



U.S. Department of Health and Human Services
National Institutes of Health

Appendix A
Transportation
Management Plan

Prepared by the Division of Facilities Planning
Office of Research Facilities

DRAFT | 08-03-2012

This appendix is composed of several elements that make up the National Institutes of Health (NIH) Transportation Management Plan (TMP). This additional resource highlights transportation issues and contributes to the planning process as a part of the continuous examination of current and desired conditions of the NIH Bethesda Campus.

Cover Image: "This fingertip-shaped group of lights is a microscopic crystal called a quantum dot. About 10,000 times thinner than a sheet of paper, the dot radiates brilliant colors under ultraviolet light. Dots such as this one allow researchers to label and track individual molecules in living cells and may soon be used for speedy disease diagnosis, DNA testing, and screening for illegal drugs... Featured in the April 18, 2006, issue of *Biomedical Beat*."

Credit: "Tiny Points of Light in a Quantum Dot". Sandra Rosenthal and James McBride, Vanderbilt University, and Stephen Pennycook, Oak Ridge National Laboratory. NIH National Institute of General Medical Sciences. <http://images.nigms.nih.gov/index.cfm?event=viewDetail&imageID=2332>. Accessed 1 Aug 2012.

Appendix A

National Institutes of Health (NIH) Transportation Management Plan (TMP)

08-03-2012

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The NIH Transportation Management Plan

The National Institutes of Health (NIH) is currently operating under the trilateral Memorandum of Understanding executed between the National Capital Planning Commission (NCPC), The Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission (M-NCPPC) and the NIH signed May 1992 (Attached). The NIH is also operating under the Transportation Management Plan (TMP) adopted in 1991 (Attached), which is the basis of the Memorandum of Understanding.

Current and Continuing NIH TMP Activities and Implementation

Since NIH started to implement a Transportation Management Program in the early 1990s it has established a solid programmatic basis and expanded it dramatically to offer a top notch program that has been recognized nationally as one of the more successful programs. It is because of the great success of the NIH TMP that is important to account for all of the successful measures that are currently being implemented and should continue to be implemented in the future. Those TMP measures include the following:

Communications

- TMP Information – The Employee Transportation Service Office (ETSO) Transportation Information Office provides NIH employees and visitors with a full array of information including both personal services and website information on alternative transportation (i.e., carpools, vanpools, bicycle, and pedestrian), public transit routes and schedules, NIH shuttle routes and schedules, employee & visitor parking. The ETSO website also provides a link to a page where employees can access real-time shuttle arrival predictions in a mobile friendly format from their mobile phone or Smartphone. In addition, there are links to employee organizations whose purpose support NIH's TMP, like the NIH Bicycle Commuter Club which was founded in 1980. Its purpose is to encourage commuting to NIH by bicycle and to represent the interests of bicyclists to the NIH administration. The NIH Bicycle Commuter Club website also has information on bike parking locations as well as shower and locker locations.
- Transportation LISTSERV - The ETSO Transportation Listserv enables subscribers to receive news and updates to their e-mail accounts and mobile devices. News and updates include NIH Shuttle status, traffic updates, information pertaining to commuter information, etc.
- Highway Advisory Radio Station (HARS) [AM 1660] – The HARS radio station disseminates real time information about traffic conditions on, and in the vicinity of, the Bethesda campus. The HARS consists of a low power AM radio transmitter system that will broadcast traffic related information, parking information, road closures due to construction activity, as well as emergency information. The maximum broadcast range, operating under ideal conditions (no buildings, flat terrain, etc.), is usually six to ten miles. It has been designed with

the capability to be connected to variable message signs boards (VMS) located on the campus and flashing beacon signals that can be easily located throughout the campus. HARS messages can be broadcast by a pre-recorded message or in the event of an emergency, through “live” broadcasts. The system allows messages to be changed remotely from a central worksite or via telephone.

- TMP Promotion and Education – The ETSO actively stresses the importance of using transportation alternatives other than single occupancy vehicles to NIH employees, patients, guests and visitors. New employees are informed about NIH transportation conditions and commuting options through monthly orientation meetings. The ETSO also holds Commuter Transportation Fairs where many vendors associated with alternative commuting modes of travel (vanpool, carpool, transit, bicycling, and express buses) can explain and provide information on their programs.
- TMP Coordination – The NIH ETSO maintains membership in other affiliated TMP groups and participates in their activities, and shares information. The ETSO works cooperatively with the NIH/Naval Medical Center/Suburban Hospital/Montgomery County Transportation Management Organization, North Bethesda Transportation Management District (TMD) organizations, Keep Montgomery County Moving, the Metropolitan Washington Council of Governments, and other local ETSO type coordinators from the various National Capital Region jurisdictions.

Financial Incentives & Benefits

- NIH TRANSHARE Program – Currently, there are approximately 5,500 employees participating in this program. NIH employees on the Transhare program receive a monthly subsidy to offset commuting costs used for mass transportation, provided they forfeit their parking privileges. The monthly subsidy is currently set at \$125. Vanpoolers are considered mass transportation and are eligible to participate in the NIH TRANSHARE Program to subsidize their commuting costs. There is detailed information about the program and how to enroll on the NIH ETSO Transportation Website.
- NIH Bicycle Subsidy Program - The NIH Bicycle Subsidy Program allows qualified employees to receive a \$20 per-month subsidy for bicycling to work provided they do not receive any other form of transportation subsidy (i.e. parking or transit). Information about how to apply is clearly promoted on the NIH Transportation website.
- Guaranteed Ride Home Program – NIH actively promotes employee participation in the program, which is sponsored by the Metropolitan Washington Council of Governments. The program guarantees commuters, who regularly carpool, vanpool, bike, walk or take transit to work, a reliable ride home when they need to work overtime, or another unexpected reason to leave work arises. The ride, using a taxi or other transit, is free to the user.
- Reserved Carpool and Vanpool Parking – There are currently 380 registered carpools accounting for over 760 NIH employees on the NIH campus. Carpool spaces are maintained in close-in parking lots and are reserved until 9:30 am.

For individuals participating in vanpools, reserved parking spaces are set-aside in their lot of choice.

- Onsite Amenities – NIH has numerous onsite amenities (day care, dining, dry cleaning, fitness center, etc.) that minimize the need to leave the campus to run errands via automobile during the day. This makes it more convenient for employees who arrive to work without an automobile to run their errands.

Travel Planning Assistance

- Ride matching Program – Employees are provided with a list of other people who are also looking to participate in the program, usually within two business days of their request. The NIH ETSO is very active in promoting the program and facilitating this program through the maintenance of an accurate database of all participants.
 - NIH Ridefinders Network - NIH offers a free Carpool and Vanpool Matching Service
 - Commuter Connections – NIH promote the regional rideshare database maintained by the Metropolitan Washington Council of Governments as part of its Commuter Connections program.
 - NIH Vanpools – NIH Posts NIH Employee Vanpool point of origin, openings and contacts on their website. ETSO staff also sends targeted emails to employees from zip codes where vanpools have stops.

Alternative Work Arrangements

- Alternative Work Schedule Program – NIH offers an alternative work schedule program, which allows some NIH employees the opportunity to work a four day schedule each week.
- Telecommuter Work Program – Some NIH employees are given the opportunity to work from home one day a week, maintaining contact with their office via fax machine, e-mail, and telephone.

Transportation Services

- NIH Shuttle System – NIH has its own comprehensive shuttle system, which provides regular service to the whole campus and to most of its off-campus work locations. It is currently comprised of the following routes:
 - NIH Campus Route (Red Line) – 12 minute average headways between 6:30 am and 6:30 pm.
 - NIH Campus Limited (Purple Line) – 21 minute headways between 9 am and 4 pm
 - Building 10 After Hours Shuttle (Government Use Only) – 20 minute headways between 6 pm and 11:30 pm.
 - Campus Perimeter Route (Government Use Only) – 20 minute headways between 6:30 am - 8:40 am and 4:40 pm - 7:10 pm.

- Rockledge Route (Green Line) – 25 minute headways between 6 am and 6:30 pm.
- Montrose Route (Yellow Line) – 15 minute headways between 5:30 am and 6:15 pm.
- Executive Plaza Route (Orange Line) – 30 minute headways between 6:00 am and 6:00 pm.
- NCI-Frederick Shuttle – A National Cancer Institute shuttle is available to take employees to/from Frederick and Bethesda Campuses four (4) times daily.
- The Children’s Inn/Family Lodge Shuttle – NIH provides hotel and airport shuttle services for patients and visitors Monday – Friday from 7:00 am to 6:00 pm and weekends from 7:00 am to 5:00 pm.
- Bike & Ride NIH Shuttles – Campus Shuttles #32, #41 and Montrose Shuttle #34 are equipped with bike racks to allow NIH bicyclists to transport their bicycles as needed.
- NIH Express/Commuter Bus Routes – NIH promotes several Express and Commuter bus routes operated by MTA and other companies which link the Bethesda campus directly various Park and Ride lots throughout the DC Metro area, including Gaithersburg, Frederick and Columbia, MD. These express buses operate during the morning and evening rush hours and have a limited number of stops. NIH employees who utilize the commuter/express bus are eligible to receive a monthly transit subsidy.

Parking Management

- Parking Ratio not to exceed 0.5 - NIH maintains the' parking supply that does not exceed 0.5 parking spaces per NIH employee, plus additional parking spaces to serve the parking needs of visitors and patients at the NIH.
- Employee Parking – All employees desiring to park on campus must obtain a valid parking permit. Permits last for a period of two years, and must be displayed on the rearview mirror of the car while in the parking space. The ETSO maintains strict control on the number of permits issued, to whom and is responsible for assisting employees in the renewal of their parking passes. The ETSO works closely with the NIH Police Branch to enforce parking rules and ticket offenders through their enforcement section.
- Off-Campus Satellite Parking – There are currently **258** spaces available to NIH employees at off campus satellite locations. Employees can park for free at these locations and then either ride Metrorail or a free shuttle bus to the campus, depending upon the location.
- Managed Parking Facilities – For those employees who must drive to work, a parking management company has been utilized to assist in parking employees and visitors to the NIH campus. This allows for increased efficiency in the utilization of several parking facilities on campus. The managed parking also discourages illegal or length parking and enhances the security of the parking areas.

- Paid Visitor Parking – NIH has implemented paid visitor parking on the Bethesda campus to discourage employees from parking in visitor parking spaces.
- Construction Contractor Employee Parking - Construction is underway at NIH on a nearly continuous basis. All construction contractor employees are eligible for one of the 150 “free” general one month parking permits authorizing parking on the campus in Lot 41 that are issued on a first come basis on the last Thursday of each month through the NIH Parking Office.

Monitoring & Evaluation

TMP Monitoring – The NIH ETSO, working with the ORF, Division of Facilities Planning, monitors the effectiveness of existing TMP measures and activities on a continuing basis. Monitoring includes semiannual traffic counts at the NIH entrances to confirm continuing conformance to the MOU. ETSO also periodically survey or maintains records on the usage of alternative travel modes such as public transit and the NIH shuttle.

2013 Master Plan Impacts on Future Traffic

The Master Plan proposes replacing the laboratories that were constructed during the mid-20th century with new state-of-the-art laboratories. The vacated laboratories would be adapted to new uses. These uses would include office space, physician offices and space for systems biology and other “dry” lab functions. This alternative will bring some of the leased laboratory space to the campus. New development would consist of 3,853,499 gsf of new construction with a population increase of 3,000.

The Master Plan gives NIH opportunities to develop building sites, open space, and transportation and circulation systems that will ensure appropriate campus facility utilization, functional land use and efficient accommodation of future program requirements. The Master Plan will enhance the quality of the research and work environment and overall campus quality. It will preserve the integrity, and it will build upon the character of the NIH campus

NIH Access

NIH used to have eleven (11) full access points around the periphery of the campus until September 2011. Due to security concerns and the federal facility security directive, significant modifications were implemented relating to campus access by employees, visitors, and delivery vehicles. A fence was erected and the number of access points to the campus was reduced to nine (9) with designation of exclusive visitor and delivery vehicle entrances. Prior to these changes, many residents of the neighborhoods on the west side of the campus were able to cross the campus by bike or on foot to reach the Metro station on campus. These changes restricted some of these movements. As the result of extensive dialogue between the neighbors and the NIH, a cooperative system of access to the campus was devised to ensure campus safety as well as easy access for residents to reach the Metro station or use the campus as a short cut to reach areas east of Rockville Pike.

Employee access was separated from visitor access to facilitate and speed up the entry of the employees into the campus and to reduce the queuing problem at the entry points onto the major roadways providing access to the campus. The visitor entrance is located half way between Center Drive and South Drive on Rockville Pike. The visitor entrance provides vehicle inspection and visitor parking adjacent to the visitor security check point. This point of entry provides a right in and right out only access since the median on Rockville Pike at this point prevents left turns.

Delivery Truck inspection is located at North Drive on Rockville Pike situated just south of West Cedar Lane. Trucks must turn right from southbound Rockville Pike to enter the inspection center and can exit at other locations.

Other access points include the following:

- West Cedar lane and Locust Avenue/West Drive

- Rockville Pike and Wilson Lane
- Rockville Pike and South Drive
- Rockville Pike and Jones Bridge Road/Center Drive
- Old Georgetown Road and Lincoln Drive
- Old Georgetown Road and Greentree Road/South Drive
- Old Georgetown Road and Center Drive

The 2013 NIH Bethesda Campus Comprehensive Master Plan makes specific recommendations regarding the future development of the campus that provides for better access to and within the campus in a way that helps to reduce traffic congestion and increase use of mass transit.

The recommendations for better access, when implemented, will have a significant positive impact on the area transportation system as well as facilitating bike, pedestrian, and vehicular movements. The specific recommendations in the 2013 Master Plan affecting access are listed below:

- Locate buildings, pedestrian pathways, and bicycle routes that favor the Medical Center Metro Station to encourage use of mass transit as much as possible.
- Re-establish and reinforce the campus' original orthogonal grid system. Reinforce campus organization through the use of the established orthogonal grid when locating and placing new structures.
- Provide vehicular ingress and egress on Cedar Lane to reduce peak hour congestion
- Reconnect South Drive at Building 10 to ease the flow of east-west campus traffic.
- Provide for orderly, efficient, and safe pedestrian pathways between buildings and transportation nodes.
- Promote and emphasize the pedestrian character of the campus to employees.
- Concentrate parking in existing or new parking "receptors" which are:
 - Conveniently accessed from major campus entries.
 - Distributed in proportion to campus population in the various sub-areas of the site so that no employee is more than a five minute walk from a parking space to work space.

BRAC Improvements

The following improvements are planned for the three intersections impacted by expansion of the NNMC campus as part of the Department of Defense BRAC program. The improvements described below are funded for construction and some are currently being implemented.

Old Georgetown Road and Cedar Lane: The planned improvements will result in the following changes to the lane use at this intersection.

- Old Georgetown Road: The planned improvements will ultimately provide for an exclusive left turn lane, three (3) through lanes, and an exclusive right turn lane in the northbound direction by:
 - Adding an exclusive right turn lane to northbound approach to Cedar Lane and,
 - Changing the existing northbound shared through-right lane to a through lane.
- Cedar lane: The planned improvements will ultimately provide for an exclusive right lane, a shared left-through lane, and an exclusive left lane in the westbound direction by:
 - A through-right movement to a through-left movement on the westbound direction
 - Add an exclusive right turn lane in the westbound direction.

Rockville Pike and Cedar Lane:

- Rockville Pike: The planned improvements will ultimately provide for an exclusive right turn lane, a shared through-right lane, three (3) through lanes, and an exclusive left turn lane in the southbound direction by:
 - Add a shared through-right movement in the southbound direction
- Cedar Lane: The planned improvements will ultimately provide for two (2) exclusive left turn lanes, two (2) through lanes, and an exclusive right lane in the eastbound direction. In the westbound direction, the planned improvements will provide for two (2) exclusive left turn lanes, a through lane, and a shared through-right lane by:
 - Add an exclusive left turn lane in the eastbound direction
 - Add an exclusive right turn lane in the eastbound direction
 - A left-through movement to a through movement in the eastbound direction
 - A right-through movement to a through movement in the eastbound direction
 - Add an exclusive left turn lane in the westbound direction
 - A left-through movement to a through movement in the westbound direction

Rockville Pike and Jones Bridge Road:

- Rockville Pike: The planned improvements will ultimately provide for a shared through-right lane, two (2) through lanes, and two (2) exclusive left turn lanes in the AM in the southbound direction. In the PM, the planned improvements will provide for a shared through-right lane, a through lane, and three (3) exclusive left turn lanes in the southbound direction by:
 - Add an exclusive left lane in the southbound direction
 - A through movement to an exclusive left movement on the southbound direction in the PM

- Jones Bridge Road: The planned improvements will ultimately provide for two (2) exclusive left turn lanes, a through lane, and an exclusive right lane in the eastbound direction by:
 - Add an exclusive left lane in the eastbound direction
 - A through-left movement to an exclusive left turn in the eastbound direction

The following improvement is proposed to help alleviate the traffic along Center Drive as this intersection exceeds the 1992 MOU requirements for Critical Lane Volume (CLV).

Old Georgetown Road and Center Drive:

- Center Drive: The planned improvements will ultimately provide for two (2) exclusive right lanes and an exclusive left lane in the westbound direction by:
 - Add an exclusive right lane in the westbound direction
 - A left-right movement to an exclusive left movement in the westbound direction.

Impact of an Additional 3,000 Employees

The Master Plan assumes an additional 3,000 new employees working on the Bethesda Campus adding 433 trips in the AM and 440 trips in the PM peak hours throughout the area based on the actual counts taken during the peak hours for existing number of employees. Currently the only intersection experiencing a CLV above the congestion standard for background development is Rockville Pike and West Cedar Lane with a CLV of 1,753 during the AM peak hour only. Again, with the BRAC improvements, the AM peak hour CLV will be reduced to 1,470 which is within the congestion standard.

The additional peak hour trips were added to the existing and background traffic to assess the total impact of traffic on area intersections. Under this scenario the intersections of West Cedar Lane with Rockville Pike (CLV 1,779 AM) and Old Georgetown Road (CLV 1,623 PM) fail to operate within the congestion standards without the BRAC improvements. Again, the BRAC improvements at these two intersections will result in reducing the CLV to 1,497 in the AM at West Cedar Lane and Rockville Pike and 1,447 at West Cedar Lane and Old Georgetown Road in the PM peak, both within the congestion standard of 1,600 CLV. Therefore, all intersections with additional trips from the Master Plan and the BRAC improvements will operate within the congestion standards.

Recommended NIH Transportation Service Enhancements

As is demonstrated in previous sections, NIH has a very mature and robust transportation management program in place. It should continue to maintain all of the services it currently provides and consider implementing some enhancements which include the following subject to NIH management approval and funds availability:

Communications

- Incorporate Real Time Information into the Website – Update the website to include RSS Feeds with real-time advisory information from agencies like WMATA, Montgomery County and MDOT. WMATA and RideOn now offer real-time transit information through their websites and applications are available for smart phones that allow travelers to access real-time schedule information. Because real-time transit information has been found to decrease perceived wait times and increase rider satisfaction with transit systems, NIH should consider promoting applications and web sites that provide real-time travel information. In addition, through this platform, the NTSO should monitor new technology that can be used to increase the use of non-SOV travel modes and implement those strategies when appropriate based on costs and potential benefits. The information provided should include, but not be limited to, the following:
 - Traffic conditions, road hazards, construction work zones, and road detours.
 - Arrival times and delays on Metrorail and area bus routes.
 - Real time parking conditions and guidance to current on-site parking vacancies.
- Bike Parking and Shower/Locker Locations - The NIH Commuter Club website also has information on bike parking locations as well as shower and locker locations, but they are not easily found on the main NIH Transportation Website. NIH should consider creating a more prominent link to the bike parking and shower locations on its main website and promoting it through targeted emails to employees that live within 5 miles of the campus.
- Social Media - In addition to the information provided on the website, consider using social media channels to distribute information including, but not limited to, the following:
 - Facebook
 - Twitter
 - FourSquare
- Site-based Transportation Access Guide – In addition to the information provided on the website, the ETSO should consider developing a hard copy transportation access guide that could be made available to all traveler groups to the site, including employees, patients, and visitors. The guide would provide them with information about how to access transportation options, parking, retail, and services, as well as provide them with a sense of amenities and destinations within walking and biking distance. When possible these access guides will be

provided to new tenants as part of their move-in packet. The purpose of the local access guide is to familiarize visitors and employees with what is available in and around the project site. By doing so, the need to travel off-site is reduced and in some cases this eliminates the need for a vehicle during work hours to run errands. The local access guide should be updated on an annual basis or as needed.

- Highway Advisory Radio Station (AM 1660) – include messaging that promote Metro and other TDM strategies as an alternative to the traffic conditions described. Utilize capability to link to variable message signs boards (VMS) located on the campus and flashing beacon signals that can be easily located throughout the campus.
- Individualized Marketing – A more intensive, yet proven, form of promotion and education follows an individualized marketing framework. Individualized marketing is a TDM implementation and evaluation process that takes the principles of social marketing and customizes them to transportation programs focused on the individual traveler. The approach targets customized information, training and incentives to people who are open to changing the way they travel. Identifying people open to trying transportation alternatives is achieved through pre-surveys of the population to determine who uses transportation alternatives currently, who is interested in using them more, and who would never consider changing their travel behavior. The programs are implemented and the participants are then surveyed again to understand how their travel behavior changed. This approach will ensure resources are spent on individuals most likely to change and will make sure all elements of the TDM program are captured in one fluid implementation strategy. At a worksite like the NIH campus where so many good transportation management efforts are already being successfully implemented, the best way to increase performance is to focus concerted effort on the target markets that have not already changed their travel behavior but are most likely to do so. The ETSO should consider leveraging the periodic travel surveys that it performs for monitoring and evaluation purposes to apply some segmentation questions that could be used to perform the individualized marketing framework.
- Program Branding – The NIH TMP services are well utilized but could benefit from a stronger brand identify that is less bureaucratic in nature. To be successful, a brand must offer a relevant, consistent message that resonates with current and potential customers. The graphic identity of a program brand, including a logo, taglines, and a brand standards document should convey the program's ability to address the needs of the various types of employees, residents and visitors that will travel to the site. The brand should create a single point of reference for the individuals that will access the site daily. Once the brand has been created it should be used on all program marketing materials, which may include e-newsletters, the program web site, print ads, brochures, flyers, premiums and news releases.

