings, Jersey City, New Jersey; numerous other mixed-use, major retail office and industrial development, northern New Jersey; office developments, New York City; residential development, New York.

ERIC L. KELLER (CONT.)

- Parking Optimization Studies and Needs Analyses:

Bridgewater Commons Mall, Bridgewater, New Jersey; Bancroft NeuroHealth, Haddonfield, Camden County; Union County College, Cranford and Plainfield Campuses; Fleet Bank Office Building, Glen Rock, Bergen County; Troy Shopping Center, Parsippany, New Jersey; Main Street at Voorhees, Voorhees, New Jersey; The Mall at Short Hills, Millburn, New Jersey; Our Lady of Lourdes Medical Center, New Jersey; Riverside Square Mall, Hackensack, New Jersey; The Bryn Mawr Hospital, Lower Merion Township, Pennsylvania; 101 Hudson Street, Colgate Palmolive, Jersey City, New Jersey; various service areas, New Jersey Highway Authority; Rensselaer Polytechnic Institute, Troy, New York; and retail/office developments throughout New Jersey.

- Corridor Analyses:

Lenola Road, Burlington County, New Jersey; East County Line Road, Ocean County, New Jersey; Cedar Bridge Avenue, Ocean County, New Jersey; Route 23, Sussex County, New Jersey; Southeastern Saratoga County, New York; South Fork Transportation Study, Suffolk County, New York and Route 1, Middlesex and Mercer Counties, New Jersey.

- Urban Site Development/Transportation Planning:

Colgate-Palmolive Waterfront Redevelopment Plan, Jersey City, New Jersey. Coordination of the transportation elements related to a major mixed-use development on the Jersey City waterfront involving evaluation of the project's impact on limited available roadway capacity and access. Involved extensive coordination with City and State transportation officials.

- Highway Design Plans:

Molly Pitcher Service Area, New Jersey Turnpike; Preliminary Interchange Design, Route 1 and Scudders Mill Road, Plainsboro, New Jersey; Montvale Service Area, Garden State Parkway, Montvale, New Jersey; Cheesequake Service Area, Garden State Parkway, Sayreville, New Jersey; Fairmount Avenue Reconstruction, Chatham Township, New Jersey.

PUBLICATIONS:

- *Passenger Car Equivalents from Network Simulations,* The Journal of Transportation Engineering, ASCE, July 1984 (with James G. Saklas).