Travel Planning Assistance

- Real-Time Ridesharing – New mobile phone applications are available that match drivers and riders in real-time as they travel, so employees can rideshare whenever they want, from wherever they are. NIH should explore opportunities to pilot a real-time ridesharing program (i.e. Avego) as a means to create more dynamic rideshare opportunities for employees.
- Additional Targeted Marketing for Vanpools – Consider targeting employees on newly forming 495 Express Lanes in Virginia as well as other existing HOV Corridors where vanpools will experience significant time savings by avoiding traffic in main lanes.

Transportation Services

- Commuter Café – A Commuter Café offers a relaxed and inviting environment to discover transportation options. The Café is typically equipped with transportation information such as transit schedules, program brochures and promotional pieces. Typically the Commuter Café is located in a visible and easily accessible location. Ideally a storefront location is preferred for the success of the establishment. NIH should consider establishing a Commuter Café near its cafeteria locations. The Commuter Café should be staffed by ETSO staff and can double as the ETSO 's office. The staff should be present to assist commuters with trip planning, fare purchases and other basic transportation questions. In essence the Commuter Café acts as the hub of the TMP program and is both administrative and public facing.

Monitoring & Evaluation

- TMP Monitoring – As described in the Communications section, the ETSO should consider leveraging the periodic travel surveys that it performs for monitoring and evaluation purposes to apply some segmentation questions that could be used to perform the individualized marketing framework.

NIH TMP

Attachment 1

Traffic Generation and Employee
Parking Supply Ratio Assessment

NIH Bethesda, 03-30-2012

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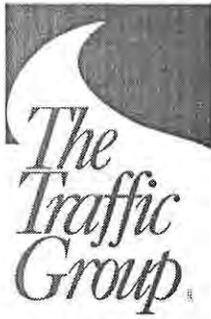
Traffic Generation and Employee Parking Supply Ratio Assessment

NATIONAL INSTITUTES OF HEALTH

Bethesda, Maryland

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 (F:\2010\2010-1215\Wp\Report_2011Nov.docx)

INTRODUCTION AND SUMMARY OF FINDINGS

Traffic Generation and Employee
Parking Supply Ratio Assessment

NATIONAL INSTITUTES OF HEALTH

Bethesda, Maryland

Prepared for
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Bethesda, Maryland

INTRODUCTION & SUMMARY

This report presents the findings of the Trip Generation and Parking Survey conducted in October, 2011, as part of the on-going monitoring phase of the National Institutes of Health (NIH) Transportation Management Plan (TMP). This effort is in keeping with a Memorandum of Understanding (MOU) executed by NIH, the Maryland-National Capital Park and Planning Commission (M-NCPPC), and the National Capital Planning Commission (NCPC) in October, 1992.

The MOU established a goal for the NIH TMP to lower or maintain the current weekday peak hour trip generation below the level of trips generated in 1992. The purpose of this survey is to measure the effectiveness of the TMP in complying with that goal, in October, 2011.

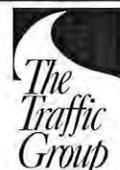
The first survey and report were submitted in September, 1992. Similar surveys have been conducted, generally, in the spring and fall (annually), in accordance with the MOU. The initial and subsequent survey results were reviewed to determine compliance with the MOU trip generation stipulation. This 2011 report presents results and comparative analyses undertaken with respect to the November, 2009 and June, 2011 surveys. The Traffic Group, Inc. does not have 2010 studies/reports which may not have been undertaken.

In January, 2005, the National Institutes of Health received conditional approval from the NCPC for its 2003 Master Plan Update. One of the principal conditions of the NCPC approval was a requirement that NIH update its TMP with the objective of reducing the Bethesda campus parking ratio from approximately 0.50 parking spaces per employee to 0.33 spaces per employee. This October, 2011 report includes an assessment of the current employee parking ratio in relation to the NCPC requirement. We also identify current TMP measures in place that will continue to have positive effects in keeping with the NCPC parking ratio requirement.

SUMMARY OF FINDINGS

Currently, there are 21,470 employees/contractors/et al daily. This number of employees (@ 0.33 spaces) would result in only 7,085 spaces occupied at peak. This goal has not yet been achieved. The site currently contains 10,002 parking spaces and ±9,927 (max.) cars were observed parked on site at the peak during mid-morning.

*Traffic Generation and Employee
Parking Supply Ratio Assessment
National Institutes of Health
Bethesda, Maryland*



While there are more parking spaces than cars parked, double parking occurs on some parking lots.

The trip generation assessment indicated that the trip rates FOR October 2011 are lower than they were for the assessment in June 2011 and are still significantly lower than they were in 1992 which is the baseline for this assessment.

METHODOLOGY AND DESCRIPTION OF ASSESSMENT

METHODOLOGY

This report is based on trip generation and parking occupancy surveys conducted in October, 2011. Mechanical traffic counts were conducted to determine the total volume of vehicles in and out of the NIH campus on typical weekdays (Tuesday, Wednesday & Thursday). These counts were conducted on October 25 through October 27, 2011. The survey included all of the driveways to and from the Campus as shown on Figure 1. These counts were used for the purposes of the parking assessment. Turning Movement Counts (TMC) were conducted at all entrances on Thursday, October 27, 2011 from 6 AM to 7 PM. These counts were used for the trip generation assessment portion of the report. (Appendix A contains copies of the TMC data collected.) In addition to the vehicular traffic, pedestrians and bicycles were also observed and recorded. This data does not impact the findings of this study but is being provided for informational purposes.

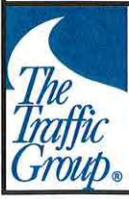
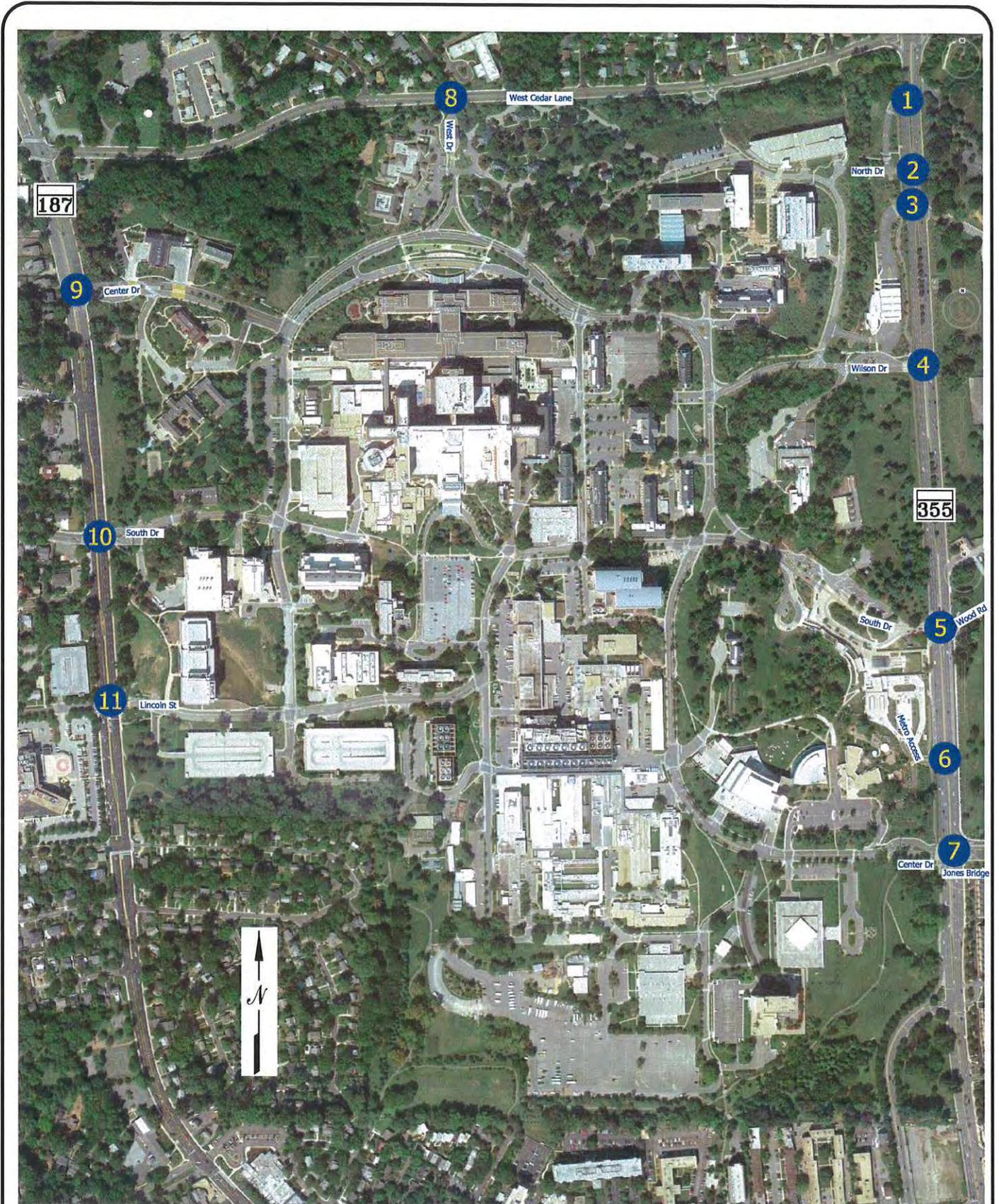
The parking occupancy count was undertaken at 1 PM on October 27, 2011 at which time 9,568 cars were parked on the campus. This data was then used as a basis to determine the number of cars parked each hour during the survey period by using the mechanical counts which were conducted on October 25-27, 2011 and the TMC's.

QA + QC

As discussed above, this assessment requires an extremely intensive data collection effort. The mechanical counters are checked in the office prior to deployment and are checked upon installation in the field to be sure they are functioning properly. These machines are also checked during the three day count period to be certain they continue to record the vehicles entering and exiting the site.

The TMC's are conducted using Video Camera Units (VCU's). These are also tested in the office prior to deployment and are tested upon installation in the field. The cameras are checked during the day to verify that the cameras are working.

Upon completion of the data collection effort, the data is then downloaded and summarized by the field technicians while being checked for completeness and accuracy. The data is then given to the engineers for assessment and is reviewed for accuracy and any inconsistencies would be identified. The use of the VCU's provides us with the opportunity to review the traffic conditions recorded in the field to clear up any inconsistencies if necessary.



13 HOURS TMC LOCATION

FIGURE 1
SITE LAYOUT & LOCATION OF
TURNING MOVEMENT COUNT

TRIP GENERATION ANALYSIS

The trip generation portion of this assessment uses the TMC's that were conducted from 6 AM to 7 PM at each of the entry and exit points to the campus. Copies of the TMC summary sheets for each location are contained in Appendix B. Tables A1 and A2 in Appendix A summarize the volumes for the entire campus by each entrance and are shown in fifteen (15) minute and one (1) hour increments, respectively.

Table 1 is a summary of the overall in/out volumes on October 27, 2011, based on the TMC's in 15-minute intervals.

Table 2 shows the same data, but in one hour (60-minute) intervals.

Table 3 details the peak hour trip generation for the 21,470 employees, contractors, fellowships and visitors. The peak hours occur from 8:00-9:00 AM and 4:45-5:45 PM. Overall, the trip rate per employee (et al) is 0.153 in the morning peak hour and 0.142 in the evening peak hour. Tables 1 and 2 show the arrivals/departures of the ±21,470 personnel is well distributed throughout the day.

HISTORICAL PEAK HOUR TRIP GENERATION

Table 4 shows a comparison of the 1992 data and the data collected from 2007 thru 2011 with respect to the critical peak hour directional trips, i.e., AM inbound and PM outbound generated by NIH.

The data indicates the following:

- That during the morning peak hour NIH is generating more trips in October, 2011 than it did in June, 2011 (2917 vs. 2693), however, the trip generation/employee has slightly reduced from June, 2011 (0.139 vs 0.136) because the number of employees have increased from 19,334 to 21,470. The 2011 AM data remains well under the 1992 thresholds.
- That during the evening peak hour NIH is generating slightly more trips in October, 2011 than it did in June 2011 (2682 vs. 2630) although the number of employees has increased by 2,136 employees. Therefore the trip generation/employee rate has been reduced from June 2011 (0.136 vs 0.125) while the number of employees have increased from 19,334 to 21,470. The 2011 PM data remains well under the 1992 thresholds.
- That the trip generation volumes and rates for the existing facility are still well below the levels in 1992.

There are factors that have contributed to the changes in traffic generation volumes over the years. A description of some of these changes, are as follows:

TRIP GENERATION

Time	In	Out	Total
6:00-6:15	367	63	430
6:15-6:30	425	57	482
6:30-6:45	566	58	624
6:45-7:00	594	52	646
7:00-7:15	536	70	606
7:15-7:30	579	76	655
7:30-7:45	624	78	702
7:45-8:00	687	87	774
8:00-8:15	688	82	770
8:15-8:30	776	99	875
8:30-8:45	732	101	833
8:45-9:00	721	94	815
9:00-9:15	682	81	763
9:15-9:30	650	95	745
9:30-9:45	616	89	705
9:45-10:00	477	81	558
10:00-10:15	368	99	467
10:15-10:30	293	129	422
10:30-10:45	238	120	358
10:45-11:00	241	116	357
11:00-11:15	164	139	303
11:15-11:30	167	158	325
11:30-11:45	147	161	308
11:45-12:00	162	160	322
12:00-12:15	154	189	343
12:15-12:30	158	199	357
12:30-12:45	151	184	335
12:45-13:00	179	184	363

Time	In	Out	Total
13:00-13:15	163	185	348
13:15-13:30	140	217	357
13:30-13:45	147	215	362
13:45-14:00	166	244	410
14:00-14:15	105	322	427
14:15-14:30	135	275	410
14:30-14:45	126	361	487
14:45-15:00	102	331	433
15:00-15:15	108	515	623
15:15-15:30	102	391	493
15:30-15:45	104	720	824
15:45-16:00	85	639	724
16:00-16:15	82	616	698
16:15-16:30	82	578	660
16:30-16:45	90	623	713
16:45-17:00	96	644	740
17:00-17:15	89	677	766
17:15-17:30	94	715	809
17:30-17:45	85	646	731
17:45-18:00	67	604	671
18:00-18:15	92	594	686
18:15-18:30	97	429	526
18:30-18:45	85	341	426
18:45-19:00	71	284	355



TABLE 1
TRAFFIC VOLUMES COUNTED
AT ALL ACCESS POINTS

TRIP GENERATION

Time	In	Out	Total
6:00-7:00	1952	230	2182
6:15-7:15	2121	237	2358
6:30-7:30	2275	256	2531
6:45-7:45	2333	276	2609
7:00-8:00	2426	311	2737
7:15-8:15	2578	323	2901
7:30-8:30	2775	346	3121
7:45-8:45	2883	369	3252
8:00-9:00	2917	376	3293
8:15-9:15	2911	375	3286
8:30-9:30	2785	371	3156
8:45-9:45	2669	359	3028
9:00-10:00	2425	346	2771
9:15-10:15	2111	364	2475
9:30-10:30	1754	398	2152
9:45-10:45	1376	429	1805
10:00-11:00	1140	464	1604
10:15-11:15	936	504	1440
10:30-11:30	810	533	1343
10:45-11:45	719	574	1293
11:00-12:00	640	618	1258
11:15-12:15	630	668	1298
11:30-12:30	621	709	1330
11:45-12:45	625	732	1357
12:00-13:00	642	756	1398
12:15-13:15	651	752	1403
12:30-13:30	633	770	1403
12:45-13:45	629	801	1430

Time	In	Out	Total
13:00-14:00	616	861	1477
13:15-14:15	558	998	1556
13:30-14:30	553	1056	1609
13:45-14:45	532	1202	1734
14:00-15:00	468	1289	1757
14:15-15:15	471	1482	1953
14:30-15:30	438	1598	2036
14:45-15:45	416	1957	2373
15:00-16:00	399	2265	2664
15:15-16:15	373	2366	2739
15:30-16:30	353	2553	2906
15:45-16:45	339	2456	2795
16:00-17:00	350	2461	2811
16:15-17:15	357	2522	2879
16:30-17:30	369	2659	3028
16:45-17:45	364	2682	3046
17:00-18:00	335	2642	2977
17:15-18:15	338	2559	2897
17:30-18:30	341	2273	2614
17:45-18:45	341	1968	2309
18:00-19:00	345	1648	1993

AM Peak Hour	In	Out	Total
8:00-9:00	2917	376	3293

AM Peak Hour	In	Out	Total
16:45-17:45	364	2682	3046



TABLE 2

HOURLY TRAFFIC VOLUMES &
PEAK HOUR TRAFFIC VOLUMES

TRIP GENERATION

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

National Institutes of Health

21,470 Employees, Contractors, Fellowship
 Apts, FTE Positions and Others

2917 376 3293 364 2682 3046

<i>Trip Generation Rate (Trips/Person)</i>	<i>0.136</i>	<i>0.018</i>	<i>0.153</i>	<i>0.017</i>	<i>0.125</i>	<i>0.142</i>
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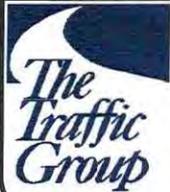


TABLE 3
 TRIP GENERATION FOR
 NATIONAL INSTITUTES OF HEALTH

Historical Summary of NIH Trip Generation

Count Date	No. of Employees	AM Inbound		PM Outbound	
	On Campus	Peak Hour	Peak Rate	Peak Hour	Peak Rate
1992	16,251	4,925	0.303	4,450	0.274
May, 2007	17,500	2,039	0.117	2,846	0.163
Nov., 2007	17,800	2,070	0.116	2,345	0.132
May, 2008	18,050	2,337	0.129	2,040	0.113
Nov., 2008	18,553	2,583	0.139	2,475	0.113
May, 2009	18,553	2,120	0.114	1,882	0.101
Nov., 2009	18,804	2,755	0.147	2,624	0.14
June, 2011	19,334	2,693	0.139	2,630	0.136
October, 2011	21,470	2,917	0.136	2,682	0.125

Note: 21,470 includes: employees, contractors, fellowship appts. FTE's guest researchers, students, tenants & volunteers. The Peak Rates also include visitors.

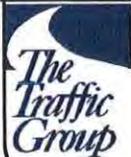


TABLE 4
HISTORICAL SUMMARY OF NIH
TRIP GENERATION

➤ **OCTOBER 1992 – MAY 1993**

- An increase in total employment at the Bethesda Campus from 16,251 to 16,350 persons;
- An increase in off-campus employee population from 4,395 to 5,233 persons;
- An increase in local leased office space and the addition of NIAAA, NIDA, and NIHM to NIH;
- Implementation of TMP activities that induced a shift from solo driving to ride sharing and the increased use of public transit; and
- Relocation of 700 parking spaces to off-site locations to accommodate major construction projects on campus.

➤ **MAY 1993 – MAY 1994**

- An increase of Transhare (subsidy to employees who use public transit or vanpool) from \$21.00 to \$42.00 per month was implemented on July 20, 1993;
- An increase from 600 to 1,750 registered Transhare users; and
- The opening of MLP-8 (additional 1,560 parking spaces).

➤ **MAY 1994 – SEPTEMBER 1994**

- There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in May 1994 and September 1994.

➤ **SEPTEMBER 1994 – JUNE 1995**

- The opening of the Natcher building and garage (additional 465 parking spaces);
- The addition of 50 NIH parking spaces at the New Carrollton Metro Station; and
- The reduction of NIH parking spaces at the Shady Grove Metro Station.

➤ **JUNE 1995 – OCTOBER 1996**

- There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in June 1995 and October 1995.

➤ **OCTOBER 1996 – JUNE 1997**

- The rehabilitation of the ARCF Garage resulted in the loss of 450 parking spaces.
- Utility tunnel construction.

➤ **JUNE 1997 – OCTOBER 1997**

- The loss of 500 parking spaces due to the start of construction on Building 50 and the Clinical Research Center;
- The construction of five temporary parking lots (additional 440 parking spaces);
- The implementation of pay lots for visitors;
- The implementation of attendant-assisted parking in both MLP-8 and the Building 31 parking lots; and

- An increase in employment at the campus to 16,435 persons and at local off-campus leased facilities to 5,755 persons.
- **OCTOBER 1997 – MAY 1998**
 - There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in October 1997 and May 1998.
- **MAY 1998 – OCTOBER 1998**
 - The loss of 120 parking spaces due to the realignment of Center Drive for the construction of the Clinical Research Center;
 - An increase in employment at the campus to 17,300 persons. The off-campus employee population at local leased facilities remained the same at 5,600 persons; and
 - The closing of South Drive between Old Georgetown Road and Convent Drive.
- **OCTOBER 1998 – MAY 1999**
 - The loss of 340 parking spaces north of Building 10 due to the realignment of Center Drive for the construction of the Clinical Research Center;
 - The realignment of Center Drive;
 - The closing of Convent Drive between ARCF-P1 entry and Lot 10-D; and
 - The change of South Drive to one-way eastbound from Old Georgetown Road.
- **MAY 1999 – MAY 2000**
 - There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in May 1999 and October 1999.
- **MAY 2000 – OCTOBER 2000**
 - The opening of Building 40.
 - An increase in employment in both on and off campus facilities totaling 17,700 and 6,300 persons respectively.
- **OCTOBER 2000 – MAY 2001**
 - There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in October 2000 and May 2001.
- **MAY 2001 – OCTOBER 2001**
 - The closure of six of the eleven campus entrances;
 - The increased security at each of the five remaining entrances, with campus visitors arriving by vehicle required to use the South Drive entrance at Rockville Pike; and
 - The construction of vehicle inspection stations over existing parking lots resulted in a loss of parking.
- **OCTOBER 2001 – MAY 2002**
 - Lot 10-K closed for the construction of the new NIH firehouse resulting in the loss of 144 parking spaces; and

- One temporary parking lot constructed (additional 180 parking spaces).
- **MAY 2002 – OCTOBER 2002**
 - There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in May 2002 and October 2002.
- **OCTOBER 2002 – MAY 2003**
 - Lot 61-T closed for the Family Lodge-related construction resulting in the loss of 108 parking spaces;
 - Wilson Drive closed for construction of new security gate;
 - Temporary points of access on/off campus for permit holders created at North Drive and Lot 31; and
 - All of the entrances along Cedar Lane except Garden Lane remain closed.
- **MAY 2003 – OCTOBER 2003**
 - Wilson Drive re-opened for NIH permit holders only;
 - South Drive at Old Georgetown Road re-opened for NIH permit holders only;
 - Center Drive at Old Georgetown Road partially closed for construction of new security gate. It serves inbound visitor, commercial vehicle and NIH permit traffic only;
 - Garden Lane closed for construction of pedestrian fence and portal;
 - East Drive re-opened for construction traffic only; and
 - Lots closed for construction of underground stormwater storage facility and MLP-10.
- **OCTOBER 2003 – MAY 2004**
 - Construction of Building 33 and MLP-10 began in October 2003. This resulted in the loss of 739 employee spaces with the permanent closure of Parking Lots 31C, 31D, 31E, 31J and the street parking along East Drive;
 - A new entrance located at North Drive and Rockville Pike was constructed in Lot 31G which permanently removed 106 employee parking spaces;
 - Several temporary graveled parking lots were established on the campus to off-set the parking lot with Building 33. These temporary lots provided 500 parking spaces; and
 - Construction of N/W Utility Vault and MLP-9 began in January 2004. This resulted in the loss of 200 additional employee parking spaces.
- **MAY 2004 – OCTOBER 2004**
 - MLP-10 was completed and opened for NIH employee use in August 2004. Approximately 1,250 employee spaces were brought back on line;
 - With the opening of MLP-10, Lots 31F and H were permanently closed resulting in the removal of 347 employee parking spaces; and
 - The new North Drive entrance opened for employee use. Only right turns in and right turns out are permitted at the North Drive/Rockville Pike exit.
- **OCTOBER 2004 – MAY 2005**
 - Construction of the Commercial Vehicle Inspection Facility (CVIF) began; parking spaces located on the site had already been previously removed;

- West Drive Patient entrance-only driveway opened, with limited weekday hours of operation; and
 - No significant traffic pattern changes occurred during this period.
- **MAY 2005 – OCTOBER 2006**
 - There were no significant changes that occurred at the NIH Bethesda Campus between the surveys conducted in May 2005 and October 2006.
 - **OCTOBER 2006 – MAY 2007**
 - Construction of the Commercial Vehicle Inspection Facility (CVIF) was completed and opened for inspection of commercial vehicles on weekdays from 5 AM – 5 PM. On weekends and after hours, all commercial vehicles enter via Rockville Pike at South Drive.
 - The NIH Gateway Center at Rockville Pike and South Drive was completed and opened for 24 hour operation for all vehicles.
 - **MAY 2007 – NOVEMBER 2007**
 - West Drive Visitor Access entrance-only driveway hours of operation were extended until 7 PM.
 - An increase of total employment at the campus from 17,500 to 17,800.
 - **NOVEMBER 2007 – MAY 2008**
 - An increase of total employment at the campus from 17,800 to 18,050.
 - **MAY 2008 – NOVEMBER 2008**
 - An increase of total employment at the campus from 18,050 to 18,553.
 - The new Gateway Visitor Center, Garage and Screening facilities were opened in July, 2008.
 - **NOVEMBER 2008 – MAY 2009**
 - No increase of total employment or parking supply.
 - **MAY 2009 – NOVEMBER 2009**
 - An increase of total employment at the campus from 18,553 to 18,804.
 - **NOVEMBER 2009 – JUNE 2011**
 - An increase of total employment at the campus from 18,804 to 19,334. The portion of the parking areas were cordoned off which reduced the number of available spaces to 9,971.
 - **JUNE 2011 – OCTOBER 2011**
 - An increase of total employment at the campus from 19,334 to 21,470. 31 additional parking spaces were available since the June 2011 assessment for a total of 10,002.

EMPLOYEE PARKING RATIO ASSESSMENT

This section discusses historical and current employee parking ratios for the NIH Bethesda Campus, in the context of the 1992 Memorandum of Understanding (MOU) executed by NIH, the Maryland-National Capital Park and Planning Commission (M-NCPPC), and the National Capital Planning Commission (NCPC). Specifically, this section complies with the following MOU agreement:

“NIH will assess the need for parking associated with proposed future growth and attempt to reduce the future parking demand to the extent practicable.”

This agreement was based on a long-term strategy established in the 1992 Transportation Management Plan *“to maintain the parking supply at no greater than 0.50 spaces per NIH employee, plus additional parking spaces to serve the parking needs of visitors and patients at NIH.”*

In January 2005, NCPC instituted a parking ratio requirement of 0.33 spaces per employee in accordance with the updated Comprehensive Plan for the National Capital Region (August 2004), and as a condition of approval for the NIH 2003 Master Plan Update.

As part of this assessment, a Parking Occupancy Study was conducted over a three (3) day period from October 25, 2011 through October 27, 2011. Prior to conducting this assessment, the existing number of parking spaces on campus was determined based on field observations. 10,002 parking spaces were counted during these observations. This equates to a 0.47 parking supply ratio for the 21,470 population on campus.

Twenty-four (24) hour machine counts were conducted over the three (3) day period at each of the entrances and exits to the campus. Shown on Tables 5 - 7 are the hourly inbound/outbound volumes for the entire campus over the three (3) day period. On October 27, 2011 field observations were made to determine the actual number of vehicles parked on the campus at 1 PM. This data is summarized on Table A3 contained in Appendix A. No actual parking Occupancy counts were conducted on October 25, 2011 or October 26, 2011. This number is highlighted in yellow on Table 7. Using the hourly inbound/outbound volumes shown on Tables 5 - 7, the total number of vehicles parked hourly on campus were then determined. A review of Tables 5 - 7 indicates that each day the maximum parking demand occurs from 11 AM to 12 noon with a maximum occupancy on October 27, 2011 of 9,927 cars. This equates to a parking demand ratio of 0.46.

The overnight parking data includes vehicles which are parked on site and usually consist of as many as 30 shuttle buses, five (5) vans, and two (2) paratransit vans along with police vehicles.

Date: 10/25/201 Tuesday

Time	In Bound Traffic	Out Bound Traffic	Vehicles On Campus	Note
12:00 AM	10	50	88	
1:00 AM	9	29	68	
2:00 AM	12	42	38	
3:00 AM	25	16	47	
4:00 AM	168	25	190	
5:00 AM	770	71	889	
6:00 AM	1886	172	2603	
7:00 AM	2232	223	4612	
8:00 AM	2648	243	7017	
9:00 AM	2116	270	8863	
10:00 AM	970	400	9433	
11:00 AM	633	581	9485	Daily Peak
12:00 PM	620	707	9398	
1:00 PM	631	789	9240	
2:00 PM	508	1316	8432	
3:00 PM	313	2065	6680	
4:00 PM	288	2314	4654	
5:00 PM	258	2433	2479	
6:00 PM	194	1566	1107	
7:00 PM	145	619	633	
8:00 PM	87	339	381	
9:00 PM	72	153	300	
10:00 PM	85	162	223	
11:00 PM	35	114	144	

Maximum Parked Vehicle in Campus	9485
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Note: Daily peak represents highest daily parking utilization.



TABLE 5
PARKING OCCUPANCY ANALYSES
(OCTOBER 25, 2011 TUESDAY)

Date: 10/26/201 Wednesday

Time	In Bound Traffic	Out Bound Traffic	Vehicles On Campus	Note
12:00 AM	10	62	92	
1:00 AM	9	25	76	
2:00 AM	21	21	76	
3:00 AM	33	20	89	
4:00 AM	165	41	213	
5:00 AM	759	78	894	
6:00 AM	1926	163	2657	
7:00 AM	2221	266	4612	
8:00 AM	2632	218	7026	
9:00 AM	2178	320	8884	
10:00 AM	916	433	9367	
11:00 AM	644	603	9408	Daily Peak
12:00 PM	699	751	9356	
1:00 PM	609	783	9182	
2:00 PM	496	1327	8351	
3:00 PM	404	2139	6616	
4:00 PM	279	2329	4566	
5:00 PM	257	2452	2371	
6:00 PM	199	1469	1101	
7:00 PM	138	600	639	
8:00 PM	73	330	382	
9:00 PM	69	152	299	
10:00 PM	99	173	225	
11:00 PM	20	115	130	

Maximum Parked Vehicle in Campus	9408
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Note: Daily peak represents highest daily parking utilization.



TABLE 6
PARKING OCCUPANCY ANALYSES
(OCTOBER 26, 2011 WEDNESDAY)

Date: 10/27/201 Thursday

Time	In Bound Traffic	Out Bound Traffic	Vehicles On Campus	Note
12:00 AM	11	57	84	
1:00 AM	14	25	73	
2:00 AM	10	23	60	
3:00 AM	24	21	63	
4:00 AM	141	44	160	
5:00 AM	686	74	772	
6:00 AM	1952	230	2494	
7:00 AM	2426	311	4609	
8:00 AM	2917	376	7150	
9:00 AM	2425	346	9229	
10:00 AM	1140	464	9905	
11:00 AM	640	618	9927	Daily Peak
12:00 PM	642	756	9813	
1:00 PM	616	861	9568	Counted Vehicles Park in Campus
2:00 PM	468	1289	8747	
3:00 PM	398	2265	6880	
4:00 PM	350	2461	4769	
5:00 PM	335	2642	2462	
6:00 PM	345	1648	1159	
7:00 PM	132	640	651	
8:00 PM	63	311	403	
9:00 PM	77	166	314	
10:00 PM	77	155	236	
11:00 PM	27	130	133	

Maximum Parked Vehicle in Campus	9927
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Note: Daily peak represents highest daily parking utilization.

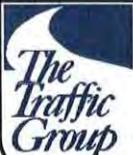


TABLE 7
PARKING OCCUPANCY ANALYSES
(OCTOBER 27, 2011 THURSDAY)

Table 8 shows a comparison of the employee parking supply and demand ratios for the period 2003-2011. The parking supply and parking supply ratio include employees, contractors, fellowship appts., FTE's guest researchers, students, tenants and volunteers. The demand ratio also includes visitors.

This data shows that the parking supply ratio and the parking demand ratio are lower than the 1992 TMP target (0.50) but still higher than the NCPC requirement (0.33). Based on these considerations, it is concluded that the NCPC goal of 0.33 spaces utilized/employee would be difficult to achieve in the near future without further significant reductions in parking supply on the campus or other aggressive methods of reducing the parking demand.

The Montgomery County 2008 Commuter Survey indicates that approximately 39% of the campus' employees use alternate transportation modes for their commute to and from work on a typical weekday. Thus, 61% appear to drive alone (S.O.V.). The S.O.V. would need to reduce dramatically (\pm 37%) to reach the NCPC goal.

Key TMP measures which would continue to reduce campus auto trip generation, increase the share of alternative modes and lower employee parking supply ratio, including the following:

- **Carpool/Vanpool Program.** NIH previously reserved 463 parking spaces for carpools and vanpools. In the past, there were 269 registered carpools (involving 269 employees) and 14 registered vanpools (involving 122 employees). NIH employees interested in a carpool or vanpool are directed to the web link for Commuter Connections. This is a network coordinated by the Metropolitan Washington Council of Governments (COG). It provides a regional database of commuters and gives NIH employees an opportunity to find a match for their commute not only from with NIH but also from other institutes and offices in the Bethesda-Chevy Chase area.
- **Telecommuting.** NIH is encouraging employees to work at home on a part-time basis, using their computers and telephones.
- **Work Schedules.** The NIH has given the option for employees to utilize the following schedule arrangements:
 - Compressed Work Schedule - employees can fulfill an 80-hour biweekly work requirement in less than 10 workdays.
 - Maxiflex Schedule - flexible work schedule that contains core hours on fewer than 10 workdays in the biweekly pay period and in which a full-time employee has a basic work requirement of 80 hours for the biweekly pay period, but in which an employee may vary the number of hours worked on a given workday or the number of hours each week within the limits established by the NIH.

Summary of NIH Parking Utilization

Year	On-Campus Population	Parking Supply	Parking Supply Ratio	Parking Demand Ratio
2002/2003	17,500	8,319	0.48	0.48
2005	17,500	8,304	0.47	0.46
2007	17,800	10,134	0.57	0.43
2008	18,550	10,134	0.55	0.48
2009	18,804	10,134	0.53	0.48
2011 June	19,334	9,971	0.52	0.49
2011 October	21,470	10,002	0.47	0.46



TABLE 8
SUMMARY OF NIH
PARKING UTILIZATION

employees, contractors, fellowship appts., FTE's guest researchers, students, tenants and volunteers. The demand ratio also includes visitors.

This data shows that the parking supply ratio and the parking demand ratio are lower than the 1992 TMP target (0.50) but still higher than the NCPC requirement (0.33). Based on these considerations, it is concluded that the NCPC goal of 0.33 spaces utilized/employee would be difficult to achieve in the near future without further significant reductions in parking supply on the campus or other aggressive methods of reducing the parking demand.

The Montgomery County 2008 Commuter Survey indicates that approximately 39% of the campus' employees use alternate transportation modes for their commute to and from work on a typical weekday. Thus, 61% appear to drive alone (S.O.V.). The S.O.V. would need to reduce dramatically ($\pm 37\%$) to reach the NCPC goal.

Key TMP measures which would continue to reduce campus auto trip generation, increase the share of alternative modes and lower employee parking supply ratio, including the following:

- **Carpool/Vanpool Program.** NIH previously reserved 463 parking spaces for carpools and vanpools. In the past, there were 269 registered carpools (involving 269 employees) and 14 registered vanpools (involving 122 employees). NIH employees interested in a carpool or vanpool are directed to the web link for Commuter Connections. This is a network coordinated by the Metropolitan Washington Council of Governments (COG). It provides a regional database of commuters and gives NIH employees an opportunity to find a match for their commute not only from with NIH but also from other institutes and offices in the Bethesda-Chevy Chase area.
- **Telecommuting.** NIH is encouraging employees to work at home on a part-time basis, using their computers and telephones.
- **Work Schedules.** The NIH has given the option for employees to utilize the following schedule arrangements:
 - Compressed Work Schedule - employees can fulfill an 80-hour biweekly work requirement in less than 10 workdays.
 - Maxiflex Schedule - flexible work schedule that contains core hours on fewer than 10 workdays in the biweekly pay period and in which a full-time employee has a basic work requirement of 80 hours for the biweekly pay period, but in which an employee may vary the number of hours worked on a given workday or the number of hours each week within the limits established by the NIH.
- **Bicycle Subsidy Program.** Allows employees who commute to work via a bicycle a \$20 month sub sidy; however, it is restrictive for them to receive parking benefits or transhare in conjunction with the bicycle subsidy.

- **Cycling Amenities.** The Division of Property Management at NIH has a Facilities Support Program for Cycling where the NIH is promoting bicycling to the NIH campus by improving facilities to have amenities for lockers, showers, and bike racks. Current components of the program that are underway or have been completed are location surveys for showers, lockers, and bike racks, condition surveys, occupancy and user surveys, and rack relocation plans and projects. It is estimated that on any given day there are 350 - 400 cyclists coming to the campus.
- **Transhare.** Is another program that is huge in reducing the number of parking at the NIH and there should be a mention of its growth since its inception in October 1, 1992 - get current data on usage and participants from Tom Hayden (current for October 2011 which has continued to grow since October 1, 1992. It is anticipated that this program will continue to grow in the future as it has in the past.

The effectiveness of the above TMP measures in reducing the employee parking demand, and future reductions in parking supply, would be monitored to facilitate the update of this parking assessment section in future reports.

KEY FINDINGS AND CONCLUSIONS

This study was undertaken to assess the effectiveness of the NIH TMP, particularly with respect to the trip generation caps established by the 1992 Memorandum of Understanding, and the NCPC employee parking supply ratio requirement. This assessment is based on trip generation and parking usage surveys conducted in October 2011. The key findings are as follows:

- a) *The NIH generates 2917 inbound vehicle trips during the AM peak hour (8:00-9:00 AM) which represents an 8% increase over the June 2011 AM conditions (see Table 1 and Exhibit 3). The trips during the evening peak increased by 2%. The population on Campus has increased by 11% since June, 2011.*
- b) *The current trip generation rate for inbound traffic during the AM peak hour and outbound traffic during the PM peak hour are both lower than the results of the last survey undertaken in June 2011 (AM: 0.136 vs. 0.139; PM: 0.125 vs. 0.136). These are significantly lower than the conditions that existed in 1992.*
- c) *The current parking supply ratio (0.47 spaces per employee) is a slight decrease from June 2011 (0.52 spaces per employee). This supply ratio is now lower than the 1992 TMP target (0.5) but still higher than the NCPC goal (0.33). The parking demand ratio at 0.46 spaces/employee is still meeting the 1992 TMP target (see Table 2).*

In conclusion, the implementation of the NIH Transportation Management Plan has been highly effective in reducing peak hour and daily trips to the campus, in keeping with the 1992 MOU.

A strong commitment to enhancing and increasing the effectiveness of the TMP in conjunction with the phased elimination of parking spaces or a "parking cash out" program will be required to reduce the employee parking supply ratio to a level that would satisfy the underlying rationale behind the NCPC-recommended goal.

APPENDIX A

Summary of Data Collection

TABLE A1 - 15 MINUTES INBOUND & OUTBOUND TRAFFIC VOLUMES

Road Name	1 MD 355 & School Access/North Dr		2 MD 355 & North Dr (South)		3 MD 355 & Wood Rd/NIH Access		4 MD 355 & Wilson Dr		5 MD 355 & Wood Rd/South Dr		6 MD 355 & Metro Access		7 MD 355 & Jones Bridge Rd/Center Dr		8 Cedar Lane & Locust Ave/West Dr		9 MD 187 & Center Dr		10 MD 187 & South Dr/Greentree Rd		11 MD 187 & Lincoln Dr/Lincoln St		Total		
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	Total
6:00-6:15	27	0	0	0	26	0	79	15	55	29	23	3	56	8	0	2	67	2	0	0	34	4	367	63	430
6:15-6:30	46	0	0	0	21	0	82	8	65	26	10	1	81	7	0	1	84	7	0	0	36	7	425	57	482
6:30-6:45	71	0	0	2	26	0	111	11	55	23	16	0	107	12	0	0	123	8	1	0	56	2	566	58	624
6:45-7:00	89	0	0	0	17	1	110	6	56	28	9	0	110	6	0	0	138	11	0	0	65	0	594	52	646
7:00-7:15	90	0	0	0	16	0	90	14	51	31	11	1	96	15	8	0	117	5	0	0	57	4	536	70	606
7:15-7:30	107	0	0	0	10	0	91	13	47	36	12	1	87	8	7	0	132	10	0	1	86	7	579	76	655
7:30-7:45	104	0	0	0	16	0	74	20	49	34	18	0	96	9	7	0	164	15	0	0	96	0	624	78	702
7:45-8:00	120	0	0	0	9	0	61	18	62	47	18	1	114	9	7	2	182	10	0	0	114	0	687	87	774
8:00-8:15	130	0	0	2	23	0	87	10	53	35	22	1	101	15	11	2	156	10	0	1	105	6	688	82	770
8:15-8:30	137	0	0	1	21	0	76	19	63	37	40	1	115	15	11	0	181	14	0	0	132	12	776	99	875
8:30-8:45	128	0	0	1	30	0	79	17	55	42	32	0	112	14	15	1	163	14	0	2	118	10	732	101	833
8:45-9:00	124	0	0	0	30	0	66	18	60	40	44	0	91	9	10	0	159	20	0	0	137	7	721	94	815
9:00-9:15	103	0	0	1	18	0	53	11	54	36	39	2	119	14	15	0	159	16	0	1	122	0	682	81	763
9:15-9:30	90	0	0	0	25	0	59	16	47	42	45	2	101	17	15	2	124	15	0	1	144	0	650	95	745
9:30-9:45	74	0	0	0	33	0	50	13	47	37	50	3	108	12	9	0	103	22	0	1	142	1	616	89	705
9:45-10:00	47	0	0	2	18	1	56	17	41	36	39	3	82	10	13	0	69	11	2	0	110	1	477	81	558
10:00-10:15	9	0	0	0	24	1	72	13	37	37	36	4	75	19	4	0	45	18	0	0	66	7	368	99	467
10:15-10:30	0	0	0	0	16	0	72	21	23	42	25	6	54	29	5	1	50	23	0	0	48	7	293	129	422
10:30-10:45	0	0	0	0	26	0	45	21	25	33	20	17	42	16	10	1	35	20	0	0	35	12	238	120	358
10:45-11:00	0	0	0	0	24	0	41	15	29	36	29	3	53	14	6	0	29	36	0	0	30	12	241	116	357
11:00-11:15	0	0	1	0	18	0	35	35	24	33	20	3	23	25	9	1	23	27	0	0	11	15	164	139	303
11:15-11:30	0	0	0	0	18	1	31	35	20	39	14	9	22	29	4	0	28	26	0	0	30	19	167	158	325
11:30-11:45	0	0	0	0	20	0	21	33	23	33	17	4	25	41	4	0	17	32	0	0	20	18	147	161	308
11:45-12:00	0	0	0	0	15	0	31	32	20	34	16	8	34	25	5	1	21	32	0	0	20	28	162	160	322
12:00-12:15	0	0	0	0	12	1	24	41	27	28	18	7	25	37	6	0	28	42	0	0	14	33	154	189	343
12:15-12:30	1	0	0	0	14	1	32	33	25	39	12	12	14	41	5	1	33	32	0	0	22	40	158	199	357
12:30-12:45	0	0	0	0	28	0	28	40	24	41	18	9	23	32	2	0	22	44	0	0	13	18	151	184	335
12:45-1:00	0	0	0	0	26	0	31	39	19	41	15	13	30	29	6	1	35	32	0	0	17	29	179	184	363
1:00-1:15	0	0	0	0	15	1	26	46	24	27	13	8	31	54	6	1	34	22	0	0	14	26	163	185	348
1:15-1:30	0	0	0	0	13	0	26	51	25	46	10	7	29	48	5	1	19	40	0	0	13	24	140	217	357
1:30-1:45	0	0	0	0	10	0	26	53	23	36	7	12	37	43	7	0	30	49	0	0	7	22	147	215	362
1:45-2:00	0	0	0	0	7	0	25	55	39	56	11	8	30	46	3	0	30	53	0	0	21	26	166	244	410
2:00-2:15	0	0	0	0	11	0	22	63	24	49	6	22	14	90	2	0	16	56	0	0	10	42	105	322	427
2:15-2:30	0	0	0	0	13	0	22	55	36	37	10	18	20	64	3	0	19	53	0	0	12	48	135	275	410
2:30-2:45	0	0	0	0	9	0	34	70	25	42	4	25	10	75	7	0	25	91	0	1	12	57	126	361	487
2:45-3:00	0	0	0	0	14	0	23	80	22	36	7	7	5	74	2	1	20	76	0	2	9	55	102	331	433
3:00-3:15	0	0	0	0	8	0	19	118	22	72	5	16	18	140	7	2	17	89	0	11	12	67	108	515	623
3:15-3:30	1	0	0	0	10	0	16	73	34	54	5	22	9	73	2	3	18	95	0	11	7	60	102	391	493
3:30-3:45	0	0	0	0	7	1	12	155	30	61	6	28	10	150	4	1	23	182	0	32	12	110	104	720	824
3:45-4:00	0	0	0	0	9	0	18	134	26	58	3	35	6	142	2	0	13	161	0	22	8	87	85	639	724
4:00-4:15	0	0	0	0	8	1	8	141	30	56	4	22	14	130	2	1	9	141	0	35	7	89	82	616	698
4:15-4:30	0	0	0	0	8	1	11	124	20	50	2	8	11	99	3	1	15	160	0	37	12	98	82	578	660
4:30-4:45	1	0	0	0	13	0	9	142	33	33	3	6	8	110	2	1	14	177	1	44	6	110	90	623	713
4:45-5:00	0	0	0	0	9	0	9	127	32	61	13	5	12	121	2	2	12	184	0	32	7	112	96	644	740
5:00-5:15	0	0	0	0	10	0	9	153	37	52	1	4	6	128	2	0	14	166	0	47	10	127	89	677	766
5:15-5:30	0	0	0	0	9	0	10	130	34	73	3	10	14	158	3	0	11	177	0	42	10	125	94	715	809
5:30-5:45	1	0	0	0	6	0	7	116	32	62	8	8	8	148	2	1	12	149	0	49	9	113	85	646	731
5:45-6:00	0	0	0	0	9	0	7	111	28	55	6	10	4	126	0	1	6	139	0	36	7	126	67	604	671
6:00-6:15	0	0	0	0	6	0	6	113	47	73	4	4	11	156	5	6	9	100	0	24	4	118	92	594	686
6:15-6:30	0	0	0	0	6	2	13	99	38	67	6	5	8	79	2	2	19	91	0	13	5	71	97	429	526
6:30-6:45	0	0	0	0	12	0	12	65	35	61	6	4	3	53	0	0	11	74	0	9	6	75	85	341	426
6:45-7:00	0	0	0	0	8	1	19	56	28	45	4	2	2	52	3	1	6	75	0	6	1	46	71	284	355
Total	1500	0	1	9	803	13	2076	2914	1880	2257	815	410	2316	2876	270	41	2889	3154	4	460	2101	2133	14655	14267	28922

Inbound Traffic
 Outbound Traffic

TABLE A2 - HOURLY INBOUND & OUTBOUND TRAFFIC VOLUMES

Road Name	1 MD 355 & School Access/North Dr		2 MD 355 & North Dr (South)		3 MD 355 & Wood Rd/NIH Access		4 MD 355 & Wilson Dr		5 MD 355 & Wood Rd/South Dr		6 MD 355 & Metro Access		7 MD 355 & Jones Bridge Rd/Center Dr		8 Cedar Lane & Locust Ave/West Dr		9 MD 187 & Center Dr		10 MD 187 & South Dr/Greentree Rd		11 MD 187 & Lincoln Dr/Lincoln St		Total			
	Time	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	Out	IN	OUT	Total		
6:00-7:00	233	0	0	2	90	1	382	40	231	106	58	4	354	33	0	3	412	28	1	0	191	13	1952	230	2182	
6:15-7:15	296	0	0	2	80	1	393	39	227	108	46	2	394	40	8	1	462	31	1	0	214	13	2121	237	2358	
6:30-7:30	357	0	0	2	69	1	402	44	209	118	48	2	400	41	15	0	510	34	1	1	264	13	2275	256	2531	
6:45-7:45	390	0	0	0	59	1	365	53	203	129	50	2	389	38	22	0	551	41	0	1	304	11	2333	276	2609	
7:00-8:00	421	0	0	0	51	0	316	65	209	148	59	3	393	41	29	2	595	40	0	1	353	11	2426	311	2737	
7:15-8:15	461	0	0	2	58	0	313	61	211	152	70	3	398	41	32	4	634	45	0	2	401	13	2578	323	2901	
7:30-8:30	491	0	0	3	69	0	298	67	227	153	98	3	426	48	36	4	683	49	0	1	447	18	2775	346	3121	
7:45-8:45	515	0	0	4	83	0	303	64	233	161	112	3	442	53	44	5	682	48	0	3	469	28	2883	369	3252	
8:00-9:00	519	0	0	4	104	0	308	64	231	154	138	2	419	53	47	3	659	58	0	3	492	35	2917	376	3293	
8:15-9:15	492	0	0	3	99	0	274	65	232	155	155	3	437	52	51	1	662	64	0	3	509	29	2911	375	3286	
8:30-9:30	445	0	0	2	103	0	257	62	216	160	160	4	423	54	55	3	605	65	0	4	521	17	2785	371	3156	
8:45-9:45	391	0	0	1	106	0	228	58	208	155	178	7	419	52	49	2	545	73	0	3	545	8	2669	359	3028	
9:00-10:00	314	0	0	3	94	1	218	57	189	151	173	10	410	53	52	2	455	64	2	3	518	2	2425	346	2771	
9:15-10:15	220	0	0	2	100	2	237	59	172	152	170	12	366	58	41	2	341	66	2	2	462	9	2111	364	2475	
9:30-10:30	130	0	0	2	91	2	250	64	148	152	150	16	319	70	31	1	267	74	2	1	366	16	1754	398	2152	
9:45-10:45	56	0	0	2	84	2	245	72	126	148	120	30	253	74	32	2	199	72	2	0	259	27	1376	429	1805	
10:00-11:00	9	0	0	0	90	1	230	70	114	148	110	30	224	78	25	2	159	97	0	0	179	38	1140	464	1604	
10:15-11:15	0	0	1	0	84	0	193	92	101	144	94	29	172	84	30	3	137	106	0	0	124	46	936	504	1440	
10:30-11:30	0	0	1	0	86	1	152	106	98	141	83	32	140	84	29	2	115	109	0	0	106	58	810	533	1343	
10:45-11:45	0	0	1	0	80	1	128	118	96	141	80	19	123	109	23	1	97	121	0	0	91	64	719	574	1293	
11:00-12:00	0	0	1	0	71	1	118	135	87	139	67	24	104	120	22	2	89	117	0	0	81	80	640	618	1258	
11:15-12:15	0	0	0	0	65	2	107	141	90	134	65	28	106	132	19	1	94	132	0	0	84	98	630	668	1298	
11:30-12:30	1	0	0	0	61	2	108	139	95	134	63	31	98	144	20	2	99	138	0	0	76	119	621	709	1330	
11:45-12:45	1	0	0	0	62	2	115	146	96	142	64	36	96	135	18	2	104	150	0	0	69	119	625	732	1357	
12:00-13:00	1	0	0	0	73	2	115	153	95	149	63	41	92	139	19	2	118	150	0	0	66	120	642	756	1398	
12:15-13:15	1	0	0	0	76	2	117	158	92	148	58	42	98	156	19	3	124	130	0	0	66	113	651	752	1403	
12:30-13:30	0	0	0	0	75	1	111	176	92	155	56	37	113	163	19	3	110	138	0	0	57	97	633	770	1403	
12:45-13:45	0	0	0	0	64	1	109	189	91	150	45	40	127	174	24	3	118	143	0	0	51	101	629	801	1430	
13:00-14:00	0	0	0	0	45	1	103	205	111	165	41	35	127	191	21	2	113	164	0	0	55	98	616	861	1477	
13:15-14:15	0	0	0	0	41	0	99	222	111	187	34	49	110	227	17	1	95	198	0	0	51	114	558	998	1556	
13:30-14:30	0	0	0	0	41	0	95	226	122	178	34	60	101	243	15	0	95	211	0	0	50	138	553	1056	1609	
13:45-14:45	0	0	0	0	40	0	103	243	124	184	31	73	74	275	15	0	90	253	0	1	55	173	532	1202	1734	
14:00-15:00	0	0	0	0	47	0	101	268	107	164	27	72	49	303	14	1	80	276	0	3	43	202	468	1289	1757	
14:15-15:15	0	0	0	0	44	0	98	323	105	187	26	66	53	353	19	3	81	309	0	14	45	227	471	1482	1953	
14:30-15:30	1	0	0	0	41	0	92	341	103	204	21	70	42	362	18	6	80	351	0	25	40	239	438	1598	2036	
14:45-15:45	1	0	0	0	39	1	70	426	108	223	23	73	42	437	15	7	78	442	0	56	40	292	416	1957	2373	
15:00-16:00	1	0	0	0	34	1	65	480	112	245	19	101	43	505	15	6	71	527	0	76	39	324	399	2265	2664	
15:15-16:15	1	0	0	0	34	2	54	503	120	229	18	107	39	495	10	5	63	579	0	100	34	346	373	2366	2739	
15:30-16:30	0	0	0	0	32	3	49	554	106	225	15	93	41	521	11	3	60	644	0	126	39	384	353	2553	2906	
15:45-16:45	1	0	0	0	38	2	46	541	109	197	12	71	39	481	9	3	51	639	1	138	33	384	339	2456	2795	
16:00-17:00	1	0	0	0	38	2	37	534	115	200	22	41	45	460	9	5	50	662	1	148	32	409	350	2461	2811	
16:15-17:15	1	0	0	0	40	1	38	546	122	196	19	23	37	458	9	4	55	687	1	160	35	447	357	2522	2879	
16:30-17:30	1	0	0	0	41	0	37	552	136	219	20	25	40	517	9	3	51	704	1	165	33	474	369	2659	3028	
16:45-17:45	1	0	0	0	34	0	35	526	135	248	25	27	40	555	9	3	49	676	0	170	36	477	364	2682	3046	
17:00-18:00	1	0	0	0	34	0	33	510	131	242	18	32	32	560	7	2	43	631	0	174	36	491	335	2642	2977	
17:15-18:15	1	0	0	0	30	0	30	470	141	263	21	32	37	588	10	8	38	565	0	151	30	482	338	2559	2897	
17:30-18:30	1	0	0	0	27	2	33	439	145	257	24	27	31	509	9	10	46	479	0	122	25	428	341	2273	2614	
17:45-18:45	0	0	0	0	33	2	38	388	148	256	22	23	26	414	7	9	45	404	0	82	22	390	341	1968	2309	
18:00-19:00	0	0	0	0	32	3	50	333	148	246	20	15	24	340	10	9	45	340	0	52	16	310	345	1648	1993	
AM Peak Hour																										
8:00-9:00	519	0	0	4	104	0	308	64	231	154	138	2	419	53	47	3	659	58	0	3	492	35	2917	376	3293	
PM Peak Hour																										
16:45-17:45	1	0	0	0	34	0	35	526	135	248	25	27	40	555	9	3	49	676	0	170	36	477	364	2682	3046	

m_101215nov20111mcxib-hourly_11/15/11

: Inbound Traffic
 : Outbound Traffic

Date: 10/27/201 Thursday

Lot Name	Parked Vehicle (Not in Space)	Parked Vehicle (in Parking Space)	Parked Vehicle in Gravel Area	Total Parked Vehicle	Parking Space Provided
Lot 1	2	13	0	15	22
Lot 2	1	42	0	43	66
Lot 3	8	34	0	42	43
Lot 4	3	25	0	28	25
Lot 5	0	36	0	36	47
Lot 6	5	15	0	20	16
Lot 7	2	22	0	24	25
Lot 8 (MLP 10)	4	924	0	928	1184
Lot 9	11	21	0	32	24
Lot 10	0	6	0	6	12
Lot 11	17	38	0	55	73
Lot 12	13	90	0	103	98
Lot 13 (MLP 9)	0	968	0	968	983
Lot 14	4	9	0	13	9
Lot 15	2	19	0	21	24
Lot 16	1	430	0	431	471
Lot 17	0	126	0	126	132
Lot 18	3	0	0	3	0
Lot 19	0	12	0	12	14
Lot 20	3	2	0	5	2
Lot 21	0	256	0	256	267
Lot 22	0	12	0	12	27
Lot 23	3	177	0	180	190
Lot 24	0	30	0	30	31
Lot 25	0	13	0	13	18
Lot 26 (MLP 6)	60	965	0	1025	977
Lot 27 (MLP 8)	108	1625	0	1733	1644
Lot 28	6	49	0	55	58
Lot 29	0	1	0	1	14
Lot 30	0	68	0	68	68
Lot 31	2	41	0	43	43
Lot 32 (MLP 11)	0	436	0	436	460
Lot 33	0	90	0	90	110
Lot 34	0	150	0	150	340
Lot 35	30	932	70	1032	1060
Lot 36	0	18	0	18	19
Lot 37 (MLP 7)	4	366	0	370	380
Lot 38	0	0	31	31	31
Lot 39	0	60	0	60	85
Lot 40	180	874	0	1054	910
Total	472	8995	101	9568	10002



TABLE A3
PARKING OCCUPANCY COUNT

APPENDIX B

Details of Data Collection

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

1

Intersection of: MD 355
and: School Access-North Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: School Access					TRAFFIC FROM WEST on: North Dr					TOTAL	
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	N + S + E + W	
AM																						
6:00-6:15	27	567			594	0	97			97	0			0	0					0	691	
6:15-6:30	46	591			637	0	98			98	0			0	0					0	735	
6:30-6:45	71	644			715	0	103			103	0			0	0					0	818	
6:45-7:00	89	737			826	0	158			158	0			0	0					0	984	
7:00-7:15	90	747			837	9	183			192	0			0	0					0	1029	
7:15-7:30	107	810			917	9	263			272	2			0	2					0	1191	
7:30-7:45	104	693			797	31	283			314	22			0	22					0	1133	
7:45-8:00	120	777			897	46	317			363	24			0	24					0	1284	
8:00-8:15	130	802			932	8	292			300	18			0	18					0	1250	
8:15-8:30	137	820			957	1	318			319	5			0	5					0	1281	
8:30-8:45	128	772			900	4	323			327	5			0	5					0	1232	
8:45-9:00	124	791			915	3	282			285	2			0	2					0	1202	
9:00-9:15	103	704			807	1	295			296	1			0	1					0	1104	
9:15-9:30	90	604			694	2	297			299	1			0	1					0	994	
9:30-9:45	74	626			700	0	301			301	1			0	1					0	1002	
9:45-10:00	47	562			609	0	326			326	5			0	5					0	940	
10:00-10:15	9	561			570	1	297			298	11			0	11					0	879	
10:15-10:30	0	589			589	0	259			259	2			0	2					0	850	
10:30-10:45	0	592			592	0	293			293	1			0	1					0	886	
10:45-11:00	0	610			610	2	328			330	1			0	1					0	941	
11:00-11:15	0	463			463	0	336			336	0			0	0					0	799	
11:15-11:30	0	437			437	2	378			380	3			0	3					0	820	
11:30-11:45	0	420			420	1	393			394	2			0	2					0	816	
11:45-12:00	0	411			411	1	403			404	0			0	0					0	815	
12:00-12:15	0	376			376	1	454			455	0			0	0					0	831	
12:15-12:30	1	430			431	2	506			508	0			0	0					0	939	
12:30-12:45	0	416			416	2	477			479	1			0	1					0	896	
12:45-1:00	0	453			453	0	457			457	0			0	0					0	910	
1:00-1:15	0	337			337	2	476			478	2			0	2					0	817	
1:15-1:30	0	407			407	1	476			477	3			0	3					0	887	
1:30-1:45	0	388			388	2	495			497	1			0	1					0	886	
1:45-2:00	0	363			363	0	528			528	0			0	0					0	891	
2:00-2:15	0	365			365	0	557			557	1			0	1					0	923	
2:15-2:30	0	403			403	1	590			591	0			0	0					0	994	
2:30-2:45	0	409			409	3	597			600	0			0	0					0	1009	
2:45-3:00	0	420			420	3	589			592	3			0	3					0	1015	
3:00-3:15	0	427			427	8	638			646	5			0	5					0	1078	
3:15-3:30	1	419			420	8	664			672	7			0	7					0	1099	
3:30-3:45	0	385			385	6	661			667	13			0	13					0	1065	
3:45-4:00	0	425			425	2	647			649	6			0	6					0	1080	
4:00-4:15	0	377			377	3	678			681	2			0	2					0	1060	
4:15-4:30	0	371			371	1	678			679	3			0	3					0	1053	
4:30-4:45	1	350			351	1	673			674	3			0	3					0	1028	
4:45-5:00	0	371			371	5	667			672	5			0	5					0	1048	
5:00-5:15	0	363			363	6	667			673	4			0	4					0	1040	
5:15-5:30	0	444			444	4	671			675	5			0	5					0	1124	
5:30-5:45	1	409			410	1	678			679	0			0	0					0	1089	
5:45-6:00	0	414			414	7	627			634	5			0	5					0	1053	
6:00-6:15	0	381			381	2	726			728	2			0	2					0	1111	
6:15-6:30	0	412			412	6	683			689	1			0	1					0	1102	
6:30-6:45	0	361			361	3	595			598	1			0	1					0	960	
6:45-7:00	0	315			315	0	553			553	0			0	0					0	868	
13 Hr Totals	1500	26321	0	0	27821	201	23331	0	0	23532	179	0	0	0	179	0	0	0	0	0	51532	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

1

Intersection of: MD 355
and: School Access-North Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: School Access					TRAFFIC FROM WEST on: North Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
	1 Hr Totals																				
6:00-7:00	233	2539	0	0	2772	0	456	0	0	456	0	0	0	0	0	0	0	0	0	0	3228
6:15-7:15	296	2719	0	0	3015	9	542	0	0	551	0	0	0	0	0	0	0	0	0	0	3566
6:30-7:30	357	2938	0	0	3295	18	707	0	0	725	2	0	0	0	2	0	0	0	0	0	4022
6:45-7:45	390	2987	0	0	3377	49	887	0	0	936	24	0	0	0	24	0	0	0	0	0	4337
7:00-8:00	421	3027	0	0	3448	95	1046	0	0	1141	48	0	0	0	48	0	0	0	0	0	4637
7:15-8:15	461	3082	0	0	3543	94	1155	0	0	1249	66	0	0	0	66	0	0	0	0	0	4858
7:30-8:30	491	3092	0	0	3583	86	1210	0	0	1296	69	0	0	0	69	0	0	0	0	0	4948
7:45-8:45	515	3171	0	0	3686	59	1250	0	0	1309	52	0	0	0	52	0	0	0	0	0	5047
8:00-9:00	519	3185	0	0	3704	16	1215	0	0	1231	30	0	0	0	30	0	0	0	0	0	4965
8:15-9:15	492	3087	0	0	3579	9	1218	0	0	1227	13	0	0	0	13	0	0	0	0	0	4819
8:30-9:30	445	2871	0	0	3316	10	1197	0	0	1207	9	0	0	0	9	0	0	0	0	0	4532
8:45-9:45	391	2725	0	0	3116	6	1175	0	0	1181	5	0	0	0	5	0	0	0	0	0	4302
9:00-10:00	314	2496	0	0	2810	3	1219	0	0	1222	8	0	0	0	8	0	0	0	0	0	4040
9:15-10:15	220	2353	0	0	2573	3	1221	0	0	1224	18	0	0	0	18	0	0	0	0	0	3815
9:30-10:30	130	2338	0	0	2468	1	1183	0	0	1184	19	0	0	0	19	0	0	0	0	0	3671
9:45-10:45	56	2304	0	0	2360	1	1175	0	0	1176	19	0	0	0	19	0	0	0	0	0	3555
10:00-11:00	9	2352	0	0	2361	3	1177	0	0	1180	15	0	0	0	15	0	0	0	0	0	3556
10:15-11:15	0	2254	0	0	2254	2	1216	0	0	1218	4	0	0	0	4	0	0	0	0	0	3476
10:30-11:30	0	2102	0	0	2102	4	1335	0	0	1339	5	0	0	0	5	0	0	0	0	0	3446
10:45-11:45	0	1930	0	0	1930	5	1435	0	0	1440	6	0	0	0	6	0	0	0	0	0	3376
11:00-12:00	0	1731	0	0	1731	4	1510	0	0	1514	5	0	0	0	5	0	0	0	0	0	3250
11:15-12:15	0	1644	0	0	1644	5	1628	0	0	1633	5	0	0	0	5	0	0	0	0	0	3282
11:30-12:30	1	1637	0	0	1638	5	1756	0	0	1761	2	0	0	0	2	0	0	0	0	0	3401
11:45-12:45	1	1633	0	0	1634	6	1840	0	0	1846	1	0	0	0	1	0	0	0	0	0	3481
12:00-1:00	1	1675	0	0	1676	5	1894	0	0	1899	1	0	0	0	1	0	0	0	0	0	3576
12:15-1:15	1	1636	0	0	1637	6	1916	0	0	1922	3	0	0	0	3	0	0	0	0	0	3562
12:30-1:30	0	1613	0	0	1613	5	1886	0	0	1891	6	0	0	0	6	0	0	0	0	0	3510
12:45-1:45	0	1585	0	0	1585	5	1904	0	0	1909	6	0	0	0	6	0	0	0	0	0	3500
1:00-2:00	0	1495	0	0	1495	5	1975	0	0	1980	6	0	0	0	6	0	0	0	0	0	3481
1:15-2:15	0	1523	0	0	1523	3	2056	0	0	2059	5	0	0	0	5	0	0	0	0	0	3587
1:30-2:30	0	1519	0	0	1519	3	2170	0	0	2173	2	0	0	0	2	0	0	0	0	0	3694
1:45-2:45	0	1540	0	0	1540	4	2272	0	0	2276	1	0	0	0	1	0	0	0	0	0	3817
2:00-3:00	0	1597	0	0	1597	7	2333	0	0	2340	4	0	0	0	4	0	0	0	0	0	3941
2:15-3:15	0	1659	0	0	1659	15	2414	0	0	2429	8	0	0	0	8	0	0	0	0	0	4096
2:30-3:30	1	1675	0	0	1676	22	2488	0	0	2510	15	0	0	0	15	0	0	0	0	0	4201
2:45-3:45	1	1651	0	0	1652	25	2552	0	0	2577	28	0	0	0	28	0	0	0	0	0	4257
3:00-4:00	1	1656	0	0	1657	24	2610	0	0	2634	31	0	0	0	31	0	0	0	0	0	4322
3:15-4:15	1	1606	0	0	1607	19	2650	0	0	2669	28	0	0	0	28	0	0	0	0	0	4304
3:30-4:30	0	1558	0	0	1558	12	2664	0	0	2676	24	0	0	0	24	0	0	0	0	0	4258
3:45-4:45	1	1523	0	0	1524	7	2676	0	0	2683	14	0	0	0	14	0	0	0	0	0	4221
4:00-5:00	1	1469	0	0	1470	10	2696	0	0	2706	13	0	0	0	13	0	0	0	0	0	4189
4:15-5:15	1	1455	0	0	1456	13	2685	0	0	2698	15	0	0	0	15	0	0	0	0	0	4169
4:30-5:30	1	1528	0	0	1529	16	2678	0	0	2694	17	0	0	0	17	0	0	0	0	0	4240
4:45-5:45	1	1587	0	0	1588	16	2683	0	0	2699	14	0	0	0	14	0	0	0	0	0	4301
5:00-6:00	1	1630	0	0	1631	18	2643	0	0	2661	14	0	0	0	14	0	0	0	0	0	4306
5:15-6:15	1	1648	0	0	1649	14	2702	0	0	2716	12	0	0	0	12	0	0	0	0	0	4377
5:30-6:30	1	1616	0	0	1617	16	2714	0	0	2730	8	0	0	0	8	0	0	0	0	0	4355
5:45-6:45	0	1568	0	0	1568	18	2631	0	0	2649	9	0	0	0	9	0	0	0	0	0	4226
6:00-7:00	0	1469	0	0	1469	11	2557	0	0	2568	4	0	0	0	4	0	0	0	0	0	4041
PEAK HOUR																					
7:45-8:45	515	3171	0	0	3686	59	1250	0	0	1309	52	0	0	0	52	0	0	0	0	0	5047
5:15-6:15	1	1648	0	0	1649	14	2702	0	0	2716	12	0	0	0	12	0	0	0	0	0	4377

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: School Access-North Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	0	0	0	0
8:00-8:15	0	0	0	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	0	0	0	0
9:15-9:30	0	0	0	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	0	0	0	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	0	0
2:15-2:30	1	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	0	0
3:30-3:45	0	0	0	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	0	0
5:15-5:30	0	0	0	0
5:30-5:45	0	0	0	0
5:45-6:00	0	0	0	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
TOTALS	1	0	0	0

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
 and: School Access-North Dr
 Location: Montgomery Co., MD

Counted by: VCU
 Date: October 27, 2011
 Weather: Rainy, Cool
 Entered by: JW

Day: Thursday



TIME	School Access		North Dr	
	EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	1	0	0	0
7:15-7:30	5	0	0	0
7:30-7:45	2	0	0	0
7:45-8:00	1	0	0	0
8:00-8:15	2	0	0	0
8:15-8:30	1	0	0	0
8:30-8:45	0	1	0	0
8:45-9:00	1	1	0	0
9:00-9:15	0	0	0	0
9:15-9:30	1	0	0	0
9:30-9:45	3	0	0	0
9:45-10:00	1	0	0	0
10:00-10:15	2	0	1	0
10:15-10:30	1	0	0	0
10:30-10:45	1	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	1	0	0	0
12:15-12:30	0	1	0	0
12:30-12:45	2	0	0	0
12:45-1:00	0	2	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	1	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	1	0
2:15-2:30	0	0	0	0
2:30-2:45	2	0	1	0
2:45-3:00	3	0	1	0
3:00-3:15	2	0	0	0
3:15-3:30	1	2	0	0
3:30-3:45	4	0	0	0
3:45-4:00	1	1	0	0
4:00-4:15	0	0	0	0
4:15-4:30	1	0	0	0
4:30-4:45	2	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	0	0
5:15-5:30	0	1	0	0
5:30-5:45	1	0	0	0
5:45-6:00	3	0	0	0
6:00-6:15	4	1	1	0
6:15-6:30	2	0	0	0
6:30-6:45	2	0	0	0
6:45-7:00	2	0	0	0
TOTALS	55	10	6	0

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

2

Intersection of: MD 355
and: North Dr(south)
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: North Dr					TOTAL	
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	N + S +	E + W
AM																						
6:00-6:15	0	568			568	90				90					0	0			0	0	658	
6:15-6:30	0	606			606	96				96					0	0			0	0	702	
6:30-6:45	0	667			667	104				104					0	2			0	2	773	
6:45-7:00	0	740			740	161				161					0	0			0	0	901	
7:00-7:15	0	776			776	201				201					0	0			0	0	977	
7:15-7:30	0	861			861	256				256					0	0			0	0	1117	
7:30-7:45	0	706			706	334				334					0	0			0	0	1040	
7:45-8:00	0	819			819	322				322					0	0			0	0	1141	
8:00-8:15	0	795			795	249				249					0	2			0	2	1046	
8:15-8:30	0	797			797	266				266					0	1			0	1	1064	
8:30-8:45	0	764			764	290				290					0	1			0	1	1055	
8:45-9:00	0	758			758	255				255					0	0			0	0	1013	
9:00-9:15	0	694			694	290				290					0	1			0	1	985	
9:15-9:30	0	629			629	285				285					0	0			0	0	914	
9:30-9:45	0	626			626	306				306					0	0			0	0	932	
9:45-10:00	0	609			609	316				316					0	2			0	2	927	
10:00-10:15	0	589			589	310				310					0	0			0	0	899	
10:15-10:30	0	602			602	262				262					0	0			0	0	864	
10:30-10:45	0	611			611	295				295					0	0			0	0	906	
10:45-11:00	0	602			602	327				327					0	0			0	0	929	
11:00-11:15	1	466			467	347				347					0	0			0	0	814	
11:15-11:30	0	428			428	394				394					0	0			0	0	822	
11:30-11:45	0	408			408	420				420					0	0			0	0	828	
11:45-12:00	0	404			404	416				416					0	0			0	0	820	
12:00-12:15	0	368			368	465				465					0	0			0	0	833	
12:15-12:30	0	411			411	544				544					0	0			0	0	955	
12:30-12:45	0	400			400	509				509					0	0			0	0	909	
12:45-1:00	0	454			454	468				468					0	0			0	0	922	
1:00-1:15	0	334			334	457				457					0	0			0	0	791	
1:15-1:30	0	374			374	463				463					0	0			0	0	837	
1:30-1:45	0	374			374	466				466					0	0			0	0	840	
1:45-2:00	0	348			348	505				505					0	0			0	0	853	
2:00-2:15	0	359			359	533				533					0	0			0	0	892	
2:15-2:30	0	405			405	556				556					0	0			0	0	961	
2:30-2:45	0	418			418	570				570					0	0			0	0	988	
2:45-3:00	0	428			428	611				611					0	0			0	0	1039	
3:00-3:15	0	406			406	631				631					0	0			0	0	1037	
3:15-3:30	0	421			421	699				699					0	0			0	0	1120	
3:30-3:45	0	382			382	666				666					0	0			0	0	1048	
3:45-4:00	0	412			412	655				655					0	0			0	0	1067	
4:00-4:15	0	380			380	656				656					0	0			0	0	1036	
4:15-4:30	0	386			386	677				677					0	0			0	0	1063	
4:30-4:45	0	394			394	647				647					0	0			0	0	1041	
4:45-5:00	0	395			395	665				665					0	0			0	0	1060	
5:00-5:15	0	362			362	694				694					0	0			0	0	1056	
5:15-5:30	0	482			482	667				667					0	0			0	0	1149	
5:30-5:45	0	407			407	699				699					0	0			0	0	1106	
5:45-6:00	0	418			418	668				668					0	0			0	0	1086	
6:00-6:15	0	369			369	719				719					0	0			0	0	1088	
6:15-6:30	0	366			366	686				686					0	0			0	0	1052	
6:30-6:45	0	317			317	627				627					0	0			0	0	944	
6:45-7:00	0	231			231	561				561					0	0			0	0	792	
13 Hr Totals	1	26326	0	0	26327	0	23356	0	0	23356	0	0	0	0	0	9	0	0	0	9	49692	

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

2

Intersection of: MD 355
and: North Dr(south)
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: North Dr					TOTAL	
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	N + S + E + W	
1 Hr Totals																						
6:00-7:00	0	2581	0	0	2581	0	451	0	0	451	0	0	0	0	0	2	0	0	0	2	3034	
6:15-7:15	0	2789	0	0	2789	0	562	0	0	562	0	0	0	0	0	2	0	0	0	2	3353	
6:30-7:30	0	3044	0	0	3044	0	722	0	0	722	0	0	0	0	0	2	0	0	0	2	3768	
6:45-7:45	0	3083	0	0	3083	0	952	0	0	952	0	0	0	0	0	0	0	0	0	0	4035	
7:00-8:00	0	3162	0	0	3162	0	1113	0	0	1113	0	0	0	0	0	0	0	0	0	0	4275	
7:15-8:15	0	3181	0	0	3181	0	1161	0	0	1161	0	0	0	0	0	2	0	0	0	2	4344	
7:30-8:30	0	3117	0	0	3117	0	1171	0	0	1171	0	0	0	0	0	3	0	0	0	3	4291	
7:45-8:45	0	3175	0	0	3175	0	1127	0	0	1127	0	0	0	0	0	4	0	0	0	4	4306	
8:00-9:00	0	3114	0	0	3114	0	1060	0	0	1060	0	0	0	0	0	4	0	0	0	4	4178	
8:15-9:15	0	3013	0	0	3013	0	1101	0	0	1101	0	0	0	0	0	3	0	0	0	3	4117	
8:30-9:30	0	2845	0	0	2845	0	1120	0	0	1120	0	0	0	0	0	2	0	0	0	2	3967	
8:45-9:45	0	2707	0	0	2707	0	1136	0	0	1136	0	0	0	0	0	1	0	0	0	1	3844	
9:00-10:00	0	2558	0	0	2558	0	1197	0	0	1197	0	0	0	0	0	3	0	0	0	3	3758	
9:15-10:15	0	2453	0	0	2453	0	1217	0	0	1217	0	0	0	0	0	2	0	0	0	2	3672	
9:30-10:30	0	2426	0	0	2426	0	1194	0	0	1194	0	0	0	0	0	2	0	0	0	2	3622	
9:45-10:45	0	2411	0	0	2411	0	1183	0	0	1183	0	0	0	0	0	2	0	0	0	2	3596	
10:00-11:00	0	2404	0	0	2404	0	1194	0	0	1194	0	0	0	0	0	0	0	0	0	0	3598	
10:15-11:15	1	2281	0	0	2282	0	1231	0	0	1231	0	0	0	0	0	0	0	0	0	0	3513	
10:30-11:30	1	2107	0	0	2108	0	1363	0	0	1363	0	0	0	0	0	0	0	0	0	0	3471	
10:45-11:45	1	1904	0	0	1905	0	1488	0	0	1488	0	0	0	0	0	0	0	0	0	0	3393	
11:00-12:00	1	1706	0	0	1707	0	1577	0	0	1577	0	0	0	0	0	0	0	0	0	0	3284	
11:15-12:15	0	1608	0	0	1608	0	1695	0	0	1695	0	0	0	0	0	0	0	0	0	0	3303	
11:30-12:30	0	1591	0	0	1591	0	1845	0	0	1845	0	0	0	0	0	0	0	0	0	0	3436	
11:45-12:45	0	1583	0	0	1583	0	1934	0	0	1934	0	0	0	0	0	0	0	0	0	0	3517	
12:00-1:00	0	1633	0	0	1633	0	1986	0	0	1986	0	0	0	0	0	0	0	0	0	0	3619	
12:15-1:15	0	1599	0	0	1599	0	1978	0	0	1978	0	0	0	0	0	0	0	0	0	0	3577	
12:30-1:30	0	1562	0	0	1562	0	1897	0	0	1897	0	0	0	0	0	0	0	0	0	0	3459	
12:45-1:45	0	1536	0	0	1536	0	1854	0	0	1854	0	0	0	0	0	0	0	0	0	0	3390	
1:00-2:00	0	1430	0	0	1430	0	1891	0	0	1891	0	0	0	0	0	0	0	0	0	0	3321	
1:15-2:15	0	1455	0	0	1455	0	1967	0	0	1967	0	0	0	0	0	0	0	0	0	0	3422	
1:30-2:30	0	1486	0	0	1486	0	2060	0	0	2060	0	0	0	0	0	0	0	0	0	0	3546	
1:45-2:45	0	1530	0	0	1530	0	2164	0	0	2164	0	0	0	0	0	0	0	0	0	0	3694	
2:00-3:00	0	1610	0	0	1610	0	2270	0	0	2270	0	0	0	0	0	0	0	0	0	0	3880	
2:15-3:15	0	1657	0	0	1657	0	2368	0	0	2368	0	0	0	0	0	0	0	0	0	0	4025	
2:30-3:30	0	1673	0	0	1673	0	2511	0	0	2511	0	0	0	0	0	0	0	0	0	0	4184	
2:45-3:45	0	1637	0	0	1637	0	2607	0	0	2607	0	0	0	0	0	0	0	0	0	0	4244	
3:00-4:00	0	1621	0	0	1621	0	2651	0	0	2651	0	0	0	0	0	0	0	0	0	0	4272	
3:15-4:15	0	1595	0	0	1595	0	2676	0	0	2676	0	0	0	0	0	0	0	0	0	0	4271	
3:30-4:30	0	1560	0	0	1560	0	2654	0	0	2654	0	0	0	0	0	0	0	0	0	0	4214	
3:45-4:45	0	1572	0	0	1572	0	2635	0	0	2635	0	0	0	0	0	0	0	0	0	0	4207	
4:00-5:00	0	1555	0	0	1555	0	2645	0	0	2645	0	0	0	0	0	0	0	0	0	0	4200	
4:15-5:15	0	1537	0	0	1537	0	2683	0	0	2683	0	0	0	0	0	0	0	0	0	0	4220	
4:30-5:30	0	1633	0	0	1633	0	2673	0	0	2673	0	0	0	0	0	0	0	0	0	0	4306	
4:45-5:45	0	1646	0	0	1646	0	2725	0	0	2725	0	0	0	0	0	0	0	0	0	0	4371	
5:00-6:00	0	1669	0	0	1669	0	2728	0	0	2728	0	0	0	0	0	0	0	0	0	0	4397	
5:15-6:15	0	1676	0	0	1676	0	2753	0	0	2753	0	0	0	0	0	0	0	0	0	0	4429	
5:30-6:30	0	1560	0	0	1560	0	2772	0	0	2772	0	0	0	0	0	0	0	0	0	0	4332	
5:45-6:45	0	1470	0	0	1470	0	2700	0	0	2700	0	0	0	0	0	0	0	0	0	0	4170	
6:00-7:00	0	1283	0	0	1283	0	2593	0	0	2593	0	0	0	0	0	0	0	0	0	0	3876	
PEAK HOUR																						
7:15-8:15	0	3181	0	0	3181	0	1161	0	0	1161	0	0	0	0	0	2	0	0	0	2	4344	
5:15-6:15	0	1676	0	0	1676	0	2753	0	0	2753	0	0	0	0	0	0	0	0	0	0	4429	

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: North Dr(south)
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	0	0	0	0
8:00-8:15	1	0	2	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	0	0	0	0
9:15-9:30	0	0	0	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	0	0	0	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	0	0
2:15-2:30	0	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	0	0
3:30-3:45	0	0	0	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	0	0
5:15-5:30	0	0	0	0
5:30-5:45	1	0	0	0
5:45-6:00	0	0	0	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
TOTALS	2	0	2	0

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: North Dr(south)
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	EAST LEG		North Dr WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
	AM			
6:00-6:15			2	0
6:15-6:30			6	0
6:30-6:45			3	1
6:45-7:00			5	0
7:00-7:15			2	0
7:15-7:30			8	0
7:30-7:45			7	1
7:45-8:00			9	4
8:00-8:15			7	4
8:15-8:30			15	0
8:30-8:45			9	2
8:45-9:00			11	2
9:00-9:15			5	1
9:15-9:30			5	0
9:30-9:45			6	2
9:45-10:00			6	0
10:00-10:15			18	0
10:15-10:30			6	0
10:30-10:45			1	0
10:45-11:00			1	1
11:00-11:15			0	0
11:15-11:30			0	0
11:30-11:45			2	0
11:45-12:00			2	0
12:00-12:15			3	0
12:15-12:30			0	0
12:30-12:45			0	0
12:45-1:00			2	0
1:00-1:15			3	0
1:15-1:30			1	0
1:30-1:45			5	0
1:45-2:00			0	0
2:00-2:15			2	0
2:15-2:30			1	0
2:30-2:45			5	0
2:45-3:00			8	0
3:00-3:15			1	1
3:15-3:30			3	0
3:30-3:45			4	0
3:45-4:00			0	0
4:00-4:15			8	0
4:15-4:30			1	0
4:30-4:45			6	5
4:45-5:00			9	4
5:00-5:15			4	0
5:15-5:30			12	1
5:30-5:45			8	0
5:45-6:00			10	0
6:00-6:15			14	0
6:15-6:30			7	2
6:30-6:45			6	0
6:45-7:00			1	2
TOTALS	0	0	260	33

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

3

Intersection of: MD 355
and: Wood Rd - NIH Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Wood Rd					TRAFFIC FROM WEST on: NIH Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	26	365	172	1	564	17	86	0	0	103	15	0	0	0	15	0	0	0	0	0	682
6:15-6:30	21	391	185	0	597	19	79	0	0	98	14	0	0	0	14	0	0	0	0	0	709
6:30-6:45	26	432	200	0	658	21	105	0	0	126	10	0	0	0	10	0	0	0	0	0	794
6:45-7:00	17	518	187	0	722	20	137	0	0	157	20	0	0	0	20	1	0	0	0	1	900
7:00-7:15	16	559	167	0	742	22	146	0	0	168	38	0	0	0	38	0	0	0	0	0	948
7:15-7:30	10	601	185	1	797	11	208	0	0	219	51	0	0	0	51	0	0	0	0	0	1067
7:30-7:45	16	561	115	1	693	17	289	0	0	306	44	0	0	0	44	0	0	0	0	0	1043
7:45-8:00	9	649	129	0	787	17	309	0	0	326	37	0	0	0	37	0	0	0	0	0	1150
8:00-8:15	23	658	119	0	800	9	270	0	0	279	37	0	0	0	37	0	0	0	0	0	1116
8:15-8:30	21	692	90	0	803	14	289	0	0	303	29	0	0	0	29	0	0	0	0	0	1135
8:30-8:45	30	662	86	0	778	8	298	0	0	306	30	0	0	0	30	0	0	0	0	0	1114
8:45-9:00	29	645	82	0	756	5	259	0	0	264	34	1	0	0	35	0	0	0	0	0	1055
9:00-9:15	18	610	81	0	709	10	247	0	0	257	37	0	0	0	37	0	0	0	0	0	1003
9:15-9:30	25	534	71	0	630	7	243	0	0	250	48	0	0	0	48	0	0	0	0	0	928
9:30-9:45	32	527	67	1	627	14	255	1	0	270	35	0	0	0	35	0	0	0	0	0	932
9:45-10:00	18	509	82	0	609	17	259	0	0	276	54	0	0	0	54	1	0	0	0	1	940
10:00-10:15	24	478	84	0	586	29	260	0	0	289	69	0	0	0	69	1	0	0	0	1	945
10:15-10:30	16	524	78	0	618	10	222	0	0	232	42	0	0	0	42	0	0	0	0	0	892
10:30-10:45	25	489	76	0	590	11	253	1	0	265	50	0	0	0	50	0	0	0	0	0	905
10:45-11:00	22	520	71	1	614	10	267	2	0	279	59	0	0	0	59	0	0	0	0	0	952
11:00-11:15	18	397	54	0	469	12	296	0	0	308	61	0	0	0	61	0	0	0	0	0	838
11:15-11:30	17	377	46	0	440	2	339	1	0	342	66	0	0	0	66	0	0	1	0	1	849
11:30-11:45	20	360	53	1	434	2	346	0	0	348	77	0	0	0	77	0	0	0	0	0	859
11:45-12:00	15	361	45	0	421	9	334	0	0	343	98	0	0	0	98	0	0	0	0	0	862
12:00-12:15	12	294	45	0	351	9	391	0	0	400	73	0	0	0	73	1	0	0	0	1	825
12:15-12:30	14	348	65	0	427	11	387	0	0	398	102	0	0	0	102	1	0	0	0	1	928
12:30-12:45	19	342	56	1	418	10	377	2	0	389	100	0	1	0	101	0	0	0	0	0	908
12:45-1:00	26	366	57	0	449	8	376	0	0	384	63	0	0	0	63	0	0	0	0	0	896
1:00-1:15	15	297	45	1	358	12	379	0	0	391	78	0	0	0	78	1	0	0	0	1	828
1:15-1:30	12	331	52	1	396	7	388	1	0	396	89	0	0	0	89	0	0	0	0	0	881
1:30-1:45	10	333	48	0	391	10	400	0	0	410	76	0	0	0	76	0	0	0	0	0	877
1:45-2:00	7	305	49	0	361	9	410	0	0	419	99	0	0	0	99	0	0	0	0	0	879
2:00-2:15	11	323	33	0	367	7	476	0	0	483	119	0	0	0	119	0	0	0	0	0	969
2:15-2:30	10	346	53	0	409	7	450	3	0	460	119	0	0	0	119	0	0	0	0	0	988
2:30-2:45	9	372	40	1	422	7	447	0	0	454	144	0	0	0	144	0	0	0	0	0	1020
2:45-3:00	14	365	47	0	426	9	484	0	0	493	133	0	0	0	133	0	0	0	0	0	1052
3:00-3:15	8	375	36	0	419	4	492	0	0	496	152	0	0	0	152	0	0	0	0	0	1067
3:15-3:30	10	388	21	0	419	6	493	0	1	500	172	0	1	0	173	0	0	0	0	0	1092
3:30-3:45	6	345	26	0	377	3	487	1	0	491	162	0	0	0	162	0	0	0	1	1	1031
3:45-4:00	9	370	34	0	413	4	453	0	0	457	194	0	0	0	194	0	0	0	0	0	1064
4:00-4:15	7	342	32	0	381	3	471	1	0	475	206	0	0	0	206	1	0	0	0	1	1063
4:15-4:30	8	351	31	0	390	5	491	0	0	496	196	0	0	0	196	1	0	0	0	1	1083
4:30-4:45	12	336	53	0	401	0	419	1	0	420	143	0	0	0	143	0	0	0	0	0	964
4:45-5:00	9	357	31	0	397	9	380	0	0	389	142	0	0	0	142	0	0	0	0	0	928
5:00-5:15	9	352	12	0	373	3	557	1	0	561	147	0	0	0	147	0	0	0	0	0	1081
5:15-5:30	8	410	24	0	442	4	547	1	0	552	119	0	0	0	119	0	0	0	0	0	1113
5:30-5:45	6	377	17	1	401	3	588	0	0	591	109	0	0	0	109	0	0	0	0	0	1101
5:45-6:00	9	393	19	0	421	3	582	0	0	585	86	0	0	0	86	0	0	0	0	0	1092
6:00-6:15	6	349	19	0	374	3	670	0	0	673	57	0	0	0	57	0	0	0	0	0	1104
6:15-6:30	6	369	34	1	410	1	631	0	0	632	65	0	0	0	65	1	1	0	0	2	1109
6:30-6:45	10	329	22	0	361	0	540	2	0	542	62	0	0	0	62	0	0	0	0	0	965
6:45-7:00	7	316	10	0	333	1	519	1	0	521	43	0	0	0	43	1	0	0	0	1	898
13 Hr Totals	783	22200	3536	12	26531	471	#####	19	1	19572	4305	1	2	0	4308	10	1	1	1	13	50424

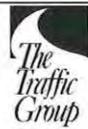
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

3

Intersection of: MD 355
and: Wood Rd - NIH Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Wood Rd					TRAFFIC FROM WEST on: NIH Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals	90	1706	744	1	2541	77	407	0	0	484	59	0	0	0	59	1	0	0	0	1	3085
6:00-7:00	80	1900	739	0	2719	82	467	0	0	549	82	0	0	0	82	1	0	0	0	1	3351
6:30-7:30	69	2110	739	1	2919	74	596	0	0	670	119	0	0	0	119	1	0	0	0	1	3709
6:45-7:45	59	2239	654	2	2954	70	780	0	0	850	153	0	0	0	153	1	0	0	0	1	3958
7:00-8:00	51	2370	596	2	3019	67	952	0	0	1019	170	0	0	0	170	0	0	0	0	0	4208
7:15-8:15	58	2469	548	2	3077	54	1076	0	0	1130	169	0	0	0	169	0	0	0	0	0	4376
7:30-8:30	69	2560	453	1	3083	57	1157	0	0	1214	147	0	0	0	147	0	0	0	0	0	4444
7:45-8:45	83	2661	424	0	3168	48	1166	0	0	1214	133	0	0	0	133	0	0	0	0	0	4515
8:00-9:00	103	2657	377	0	3137	36	1116	0	0	1152	130	1	0	0	131	0	0	0	0	0	4420
8:15-9:15	98	2609	339	0	3046	37	1093	0	0	1130	130	1	0	0	131	0	0	0	0	0	4307
8:30-9:30	102	2451	320	0	2873	30	1047	0	0	1077	149	1	0	0	150	0	0	0	0	0	4100
8:45-9:45	104	2316	301	1	2722	36	1004	1	0	1041	154	1	0	0	155	0	0	0	0	0	3918
9:00-10:00	93	2180	301	1	2575	48	1004	1	0	1053	174	0	0	0	174	1	0	0	0	1	3803
9:15-10:15	99	2048	304	1	2452	67	1017	1	0	1085	206	0	0	0	206	2	0	0	0	2	3745
9:30-10:30	90	2038	311	1	2440	70	996	1	0	1067	200	0	0	0	200	2	0	0	0	2	3709
9:45-10:45	83	2000	320	0	2403	67	994	1	0	1062	215	0	0	0	215	2	0	0	0	2	3682
10:00-11:00	87	2011	309	1	2408	60	1002	3	0	1065	220	0	0	0	220	1	0	0	0	1	3694
10:15-11:15	81	1930	279	1	2291	43	1038	3	0	1084	212	0	0	0	212	0	0	0	0	0	3587
10:30-11:30	82	1783	247	1	2113	35	1155	4	0	1194	236	0	0	0	236	0	0	1	0	1	3544
10:45-11:45	77	1654	224	2	1957	26	1248	3	0	1277	263	0	0	0	263	0	0	1	0	1	3498
11:00-12:00	70	1495	198	1	1764	25	1315	1	0	1341	302	0	0	0	302	0	0	1	0	1	3408
11:15-12:15	64	1392	189	1	1646	22	1410	1	0	1433	314	0	0	0	314	1	0	1	0	2	3395
11:30-12:30	61	1363	208	1	1633	31	1458	0	0	1489	350	0	0	0	350	2	0	0	0	2	3474
11:45-12:45	60	1345	211	1	1617	39	1489	2	0	1530	373	0	1	0	374	2	0	0	0	2	3523
12:00-1:00	71	1350	223	1	1645	38	1531	2	0	1571	338	0	1	0	339	2	0	0	0	2	3557
12:15-1:15	74	1353	223	2	1652	41	1519	2	0	1562	343	0	1	0	344	2	0	0	0	2	3560
12:30-1:30	72	1336	210	3	1621	37	1520	3	0	1560	330	0	1	0	331	1	0	0	0	1	3513
12:45-1:45	63	1327	202	2	1594	37	1543	1	0	1581	306	0	0	0	306	1	0	0	0	1	3482
1:00-2:00	44	1266	194	2	1506	38	1577	1	0	1616	342	0	0	0	342	1	0	0	0	1	3465
1:15-2:15	40	1292	182	1	1515	33	1674	1	0	1708	383	0	0	0	383	0	0	0	0	0	3606
1:30-2:30	38	1307	183	0	1528	33	1736	3	0	1772	413	0	0	0	413	0	0	0	0	0	3713
1:45-2:45	37	1346	175	1	1559	30	1783	3	0	1816	481	0	0	0	481	0	0	0	0	0	3856
2:00-3:00	44	1406	173	1	1624	30	1857	3	0	1890	515	0	0	0	515	0	0	0	0	0	4029
2:15-3:15	41	1458	176	1	1676	27	1873	3	0	1903	548	0	0	0	548	0	0	0	0	0	4127
2:30-3:30	41	1500	144	1	1686	26	1916	0	1	1943	601	0	1	0	602	0	0	0	0	0	4231
2:45-3:45	38	1473	130	0	1641	22	1956	1	1	1980	619	0	1	0	620	0	0	0	1	1	4242
3:00-4:00	33	1478	117	0	1628	17	1925	1	1	1944	680	0	1	0	681	0	0	0	1	1	4254
3:15-4:15	32	1445	113	0	1590	16	1904	2	1	1923	734	0	1	0	735	1	0	0	1	2	4250
3:30-4:30	30	1408	123	0	1561	15	1902	2	0	1919	758	0	0	0	758	2	0	0	1	3	4241
3:45-4:45	36	1399	150	0	1585	12	1834	2	0	1848	739	0	0	0	739	2	0	0	0	2	4174
4:00-5:00	36	1386	147	0	1569	17	1761	2	0	1780	687	0	0	0	687	2	0	0	0	2	4038
4:15-5:15	38	1396	127	0	1561	17	1847	2	0	1866	628	0	0	0	628	1	0	0	0	1	4056
4:30-5:30	38	1455	120	0	1613	16	1903	3	0	1922	551	0	0	0	551	0	0	0	0	0	4086
4:45-5:45	32	1496	84	1	1613	19	2072	2	0	2093	517	0	0	0	517	0	0	0	0	0	4223
5:00-6:00	32	1532	72	1	1637	13	2274	2	0	2289	461	0	0	0	461	0	0	0	0	0	4387
5:15-6:15	29	1529	79	1	1638	13	2387	1	0	2401	371	0	0	0	371	0	0	0	0	0	4410
5:30-6:30	27	1488	89	2	1606	10	2471	0	0	2481	317	0	0	0	317	1	1	0	0	2	4406
5:45-6:45	31	1440	94	1	1566	7	2423	2	0	2432	270	0	0	0	270	1	1	0	0	2	4270
6:00-7:00	29	1363	85	1	1478	5	2360	3	0	2368	227	0	0	0	227	2	1	0	0	3	4076
PEAK HOUR																					
7:45-8:45	83	2661	424	0	3168	48	1166	0	0	1214	133	0	0	0	133	0	0	0	0	0	4515
5:15-6:15	29	1529	79	1	1638	13	2387	1	0	2401	371	0	0	0	371	0	0	0	0	0	4410

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Wood Rd - NIH Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	1	0
6:30-6:45	0	0	1	0
6:45-7:00	0	0	1	0
7:00-7:15	0	0	2	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	0	0	0	1
8:00-8:15	0	0	0	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	0	0	1	0
9:15-9:30	0	0	1	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	0	0	0	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	0	0
2:15-2:30	0	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	1	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	1	0
3:30-3:45	0	0	0	0
3:45-4:00	0	0	1	0
4:00-4:15	1	0	1	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	1	0
5:00-5:15	0	0	0	0
5:15-5:30	0	0	1	0
5:30-5:45	0	0	2	0
5:45-6:00	0	0	1	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
TOTALS	1	0	16	1

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Wood Rd - NIH Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Wood Rd		NIH Access	
	EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	1	0	0	0
6:15-6:30	1	0	1	1
6:30-6:45	2	0	0	0
6:45-7:00	6	0	0	0
7:00-7:15	8	0	3	0
7:15-7:30	7	0	2	0
7:30-7:45	8	0	0	0
7:45-8:00	5	0	1	0
8:00-8:15	2	1	0	0
8:15-8:30	2	0	0	0
8:30-8:45	2	2	0	0
8:45-9:00	2	3	4	0
9:00-9:15	1	0	1	0
9:15-9:30	3	0	2	0
9:30-9:45	4	0	0	0
9:45-10:00	2	0	0	0
10:00-10:15	6	0	0	0
10:15-10:30	1	0	0	0
10:30-10:45	2	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	1	0	1	0
12:15-12:30	1	1	0	0
12:30-12:45	2	0	0	0
12:45-1:00	1	1	0	0
1:00-1:15	0	0	1	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	2	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	3	0
2:15-2:30	1	0	1	0
2:30-2:45	3	0	5	0
2:45-3:00	2	0	10	0
3:00-3:15	6	0	0	0
3:15-3:30	7	0	1	0
3:30-3:45	3	0	0	0
3:45-4:00	7	0	0	0
4:00-4:15	7	1	1	0
4:15-4:30	8	1	1	0
4:30-4:45	5	1	1	0
4:45-5:00	6	1	0	0
5:00-5:15	0	0	0	0
5:15-5:30	1	0	1	0
5:30-5:45	0	0	0	0
5:45-6:00	0	0	0	0
6:00-6:15	2	0	6	0
6:15-6:30	3	1	6	2
6:30-6:45	2	0	2	0
6:45-7:00	4	1	1	1
TOTALS	137	14	57	4

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

4

Intersection of: MD 355
and: Wilson Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Wilson Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	79	283		5	367	81	0	0	0	81					0	1	14	0	15	463	
6:15-6:30	82	308		2	392	100	0	2	0	102					0	4	4	0	8	502	
6:30-6:45	109	320		2	431	117	2	0	0	119					0	2	9	0	11	561	
6:45-7:00	110	402		5	517	132	0	0	0	132					0	1	5	0	6	655	
7:00-7:15	87	472		0	559	182	3	1	0	186					0	0	14	0	14	759	
7:15-7:30	89	511		3	603	212	2	0	0	214					0	1	12	0	13	830	
7:30-7:45	72	489		1	562	278	2	0	0	280					0	0	20	0	20	862	
7:45-8:00	56	591		0	647	310	5	0	0	315					0	1	17	0	18	980	
8:00-8:15	85	579		0	664	270	2	0	0	272					0	2	8	0	10	946	
8:15-8:30	72	618		1	691	276	4	0	0	280					0	1	18	0	19	990	
8:30-8:45	76	596		1	673	287	3	1	0	291					0	2	15	0	17	981	
8:45-9:00	66	579		1	646	245	0	1	0	246					0	2	16	0	18	910	
9:00-9:15	49	565		1	615	260	4	0	0	264					0	4	7	0	11	890	
9:15-9:30	58	457		0	515	245	1	1	0	247					0	6	10	0	16	778	
9:30-9:45	48	497		1	546	272	2	1	0	275					0	4	9	0	13	834	
9:45-10:00	56	453		3	512	281	0	1	0	282					0	2	15	0	17	811	
10:00-10:15	72	411		1	484	247	0	1	0	248					0	2	11	0	13	745	
10:15-10:30	70	454		0	524	218	2	0	0	220					0	5	16	0	21	765	
10:30-10:45	45	451		0	496	246	0	1	0	247					0	3	18	0	21	764	
10:45-11:00	39	484		0	523	281	2	1	0	284					0	4	11	0	15	822	
11:00-11:15	34	373		0	407	276	1	0	0	277					0	4	31	0	35	719	
11:15-11:30	31	343		0	374	323	0	1	0	324					0	6	29	0	35	733	
11:30-11:45	20	331		0	351	320	1	2	0	323					0	3	30	0	33	707	
11:45-12:00	31	333		0	364	314	0	2	0	316					0	4	28	0	32	712	
12:00-12:15	21	275		1	297	355	3	0	0	358					0	4	37	0	41	696	
12:15-12:30	32	314		1	347	386	0	0	0	386					0	6	27	0	33	766	
12:30-12:45	28	313		0	341	363	0	1	0	364					0	9	31	0	40	745	
12:45-1:00	31	340		1	372	345	0	1	0	346					0	3	36	0	39	757	
1:00-1:15	25	268		1	294	360	1	1	0	362					0	7	39	0	46	702	
1:15-1:30	24	309		0	333	355	2	2	0	359					0	9	42	0	51	743	
1:30-1:45	24	314		2	340	356	2	0	0	358					0	1	52	0	53	751	
1:45-2:00	20	286		1	307	372	5	1	0	378					0	6	49	0	55	740	
2:00-2:15	22	289		2	313	424	0	1	0	425					0	3	60	0	63	801	
2:15-2:30	21	324		0	345	393	1	0	0	394					0	8	47	0	55	794	
2:30-2:45	32	340		0	372	411	2	0	0	413					0	5	65	0	70	855	
2:45-3:00	23	336		1	360	407	0	1	0	408					0	1	79	0	80	848	
3:00-3:15	18	359		0	377	433	1	1	0	435					0	5	113	0	118	930	
3:15-3:30	14	376		1	391	431	2	3	0	436					0	9	64	0	73	900	
3:30-3:45	11	332		0	343	379	1	1	0	381					0	10	145	0	155	879	
3:45-4:00	18	349		0	367	335	0	5	0	340					0	9	125	0	134	841	
4:00-4:15	8	334		0	342	373	0	5	0	378					0	8	133	0	141	861	
4:15-4:30	11	343		0	354	379	0	1	0	380					0	7	117	0	124	858	
4:30-4:45	8	324		0	332	416	1	2	0	419					0	14	128	0	142	893	
4:45-5:00	8	356		0	364	409	1	2	0	412					0	10	117	0	127	903	
5:00-5:15	8	335		0	343	420	1	0	0	421					0	13	140	0	153	917	
5:15-5:30	10	398		0	408	431	0	0	0	431					0	7	123	0	130	969	
5:30-5:45	7	370		0	377	481	0	2	0	483					0	4	112	0	116	976	
5:45-6:00	7	389		0	396	490	0	0	0	490					0	6	105	0	111	997	
6:00-6:15	6	343		1	350	553	0	0	0	553					0	14	99	0	113	1016	
6:15-6:30	13	359		0	372	506	0	0	0	506					0	8	91	0	99	977	
6:30-6:45	12	322		0	334	516	0	1	0	517					0	2	63	0	65	916	
6:45-7:00	18	300		0	318	467	1	0	0	468					0	4	52	0	56	842	
13 Hr Totals	2016	20197	0	39	22252	0	###	60	47	17426	0	0	0	0	0	256	0	2658	0	2914	42592

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

4

Intersection of: MD 355
and: Wilson Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Wilson Dr					TOTAL		
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	N + S +	E + W	
1 Hr Totals																							
6:00-7:00	380	1313	0	14	1707	0	430	2	2	434	0	0	0	0	0	8	0	32	0	40	2181		
6:15-7:15	388	1502	0	9	1899	0	531	5	3	539	0	0	0	0	0	7	0	32	0	39	2477		
6:30-7:30	395	1705	0	10	2110	0	643	7	1	651	0	0	0	0	0	4	0	40	0	44	2805		
6:45-7:45	358	1874	0	9	2241	0	804	7	1	812	0	0	0	0	0	2	0	51	0	53	3106		
7:00-8:00	304	2063	0	4	2371	0	982	12	1	995	0	0	0	0	0	2	0	63	0	65	3431		
7:15-8:15	302	2170	0	4	2476	0	1070	11	0	1081	0	0	0	0	0	4	0	57	0	61	3618		
7:30-8:30	285	2277	0	2	2564	0	1134	13	0	1147	0	0	0	0	0	4	0	63	0	67	3778		
7:45-8:45	289	2384	0	2	2675	0	1143	14	1	1158	0	0	0	0	0	6	0	58	0	64	3897		
8:00-9:00	299	2372	0	3	2674	0	1078	9	2	1089	0	0	0	0	0	7	0	57	0	64	3827		
8:15-9:15	263	2358	0	4	2625	0	1068	11	2	1081	0	0	0	0	0	9	0	56	0	65	3771		
8:30-9:30	249	2197	0	3	2449	0	1037	8	3	1048	0	0	0	0	0	14	0	48	0	62	3559		
8:45-9:45	221	2098	0	3	2322	0	1022	7	3	1032	0	0	0	0	0	16	0	42	0	58	3412		
9:00-10:00	211	1972	0	5	2188	0	1058	7	3	1068	0	0	0	0	0	16	0	41	0	57	3313		
9:15-10:15	234	1818	0	5	2057	0	1045	3	4	1052	0	0	0	0	0	14	0	45	0	59	3168		
9:30-10:30	246	1815	0	5	2066	0	1018	4	3	1025	0	0	0	0	0	13	0	51	0	64	3155		
9:45-10:45	243	1769	0	4	2016	0	992	2	3	997	0	0	0	0	0	12	0	60	0	72	3085		
10:00-11:00	226	1800	0	1	2027	0	992	4	3	999	0	0	0	0	0	14	0	56	0	70	3096		
10:15-11:15	188	1762	0	0	1950	0	1021	5	2	1028	0	0	0	0	0	16	0	76	0	92	3070		
10:30-11:30	149	1651	0	0	1800	0	1126	3	3	1132	0	0	0	0	0	17	0	89	0	106	3038		
10:45-11:45	124	1531	0	0	1655	0	1200	4	4	1208	0	0	0	0	0	17	0	101	0	118	2981		
11:00-12:00	116	1380	0	0	1496	0	1233	2	5	1240	0	0	0	0	0	17	0	118	0	135	2871		
11:15-12:15	103	1282	0	1	1386	0	1312	4	5	1321	0	0	0	0	0	17	0	124	0	141	2848		
11:30-12:30	104	1253	0	2	1359	0	1375	4	4	1383	0	0	0	0	0	17	0	122	0	139	2881		
11:45-12:45	112	1235	0	2	1349	0	1418	3	3	1424	0	0	0	0	0	23	0	123	0	146	2919		
12:00-1:00	112	1242	0	3	1357	0	1449	3	2	1454	0	0	0	0	0	22	0	131	0	153	2964		
12:15-1:15	116	1235	0	3	1354	0	1454	1	3	1458	0	0	0	0	0	25	0	133	0	158	2970		
12:30-1:30	108	1230	0	2	1340	0	1423	3	5	1431	0	0	0	0	0	28	0	148	0	176	2947		
12:45-1:45	104	1231	0	4	1339	0	1416	5	4	1425	0	0	0	0	0	20	0	169	0	189	2953		
1:00-2:00	93	1177	0	4	1274	0	1443	10	4	1457	0	0	0	0	0	23	0	182	0	205	2936		
1:15-2:15	90	1198	0	5	1293	0	1507	9	4	1520	0	0	0	0	0	19	0	203	0	222	3035		
1:30-2:30	87	1213	0	5	1305	0	1545	8	2	1555	0	0	0	0	0	18	0	208	0	226	3086		
1:45-2:45	95	1239	0	3	1337	0	1600	8	2	1610	0	0	0	0	0	22	0	221	0	243	3190		
2:00-3:00	98	1289	0	3	1390	0	1635	3	2	1640	0	0	0	0	0	17	0	251	0	268	3298		
2:15-3:15	94	1359	0	1	1454	0	1644	4	2	1650	0	0	0	0	0	19	0	304	0	323	3427		
2:30-3:30	87	1411	0	2	1500	0	1682	5	5	1692	0	0	0	0	0	20	0	321	0	341	3533		
2:45-3:45	66	1403	0	2	1471	0	1650	4	6	1660	0	0	0	0	0	25	0	401	0	426	3557		
3:00-4:00	61	1416	0	1	1478	0	1578	4	10	1592	0	0	0	0	0	33	0	447	0	480	3550		
3:15-4:15	51	1391	0	1	1443	0	1518	3	14	1535	0	0	0	0	0	36	0	467	0	503	3481		
3:30-4:30	48	1358	0	0	1406	0	1466	1	12	1479	0	0	0	0	0	34	0	520	0	554	3439		
3:45-4:45	45	1350	0	0	1395	0	1503	1	13	1517	0	0	0	0	0	38	0	503	0	541	3453		
4:00-5:00	35	1357	0	0	1392	0	1577	2	10	1589	0	0	0	0	0	39	0	495	0	534	3515		
4:15-5:15	35	1358	0	0	1393	0	1624	3	5	1632	0	0	0	0	0	44	0	502	0	546	3571		
4:30-5:30	34	1413	0	0	1447	0	1676	3	4	1683	0	0	0	0	0	44	0	508	0	552	3682		
4:45-5:45	33	1459	0	0	1492	0	1741	2	4	1747	0	0	0	0	0	34	0	492	0	526	3765		
5:00-6:00	32	1492	0	0	1524	0	1822	1	2	1825	0	0	0	0	0	30	0	480	0	510	3859		
5:15-6:15	30	1500	0	1	1531	0	1955	0	2	1957	0	0	0	0	0	31	0	439	0	470	3958		
5:30-6:30	33	1461	0	1	1495	0	2030	0	2	2032	0	0	0	0	0	32	0	407	0	439	3966		
5:45-6:45	38	1413	0	1	1452	0	2065	0	1	2066	0	0	0	0	0	30	0	358	0	388	3906		
6:00-7:00	49	1324	0	1	1374	0	2042	1	1	2044	0	0	0	0	0	28	0	305	0	333	3751		
PEAK HOUR																							
7:45-8:45	289	2384	0	2	2675	0	1143	14	1	1158	0	0	0	0	0	6	0	58	0	64	3897		
5:30-6:30	33	1461	0	1	1495	0	2030	0	2	2032	0	0	0	0	0	32	0	407	0	439	3966		

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Wilson Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	1	0	0	0
8:00-8:15	0	0	0	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	1	0	0	0
9:15-9:30	1	0	0	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	1	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	1	0	0	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	1	0	0	0
2:15-2:30	0	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	0	0
3:30-3:45	1	0	0	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	0	0
5:15-5:30	0	0	0	0
5:30-5:45	1	0	0	0
5:45-6:00	0	0	1	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
TOTALS	8	0	1	0

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Wilson Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	EAST LEG		Wilson Dr WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
	AM			
6:00-6:15			0	0
6:15-6:30			0	0
6:30-6:45			0	0
6:45-7:00			0	0
7:00-7:15			2	1
7:15-7:30			5	1
7:30-7:45			1	0
7:45-8:00			5	3
8:00-8:15			6	3
8:15-8:30			7	1
8:30-8:45			6	2
8:45-9:00			5	3
9:00-9:15			3	1
9:15-9:30			2	1
9:30-9:45			2	0
9:45-10:00			0	0
10:00-10:15			0	0
10:15-10:30			0	0
10:30-10:45			0	0
10:45-11:00			1	0
11:00-11:15			0	0
11:15-11:30			0	0
11:30-11:45			1	0
11:45-12:00			2	0
12:00-12:15			1	0
12:15-12:30			1	0
12:30-12:45			0	0
12:45-1:00			3	0
1:00-1:15			1	0
1:15-1:30			4	0
1:30-1:45			7	0
1:45-2:00			2	0
2:00-2:15			4	0
2:15-2:30			6	0
2:30-2:45			3	0
2:45-3:00			8	0
3:00-3:15			2	1
3:15-3:30			0	0
3:30-3:45			7	1
3:45-4:00			1	1
4:00-4:15			4	1
4:15-4:30			2	0
4:30-4:45			3	4
4:45-5:00			8	2
5:00-5:15			3	0
5:15-5:30			10	0
5:30-5:45			7	0
5:45-6:00			4	0
6:00-6:15			9	2
6:15-6:30			9	1
6:30-6:45			2	0
6:45-7:00			3	2
TOTALS	0	0	162	31

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

5

Intersection of: MD 355
and: Wood Rd - South Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Wood Rd					TRAFFIC FROM WEST on: South Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	24	186	70	1	281	42	69	29	5	145	8	2	1	0	11	10	6	13	0	29	466
6:15-6:30	34	195	62	3	294	46	86	28	2	162	10	3	3	0	16	11	3	12	0	26	498
6:30-6:45	29	229	68	1	327	51	113	21	6	191	15	5	6	0	26	12	2	9	0	23	567
6:45-7:00	30	297	68	1	396	46	132	22	4	204	14	4	7	0	25	14	2	12	0	28	653
7:00-7:15	22	381	53	1	457	33	143	26	2	204	13	3	4	0	20	12	5	14	0	31	712
7:15-7:30	30	425	58	2	515	37	189	13	4	243	14	4	13	0	31	12	4	20	0	36	825
7:30-7:45	35	423	40	3	501	27	242	11	4	284	17	3	12	0	32	15	4	15	0	34	851
7:45-8:00	38	494	34	3	569	19	279	21	4	323	8	3	8	1	20	16	7	24	0	47	959
8:00-8:15	29	507	24	1	561	15	233	20	12	280	7	4	3	0	14	15	10	10	0	35	890
8:15-8:30	37	546	26	1	610	18	258	23	11	310	6	3	1	0	10	16	3	18	0	37	967
8:30-8:45	29	528	17	0	574	16	259	24	5	304	15	2	1	0	18	19	6	17	0	42	938
8:45-9:00	33	521	15	1	570	19	214	23	6	262	12	4	8	0	24	19	5	16	0	40	896
9:00-9:15	36	569	20	1	626	11	219	16	5	251	6	2	5	0	13	9	3	24	0	36	926
9:15-9:30	32	424	24	0	480	9	203	11	10	233	11	4	7	0	22	18	3	21	0	42	777
9:30-9:45	38	411	16	1	466	13	197	7	7	224	19	2	5	0	26	17	1	19	0	37	753
9:45-10:00	31	406	14	2	453	22	234	9	5	270	15	1	9	0	25	18	1	17	0	36	784
10:00-10:15	22	386	15	2	425	18	193	11	4	226	13	4	4	0	21	14	2	21	0	37	709
10:15-10:30	16	394	14	2	426	15	188	5	3	211	13	2	7	0	22	17	2	23	0	42	701
10:30-10:45	13	404	20	2	439	15	198	9	7	229	15	3	9	1	28	11	2	20	0	33	729
10:45-11:00	19	444	19	3	485	17	220	8	4	249	23	2	7	0	32	11	3	22	0	36	802
11:00-11:15	13	352	9	1	375	12	230	7	5	254	17	4	5	0	26	11	2	20	0	33	688
11:15-11:30	13	323	13	1	350	14	268	5	4	291	21	2	13	0	36	14	2	23	0	39	716
11:30-11:45	8	317	14	1	340	9	286	12	2	309	14	3	15	0	32	6	4	23	0	33	714
11:45-12:00	7	310	7	2	326	10	258	9	4	281	24	4	15	0	43	8	5	21	0	34	684
12:00-12:15	16	240	12	0	268	20	300	10	7	337	13	1	11	0	25	8	1	19	0	28	658
12:15-12:30	8	288	22	3	321	15	310	14	5	344	19	3	11	0	33	13	5	21	0	39	737
12:30-12:45	14	287	22	1	324	19	292	7	4	322	18	3	10	0	31	12	4	25	0	41	718
12:45-1:00	9	312	10	2	333	13	285	7	3	308	14	3	13	1	31	12	3	26	0	41	713
1:00-1:15	13	252	9	3	277	18	304	8	4	334	24	3	9	0	36	9	3	15	0	27	674
1:15-1:30	16	292	8	1	317	14	304	8	7	333	21	1	4	0	26	12	3	30	1	46	722
1:30-1:45	13	283	13	1	310	12	281	9	2	304	25	1	13	0	39	11	0	25	0	36	689
1:45-2:00	16	271	7	0	294	11	316	18	4	349	16	5	7	0	28	11	1	44	0	56	727
2:00-2:15	9	303	11	0	323	12	373	14	2	401	31	1	7	0	39	9	4	36	0	49	812
2:15-2:30	19	296	8	0	323	17	333	13	3	366	30	4	13	0	47	9	3	25	0	37	773
2:30-2:45	10	314	16	0	340	9	333	13	3	358	39	2	7	0	48	6	2	34	0	42	788
2:45-3:00	7	323	14	0	344	15	343	13	5	376	32	2	9	0	43	11	3	22	0	36	799
3:00-3:15	8	329	20	3	360	13	348	10	1	372	42	4	10	0	56	16	2	54	0	72	860
3:15-3:30	16	360	10	1	387	8	341	15	5	369	57	3	7	0	67	14	5	35	0	54	877
3:30-3:45	14	314	12	2	342	5	339	11	0	355	45	5	20	0	70	22	9	30	0	61	828
3:45-4:00	13	335	13	0	361	6	262	12	3	283	29	1	16	0	46	22	3	33	0	58	748
4:00-4:15	16	316	12	0	344	12	264	13	0	289	27	1	18	0	46	22	1	33	0	56	735
4:15-4:30	9	323	11	0	343	9	294	8	7	318	30	3	27	1	61	19	5	26	0	50	772
4:30-4:45	14	318	13	0	345	9	325	17	4	355	22	2	18	0	42	10	2	21	0	33	775
4:45-5:00	20	339	7	0	366	10	302	11	3	326	25	1	21	0	47	20	6	35	0	61	800
5:00-5:15	20	304	16	1	341	18	356	13	3	390	15	4	13	0	32	21	5	26	0	52	815
5:15-5:30	18	386	9	1	414	16	373	15	1	405	16	1	15	0	32	17	10	46	0	73	924
5:30-5:45	17	359	11	2	389	13	388	13	1	415	19	2	16	0	37	15	3	44	0	62	903
5:45-6:00	14	344	17	0	375	14	411	10	3	438	34	4	18	0	56	14	2	39	0	55	924
6:00-6:15	31	312	11	2	356	11	394	10	3	418	50	6	11	0	67	20	4	49	0	73	914
6:15-6:30	21	326	14	0	361	20	388	15	1	424	36	2	15	0	53	19	4	44	0	67	905
6:30-6:45	18	307	15	1	341	19	408	12	1	440	42	5	25	0	72	20	1	40	0	61	914
6:45-7:00	12	271	13	0	296	13	366	13	1	393	32	3	21	0	56	14	0	31	0	45	790
13 Hr Totals	1029	#####	1076	60	20341	905	14244	702	211	16062	1133	149	553	4	1839	733	181	1342	1	2257	40499

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

5

Intersection of: MD 355
and: Wood Rd - South Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Wood Rd					TRAFFIC FROM WEST on: South Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals																					
6:00-7:00	117	907	268	6	1298	185	400	100	17	702	47	14	17	0	78	47	13	46	0	106	2184
6:15-7:15	115	1102	251	6	1474	176	474	97	14	761	52	15	20	0	87	49	12	47	0	108	2430
6:30-7:30	111	1332	247	5	1695	167	577	82	16	842	56	16	30	0	102	50	13	55	0	118	2757
6:45-7:45	117	1526	219	7	1869	143	706	72	14	935	58	14	36	0	108	53	15	61	0	129	3041
7:00-8:00	125	1723	185	9	2042	116	853	71	14	1054	52	13	37	1	103	55	20	73	0	148	3347
7:15-8:15	132	1849	156	9	2146	98	943	65	24	1130	46	14	36	1	97	58	25	69	0	152	3525
7:30-8:30	139	1970	124	8	2241	79	1012	75	31	1197	38	13	24	1	76	62	24	67	0	153	3667
7:45-8:45	133	2075	101	5	2314	68	1029	88	32	1217	36	12	13	1	62	66	26	69	0	161	3754
8:00-9:00	128	2102	82	3	2315	68	964	90	34	1156	40	13	13	0	66	69	24	61	0	154	3691
8:15-9:15	135	2164	78	3	2380	64	950	86	27	1127	39	11	15	0	65	63	17	75	0	155	3727
8:30-9:30	130	2042	76	2	2250	55	895	74	26	1050	44	12	21	0	77	65	17	78	0	160	3537
8:45-9:45	139	1925	75	3	2142	52	833	57	28	970	48	12	25	0	85	63	12	80	0	155	3352
9:00-10:00	137	1810	74	4	2025	55	853	43	27	978	51	9	26	0	86	62	8	81	0	151	3240
9:15-10:15	123	1627	69	5	1824	62	827	38	26	953	58	11	25	0	94	67	7	78	0	152	3023
9:30-10:30	107	1597	59	7	1770	68	812	32	19	931	60	9	25	0	94	66	6	80	0	152	2947
9:45-10:45	82	1590	63	8	1743	70	813	34	19	936	56	10	29	1	96	60	7	81	0	148	2923
10:00-11:00	70	1628	68	9	1775	65	799	33	18	915	64	11	27	1	103	53	9	86	0	148	2941
10:15-11:15	61	1594	62	8	1725	59	836	29	19	943	68	11	28	1	108	50	9	85	0	144	2920
10:30-11:30	58	1523	61	7	1649	58	916	29	20	1023	76	11	34	1	122	47	9	85	0	141	2935
10:45-11:45	53	1436	55	6	1550	52	1004	32	15	1103	75	11	40	0	126	42	11	88	0	141	2920
11:00-12:00	41	1302	43	5	1391	45	1042	33	15	1135	76	13	48	0	137	39	13	87	0	139	2802
11:15-12:15	44	1190	46	4	1284	53	1112	36	17	1218	72	10	54	0	136	36	12	86	0	134	2772
11:30-12:30	39	1155	55	6	1255	54	1154	45	18	1271	70	11	52	0	133	35	15	84	0	134	2793
11:45-12:45	45	1125	63	6	1239	64	1160	40	20	1284	74	11	47	0	132	41	15	86	0	142	2797
12:00-1:00	47	1127	66	6	1246	67	1187	38	19	1311	64	10	45	1	120	45	13	91	0	149	2826
12:15-1:15	44	1139	63	9	1255	65	1191	36	16	1308	75	12	43	1	131	46	15	87	0	148	2842
12:30-1:30	52	1143	49	7	1251	64	1185	30	18	1297	77	10	36	1	124	45	13	96	1	155	2827
12:45-1:45	51	1139	40	7	1237	57	1174	32	16	1279	84	8	39	1	132	44	9	96	1	150	2798
1:00-2:00	58	1098	37	5	1198	55	1205	43	17	1320	86	10	33	0	129	43	7	114	1	165	2812
1:15-2:15	54	1149	39	2	1244	49	1274	49	15	1387	93	8	31	0	132	43	8	135	1	187	2950
1:30-2:30	57	1153	39	1	1250	52	1303	54	11	1420	102	11	40	0	153	40	8	130	0	178	3001
1:45-2:45	54	1184	42	0	1280	49	1355	58	12	1474	116	12	34	0	162	35	10	139	0	184	3100
2:00-3:00	45	1236	49	0	1330	53	1382	53	13	1501	132	9	36	0	177	35	12	117	0	164	3172
2:15-3:15	44	1262	58	3	1367	54	1357	49	12	1472	143	12	39	0	194	42	10	135	0	187	3220
2:30-3:30	41	1326	60	4	1431	45	1365	51	14	1475	170	11	33	0	214	47	12	145	0	204	3324
2:45-3:45	45	1326	56	6	1433	41	1371	49	11	1472	176	14	46	0	236	63	19	141	0	223	3364
3:00-4:00	51	1338	55	6	1450	32	1290	48	9	1379	173	13	53	0	239	74	19	152	0	245	3313
3:15-4:15	59	1325	47	3	1434	31	1206	51	8	1296	158	10	61	0	229	80	18	131	0	229	3188
3:30-4:30	52	1288	48	2	1390	32	1159	44	10	1245	131	10	81	1	223	85	18	122	0	225	3083
3:45-4:45	52	1292	49	0	1393	36	1145	50	14	1245	108	7	79	1	195	73	11	113	0	197	3030
4:00-5:00	59	1296	43	0	1398	40	1185	49	14	1288	104	7	84	1	196	71	14	115	0	200	3082
4:15-5:15	63	1284	47	1	1395	46	1277	49	17	1389	92	10	79	1	182	70	18	108	0	196	3162
4:30-5:30	72	1347	45	2	1466	53	1356	56	11	1476	78	8	67	0	153	68	23	128	0	219	3314
4:45-5:45	75	1388	43	4	1510	57	1419	52	8	1536	75	8	65	0	148	73	24	151	0	248	3442
5:00-6:00	69	1393	53	4	1519	61	1528	51	8	1648	84	11	62	0	157	67	20	155	0	242	3566
5:15-6:15	80	1401	48	5	1534	54	1566	48	8	1676	119	13	60	0	192	66	19	178	0	263	3665
5:30-6:30	83	1341	53	4	1481	58	1581	48	8	1695	139	14	60	0	213	68	13	176	0	257	3646
5:45-6:45	84	1289	57	3	1433	64	1601	47	8	1720	162	17	69	0	248	73	11	172	0	256	3657
6:00-7:00	82	1216	53	3	1354	63	1556	50	6	1675	160	16	72	0	248	73	9	164	0	246	3523
PEAK HOUR																					
7:45-8:45	133	2075	101	5	2314	68	1029	88	32	1217	36	12	13	1	62	66	26	69	0	161	3754
5:15-6:15	80	1401	48	5	1534	54	1566	48	8	1676	119	13	60	0	192	66	19	178	0	263	3665

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Wood Rd - South Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	63	0
6:15-6:30	0	0	92	0
6:30-6:45	0	0	93	0
6:45-7:00	0	0	123	0
7:00-7:15	0	0	41	0
7:15-7:30	0	0	28	1
7:30-7:45	1	0	57	0
7:45-8:00	1	0	46	0
8:00-8:15	1	0	49	0
8:15-8:30	1	0	45	0
8:30-8:45	1	0	48	0
8:45-9:00	0	0	46	0
9:00-9:15	0	0	39	0
9:15-9:30	0	0	26	1
9:30-9:45	1	0	31	1
9:45-10:00	0	0	26	1
10:00-10:15	0	0	28	0
10:15-10:30	0	0	30	0
10:30-10:45	0	0	20	0
10:45-11:00	0	0	21	0
11:00-11:15	0	0	9	0
11:15-11:30	0	0	12	0
11:30-11:45	0	0	12	0
11:45-12:00	0	0	15	0
12:00-12:15	0	0	10	0
12:15-12:30	0	0	11	0
12:30-12:45	0	0	29	0
12:45-1:00	0	0	20	0
1:00-1:15	0	0	22	0
1:15-1:30	0	0	20	0
1:30-1:45	1	0	22	0
1:45-2:00	0	0	32	0
2:00-2:15	0	1	0	0
2:15-2:30	0	0	15	0
2:30-2:45	0	0	25	0
2:45-3:00	0	0	18	0
3:00-3:15	0	0	53	0
3:15-3:30	0	0	76	0
3:30-3:45	0	0	121	0
3:45-4:00	0	0	87	0
4:00-4:15	1	0	49	0
4:15-4:30	1	0	53	0
4:30-4:45	0	0	76	0
4:45-5:00	0	0	74	0
5:00-5:15	0	0	6	0
5:15-5:30	0	1	14	0
5:30-5:45	1	0	38	0
5:45-6:00	0	0	17	0
6:00-6:15	0	0	33	0
6:15-6:30	0	0	35	2
6:30-6:45	0	0	45	3
6:45-7:00	0	0	19	2
TOTALS	10	2	2020	11

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
 and: Wood Rd - South Dr
 Location: Montgomery Co., MD

Counted by: VCU
 Date: October 27, 2011
 Weather: Rainy, Cool
 Entered by: JW

Day: Thursday



TIME	Wood Rd		South Dr	
	EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	3	0	1	0
6:15-6:30	2	0	4	0
6:30-6:45	0	0	4	0
6:45-7:00	1	0	2	0
7:00-7:15	0	0	4	0
7:15-7:30	4	0	7	0
7:30-7:45	2	0	3	0
7:45-8:00	8	0	14	2
8:00-8:15	2	0	11	3
8:15-8:30	4	0	8	3
8:30-8:45	2	0	7	2
8:45-9:00	0	0	5	4
9:00-9:15	1	0	7	2
9:15-9:30	1	1	3	1
9:30-9:45	0	0	6	2
9:45-10:00	0	0	1	0
10:00-10:15	3	0	2	0
10:15-10:30	1	0	2	0
10:30-10:45	1	0	3	1
10:45-11:00	3	0	1	1
11:00-11:15	0	0	2	0
11:15-11:30	1	0	0	0
11:30-11:45	3	0	2	0
11:45-12:00	0	0	5	0
12:00-12:15	0	0	1	0
12:15-12:30	0	0	0	0
12:30-12:45	2	0	3	1
12:45-1:00	0	0	3	0
1:00-1:15	1	0	1	0
1:15-1:30	1	0	5	0
1:30-1:45	2	0	4	0
1:45-2:00	1	0	4	0
2:00-2:15	14	0	4	0
2:15-2:30	2	0	9	0
2:30-2:45	20	0	7	0
2:45-3:00	2	0	4	0
3:00-3:15	9	0	1	0
3:15-3:30	7	0	9	0
3:30-3:45	4	0	9	0
3:45-4:00	3	0	2	1
4:00-4:15	17	0	9	0
4:15-4:30	7	0	7	0
4:30-4:45	15	1	6	0
4:45-5:00	13	0	10	0
5:00-5:15	6	1	9	0
5:15-5:30	6	0	11	0
5:30-5:45	9	1	10	0
5:45-6:00	7	0	12	0
6:00-6:15	4	0	7	2
6:15-6:30	3	0	9	1
6:30-6:45	4	0	1	0
6:45-7:00	1	0	4	1
TOTALS	202	4	265	27

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

6

Intersection of: MD 355
and: Metro Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Metro Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	23	186			209	139				139				0	3				3		351
6:15-6:30	10	198			208	186				186				0	1				1		395
6:30-6:45	16	247			263	182				182				0	0				0		445
6:45-7:00	9	314			323	187				187				0	0				0		510
7:00-7:15	11	391			402	209				209				0	1				1		612
7:15-7:30	12	449			461	236				236				0	1				1		698
7:30-7:45	18	425			443	289				289				0	0				0		732
7:45-8:00	18	507			525	325				325				0	1				1		851
8:00-8:15	22	529			551	309				309				0	1				1		861
8:15-8:30	40	545			585	319				319				0	1				1		905
8:30-8:45	32	520			552	310				310				0	0				0		862
8:45-9:00	44	530			574	278				278				0	0				0		852
9:00-9:15	39	536			575	273				273				0	2				2		850
9:15-9:30	45	427			472	249				249				0	2				2		723
9:30-9:45	50	423			473	263				263				0	3				3		739
9:45-10:00	39	408			447	279				279				0	3				3		729
10:00-10:15	36	364			400	238				238				0	4				4		642
10:15-10:30	25	427			452	224				224				0	6				6		682
10:30-10:45	20	402			422	243				243				0	17				17		682
10:45-11:00	29	455			484	280				280				0	3				3		767
11:00-11:15	20	360			380	261				261				0	3				3		644
11:15-11:30	14	335			349	299				299				0	9				9		657
11:30-11:45	17	332			349	309				309				0	4				4		662
11:45-12:00	16	335			351	310				310				0	8				8		669
12:00-12:15	18	260			278	365				365				0	7				7		650
12:15-12:30	12	312			324	352				352				0	12				12		688
12:30-12:45	18	295			313	352				352				0	9				9		674
12:45-1:00	15	319			334	334				334				0	13				13		681
1:00-1:15	13	273			286	338				338				0	8				8		632
1:15-1:30	10	307			317	333				333				0	7				7		657
1:30-1:45	7	293			300	311				311				0	12				12		623
1:45-2:00	11	295			306	359				359				0	8				8		673
2:00-2:15	6	279			285	383				383				0	22				22		690
2:15-2:30	10	313			323	358				358				0	18				18		699
2:30-2:45	4	322			326	371				371				0	25				25		722
2:45-3:00	7	361			368	404				404				0	7				7		779
3:00-3:15	5	373			378	388				388				0	16				16		782
3:15-3:30	5	348			353	341				341				0	22				22		716
3:30-3:45	6	354			360	357				357				0	28				28		745
3:45-4:00	3	357			360	304				304				0	35				35		699
4:00-4:15	4	352			356	308				308				0	22				22		686
4:15-4:30	2	382			384	324				324				0	8				8		716
4:30-4:45	3	367			370	327				327				0	6				6		703
4:45-5:00	13	347			360	330				330				0	5				5		695
5:00-5:15	1	408			409	368				368				0	4				4		781
5:15-5:30	3	338			341	410				410				0	10				10		761
5:30-5:45	8	340			348	432				432				0	8				8		788
5:45-6:00	8	284			290	422				422				0	10				10		722
6:00-6:15	4	312			316	445				445				0	4				4		765
6:15-6:30	6	348			354	367				367				0	5				5		726
6:30-6:45	6	353			359	332				332				0	4				4		695
6:45-7:00	4	300			304	303				303				0	2				2		609
7:00-7:15	3	379			382	344				344				0	2				2		728
7:15-7:30	1	250			251	315				315				0	1				1		567
7:30-7:45	1	257			258	326				326				0	1				1		585
7:45-8:00	2	216			218	276				276				0	4				4		498
8:00-8:15	0	222			222	252				252				0	1				1		475
8:15-8:30	1	222			223	245				245				0	1				1		469
8:30-8:45	0	222			222	265				265				0	1				1		488
8:45-9:00	1	160			161	264				264				0	1				1		426
9:00-9:15	0	204			204	278				278				0	0				0		482
9:15-9:30	1	179			180	208				208				0	0				0		388
9:30-9:45	1	168			169	201				201				0	1				1		371
9:45-10:00	0	148			148	214				214				0	0				0		362
10:00-10:15	0	155			155	208				208				0	0				0		363
10:15-10:30	1	120			121	151				151				0	0				0		272
10:30-10:45	0	103			103	162				162				0	0				0		265
10:45-11:00	0	119			119	155				155				0	1				1		275
11:00-11:15	0	77			77	116				116				0	1				1		194
11:15-11:30	0	73			73	76				76				0	1				1		150
11:30-11:45	0	50			50	85				85				0	0				0		135
11:45-12:00	0	15			15	22				22				0	0				0		37
18 Hr Totals	827	22176	0	0	23003	0	20378	0	0	20378	0	0	0	0	0	426	0	0	0	426	43807

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

6

Intersection of: MD 355
and: Metro Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Metro Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals																					
6:00-7:00	58	945	0	0	1003	0	694	0	0	694	0	0	0	0	0	4	0	0	0	4	1701
6:15-7:15	46	1150	0	0	1196	0	764	0	0	764	0	0	0	0	0	2	0	0	0	2	1962
6:30-7:30	48	1401	0	0	1449	0	814	0	0	814	0	0	0	0	0	2	0	0	0	2	2265
6:45-7:45	50	1579	0	0	1629	0	921	0	0	921	0	0	0	0	0	2	0	0	0	2	2552
7:00-8:00	59	1772	0	0	1831	0	1059	0	0	1059	0	0	0	0	0	3	0	0	0	3	2893
7:15-8:15	70	1910	0	0	1980	0	1159	0	0	1159	0	0	0	0	0	3	0	0	0	3	3142
7:30-8:30	98	2006	0	0	2104	0	1242	0	0	1242	0	0	0	0	0	3	0	0	0	3	3349
7:45-8:45	112	2101	0	0	2213	0	1263	0	0	1263	0	0	0	0	0	3	0	0	0	3	3479
8:00-9:00	138	2124	0	0	2262	0	1216	0	0	1216	0	0	0	0	0	2	0	0	0	2	3480
8:15-9:15	155	2131	0	0	2286	0	1180	0	0	1180	0	0	0	0	0	3	0	0	0	3	3469
8:30-9:30	160	2013	0	0	2173	0	1110	0	0	1110	0	0	0	0	0	4	0	0	0	4	3287
8:45-9:45	178	1916	0	0	2094	0	1063	0	0	1063	0	0	0	0	0	7	0	0	0	7	3164
9:00-10:00	173	1794	0	0	1967	0	1064	0	0	1064	0	0	0	0	0	10	0	0	0	10	3041
9:15-10:15	170	1622	0	0	1792	0	1029	0	0	1029	0	0	0	0	0	12	0	0	0	12	2833
9:30-10:30	150	1622	0	0	1772	0	1004	0	0	1004	0	0	0	0	0	16	0	0	0	16	2792
9:45-10:45	120	1601	0	0	1721	0	984	0	0	984	0	0	0	0	0	30	0	0	0	30	2735
10:00-11:00	110	1648	0	0	1758	0	985	0	0	985	0	0	0	0	0	30	0	0	0	30	2773
10:15-11:15	94	1644	0	0	1738	0	1008	0	0	1008	0	0	0	0	0	29	0	0	0	29	2775
10:30-11:30	83	1552	0	0	1635	0	1083	0	0	1083	0	0	0	0	0	32	0	0	0	32	2750
10:45-11:45	80	1482	0	0	1562	0	1149	0	0	1149	0	0	0	0	0	19	0	0	0	19	2730
11:00-12:00	67	1362	0	0	1429	0	1179	0	0	1179	0	0	0	0	0	24	0	0	0	24	2632
11:15-12:15	65	1262	0	0	1327	0	1283	0	0	1283	0	0	0	0	0	28	0	0	0	28	2638
11:30-12:30	63	1239	0	0	1302	0	1336	0	0	1336	0	0	0	0	0	31	0	0	0	31	2669
11:45-12:45	64	1202	0	0	1266	0	1379	0	0	1379	0	0	0	0	0	36	0	0	0	36	2681
12:00-1:00	63	1186	0	0	1249	0	1403	0	0	1403	0	0	0	0	0	41	0	0	0	41	2693
12:15-1:15	58	1199	0	0	1257	0	1376	0	0	1376	0	0	0	0	0	42	0	0	0	42	2675
12:30-1:30	56	1194	0	0	1250	0	1357	0	0	1357	0	0	0	0	0	37	0	0	0	37	2644
12:45-1:45	45	1192	0	0	1237	0	1316	0	0	1316	0	0	0	0	0	40	0	0	0	40	2593
1:00-2:00	41	1168	0	0	1209	0	1341	0	0	1341	0	0	0	0	0	35	0	0	0	35	2585
1:15-2:15	34	1174	0	0	1208	0	1386	0	0	1386	0	0	0	0	0	49	0	0	0	49	2643
1:30-2:30	34	1180	0	0	1214	0	1411	0	0	1411	0	0	0	0	0	60	0	0	0	60	2685
1:45-2:45	31	1209	0	0	1240	0	1471	0	0	1471	0	0	0	0	0	73	0	0	0	73	2784
2:00-3:00	27	1275	0	0	1302	0	1516	0	0	1516	0	0	0	0	0	72	0	0	0	72	2890
2:15-3:15	26	1369	0	0	1395	0	1521	0	0	1521	0	0	0	0	0	66	0	0	0	66	2982
2:30-3:30	21	1404	0	0	1425	0	1504	0	0	1504	0	0	0	0	0	70	0	0	0	70	2999
2:45-3:45	23	1436	0	0	1459	0	1490	0	0	1490	0	0	0	0	0	73	0	0	0	73	3022
3:00-4:00	19	1432	0	0	1451	0	1390	0	0	1390	0	0	0	0	0	101	0	0	0	101	2942
3:15-4:15	18	1411	0	0	1429	0	1310	0	0	1310	0	0	0	0	0	107	0	0	0	107	2846
3:30-4:30	15	1445	0	0	1460	0	1293	0	0	1293	0	0	0	0	0	93	0	0	0	93	2846
3:45-4:45	12	1458	0	0	1470	0	1263	0	0	1263	0	0	0	0	0	71	0	0	0	71	2804
4:00-5:00	22	1448	0	0	1470	0	1289	0	0	1289	0	0	0	0	0	41	0	0	0	41	2800
4:15-5:15	19	1504	0	0	1523	0	1349	0	0	1349	0	0	0	0	0	23	0	0	0	23	2895
4:30-5:30	20	1460	0	0	1480	0	1435	0	0	1435	0	0	0	0	0	25	0	0	0	25	2940
4:45-5:45	25	1433	0	0	1458	0	1540	0	0	1540	0	0	0	0	0	27	0	0	0	27	3025
5:00-6:00	18	1370	0	0	1388	0	1632	0	0	1632	0	0	0	0	0	32	0	0	0	32	3052
5:15-6:15	21	1274	0	0	1295	0	1709	0	0	1709	0	0	0	0	0	32	0	0	0	32	3036
5:30-6:30	24	1284	0	0	1308	0	1666	0	0	1666	0	0	0	0	0	27	0	0	0	27	3001
5:45-6:45	22	1297	0	0	1319	0	1566	0	0	1566	0	0	0	0	0	23	0	0	0	23	2908
6:00-7:00	20	1313	0	0	1333	0	1447	0	0	1447	0	0	0	0	0	15	0	0	0	15	2795
6:15-7:15	19	1380	0	0	1399	0	1346	0	0	1346	0	0	0	0	0	13	0	0	0	13	2758
6:30-7:30	14	1282	0	0	1296	0	1294	0	0	1294	0	0	0	0	0	9	0	0	0	9	2599
6:45-7:45	9	1186	0	0	1195	0	1288	0	0	1288	0	0	0	0	0	6	0	0	0	6	2489
7:00-8:00	7	1102	0	0	1109	0	1261	0	0	1261	0	0	0	0	0	8	0	0	0	8	2378
7:15-8:15	4	945	0	0	949	0	1169	0	0	1169	0	0	0	0	0	7	0	0	0	7	2125
7:30-8:30	4	917	0	0	921	0	1099	0	0	1099	0	0	0	0	0	7	0	0	0	7	2027
7:45-8:45	3	882	0	0	885	0	1038	0	0	1038	0	0	0	0	0	7	0	0	0	7	1930
8:00-9:00	2	826	0	0	828	0	1026	0	0	1026	0	0	0	0	0	4	0	0	0	4	1858
8:15-9:15	2	808	0	0	810	0	1052	0	0	1052	0	0	0	0	0	3	0	0	0	3	1865
8:30-9:30	2	765	0	0	767	0	1015	0	0	1015	0	0	0	0	0	2	0	0	0	2	1784
8:45-9:45	3	711	0	0	714	0	951	0	0	951	0	0	0	0	0	2	0	0	0	2	1667
9:00-10:00	2	699	0	0	701	0	901	0	0	901	0	0	0	0	0	1	0	0	0	1	1603
9:15-10:15	2	650	0	0	652	0	831	0	0	831	0	0	0	0	0	1	0	0	0	1	1484
9:30-10:30	2	591	0	0	593	0	774	0	0	774	0	0	0	0	0	1	0	0	0	1	1368
9:45-10:45	1	526	0	0	527	0	735	0	0	735	0	0	0	0	0	0	0	0	0	0	1262
10:00-11:00	1	497	0	0	498	0	676	0	0	676	0	0	0	0	0	1	0	0	0	1	1175
10:15-11:15	1	419	0	0	420	0	584	0	0	584	0	0	0	0	0	2	0	0	0	2	1006
10:30-11:30	0	372	0	0	372	0	509	0	0	509	0	0	0	0	0	3	0	0	0	3	884
10:45-11:45	0	319	0	0	319	0	432	0	0	432	0	0	0	0	0	3	0	0	0	3	754
11:00-12:00	0	215	0	0	215	0	299	0	0	299	0	0									

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Metro Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	1	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	1	0	0	0
8:00-8:15	0	0	0	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	1	0	0	0
9:15-9:30	1	0	0	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	1	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	0	0	0	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	0	0
2:15-2:30	0	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	0	0
3:30-3:45	0	0	0	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	0	0
5:15-5:30	1	0	0	0
5:30-5:45	0	0	0	0
5:45-6:00	0	0	0	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	0	0
7:45-8:00	0	0	0	0
8:00-8:15	0	0	0	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	0	0
8:45-9:00	0	0	0	0
9:00-9:15	0	0	0	0
9:15-9:30	0	0	0	0
9:30-9:45	0	0	0	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
TOTALS	5	0	1	0

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Metro Access
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	EAST LEG		Metro Access WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
	AM			
6:00-6:15			3	1
6:15-6:30			4	1
6:30-6:45			8	1
6:45-7:00			11	1
7:00-7:15			13	0
7:15-7:30			18	0
7:30-7:45			23	0
7:45-8:00			22	0
8:00-8:15			15	0
8:15-8:30			26	0
8:30-8:45			35	0
8:45-9:00			24	1
9:00-9:15			26	0
9:15-9:30			16	0
9:30-9:45			6	0
9:45-10:00			6	0
10:00-10:15			13	3
10:15-10:30			6	0
10:30-10:45			2	3
10:45-11:00			9	2
11:00-11:15			5	0
11:15-11:30			3	0
11:30-11:45			3	0
11:45-12:00			3	0
12:00-12:15			3	0
12:15-12:30			7	1
12:30-12:45			8	0
12:45-1:00			3	1
1:00-1:15			6	0
1:15-1:30			4	0
1:30-1:45			7	0
1:45-2:00			12	0
2:00-2:15			6	1
2:15-2:30			6	1
2:30-2:45			7	0
2:45-3:00			10	0
3:00-3:15			11	1
3:15-3:30			13	0
3:30-3:45			32	0
3:45-4:00			15	0
4:00-4:15			14	0
4:15-4:30			12	1
4:30-4:45			15	3
4:45-5:00			11	3
5:00-5:15			24	1
5:15-5:30			31	0
5:30-5:45			24	0
5:45-6:00			12	0
6:00-6:15			22	1
6:15-6:30			12	4
6:30-6:45			7	0
6:45-7:00			13	0
7:00-7:15			17	2
7:15-7:30			8	1
7:30-7:45			18	5
7:45-8:00			7	0
8:00-8:15			4	0
8:15-8:30			6	0
8:30-8:45			9	0
8:45-9:00			5	0
9:00-9:15			7	1
9:15-9:30			2	5
9:30-9:45			2	0
9:45-10:00			3	0
10:00-10:15			5	0
10:15-10:30			6	0
10:30-10:45			2	0
10:45-11:00			2	0
11:00-11:15			5	0
11:15-11:30			0	0
11:30-11:45			2	0
11:45-12:00			1	0
TOTALS	0	0	758	0

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

7

Intersection of: MD 355
and: Jones Bridge Rd - Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Jones Bridge Rd					TRAFFIC FROM WEST on: Center Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	17	125	27	4	173	19	65	7	0	91	76	32	23	0	131	0	2	6	0	8	403
6:15-6:30	20	150	42	0	212	21	88	2	0	111	93	59	56	0	208	1	1	5	0	7	538
6:30-6:45	20	182	31	0	233	23	101	5	0	129	62	82	44	0	188	5	4	3	0	12	562
6:45-7:00	28	267	36	2	333	47	127	10	1	185	63	72	57	0	192	1	3	2	0	6	716
7:00-7:15	28	338	44	1	411	66	209	10	0	285	58	58	89	0	205	3	7	5	0	15	916
7:15-7:30	24	366	57	1	448	89	250	11	3	353	45	52	73	0	170	0	6	2	0	8	979
7:30-7:45	17	383	49	1	450	82	275	14	0	371	51	65	93	0	209	2	6	1	0	9	1039
7:45-8:00	25	444	48	0	517	85	294	18	0	397	63	71	142	0	276	4	2	3	0	9	1199
8:00-8:15	20	433	60	1	514	91	267	13	0	371	54	68	131	0	253	2	4	9	0	15	1153
8:15-8:30	22	467	54	1	544	94	241	20	2	357	51	73	162	0	286	4	5	6	0	15	1202
8:30-8:45	19	449	40	1	509	76	242	18	2	338	50	75	174	0	299	7	3	4	0	14	1160
8:45-9:00	15	463	42	0	520	73	237	15	1	326	43	61	163	0	267	4	2	3	0	9	1122
9:00-9:15	32	493	37	0	562	64	204	14	4	286	54	73	216	0	343	3	7	4	0	14	1205
9:15-9:30	37	356	31	1	425	71	188	14	0	273	44	50	161	0	255	8	1	8	0	17	970
9:30-9:45	25	386	31	1	443	60	197	16	3	276	67	67	178	0	312	4	2	6	0	12	1043
9:45-10:00	32	338	24	2	396	47	215	7	4	273	52	43	132	0	227	1	4	5	0	10	906
10:00-10:15	34	332	24	5	395	60	179	13	1	253	39	28	115	0	182	4	9	6	0	19	849
10:15-10:30	29	357	34	4	424	56	185	6	1	248	37	19	122	0	178	10	13	6	0	29	879
10:30-10:45	22	351	36	11	420	59	182	5	4	250	50	15	81	0	146	5	5	6	0	16	832
10:45-11:00	26	385	40	1	452	68	217	4	1	290	37	23	99	0	159	2	7	5	0	14	915
11:00-11:15	7	316	40	3	366	58	213	6	2	279	39	10	71	0	120	7	9	9	0	25	790
11:15-11:30	5	312	25	4	346	73	265	6	2	346	35	11	100	0	146	9	9	11	0	29	867
11:30-11:45	9	282	34	2	327	59	272	8	3	342	32	8	92	0	132	15	13	13	0	41	842
11:45-12:00	8	301	27	7	343	55	269	6	4	334	44	20	105	0	169	8	8	9	0	25	871
12:00-12:15	6	228	35	4	273	83	307	5	2	397	64	14	85	0	163	21	9	7	0	37	870
12:15-12:30	4	274	35	9	322	60	310	5	3	378	54	5	68	0	127	13	16	12	0	41	868
12:30-12:45	6	252	41	7	306	77	283	5	2	367	49	12	83	0	144	7	14	11	0	32	849
12:45-1:00	8	295	38	6	347	64	287	10	1	362	42	12	69	0	123	8	13	8	0	29	861
1:00-1:15	6	230	24	2	262	81	273	13	0	367	41	12	55	0	108	7	25	22	0	54	791
1:15-1:30	7	272	36	6	321	83	239	7	3	332	39	15	55	0	109	7	26	15	0	48	810
1:30-1:45	11	251	41	10	313	79	228	7	4	318	38	19	58	0	115	9	18	16	0	43	789
1:45-2:00	3	247	41	11	302	85	238	11	1	335	65	16	61	0	142	9	21	16	0	46	825
2:00-2:15	5	245	43	11	304	80	299	3	1	383	56	6	71	0	133	2	53	35	0	90	910
2:15-2:30	7	262	67	5	341	88	300	3	0	391	53	10	72	0	135	6	40	18	0	64	931
2:30-2:45	5	262	65	8	340	87	286	2	1	376	58	3	79	0	140	12	49	14	0	75	931
2:45-3:00	1	254	89	8	352	80	306	2	1	389	58	2	75	0	135	8	41	25	0	74	950
3:00-3:15	6	269	89	5	369	100	255	2	1	358	63	10	66	0	139	17	91	32	0	140	1006
3:15-3:30	3	316	75	7	401	104	286	4	2	396	56	2	68	0	126	6	45	22	0	73	996
3:30-3:45	1	287	79	9	376	83	280	3	2	368	58	6	72	0	136	17	106	27	0	150	1030
3:45-4:00	2	305	91	15	413	79	209	1	0	289	76	3	80	0	159	31	86	25	0	142	1003
4:00-4:15	4	303	74	15	396	107	217	6	0	330	60	4	70	0	134	24	83	23	0	130	990
4:15-4:30	3	282	87	7	379	109	254	4	2	369	68	4	87	0	159	18	59	22	0	99	1006
4:30-4:45	2	278	80	1	361	124	281	0	4	409	51	6	96	0	153	14	74	22	0	110	1033
4:45-5:00	4	315	60	1	380	128	250	3	0	381	54	5	94	0	153	20	76	25	0	121	1035
5:00-5:15	1	281	64	2	348	162	303	1	2	468	40	4	86	0	130	18	82	28	0	128	1074
5:15-5:30	6	342	69	4	421	147	334	4	2	487	50	4	86	0	140	24	92	42	0	158	1206
5:30-5:45	5	323	56	4	388	178	325	2	1	506	51	1	85	0	137	27	83	38	0	148	1179
5:45-6:00	1	318	59	5	383	173	319	1	3	496	56	2	84	0	142	22	67	37	0	126	1147
6:00-6:15	2	296	51	4	353	150	348	3	1	502	49	6	83	0	138	27	90	39	0	156	1149
6:15-6:30	1	298	55	2	356	144	381	3	0	528	55	4	88	0	147	14	38	27	0	79	1110
6:30-6:45	2	285	60	1	348	117	385	0	0	502	44	1	75	0	120	8	24	21	0	53	1023
6:45-7:00	0	248	50	2	300	135	357	0	0	492	43	2	98	0	143	7	31	14	0	52	987
13 Hr Totals	633	16094	2567	224	####	4483	####	358	77	18040	2730	1325	4828	0	8883	512	1584	780	0	2876	49317

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

7

Intersection of: MD 355
and: Jones Bridge Rd - Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Jones Bridge Rd					TRAFFIC FROM WEST on: Center Dr					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals																					
6:00-7:00	85	724	136	6	951	110	381	24	1	516	294	245	180	0	719	7	10	16	0	33	2219
6:15-7:15	96	937	153	3	1189	157	525	27	1	710	276	271	246	0	793	10	15	15	0	40	2732
6:30-7:30	100	1153	168	4	1425	225	687	36	4	952	228	264	263	0	755	9	20	12	0	41	3173
6:45-7:45	97	1354	186	5	1642	284	861	45	4	1194	217	247	312	0	776	6	22	10	0	38	3650
7:00-8:00	94	1531	198	3	1826	322	1028	53	3	1406	217	246	397	0	860	9	21	11	0	41	4133
7:15-8:15	86	1626	214	3	1929	347	1086	56	3	1492	213	256	439	0	908	8	18	15	0	41	4370
7:30-8:30	84	1727	211	3	2025	352	1077	65	2	1496	219	277	528	0	1024	12	17	19	0	48	4593
7:45-8:45	86	1793	202	3	2084	346	1044	69	4	1463	218	287	609	0	1114	17	14	22	0	53	4714
8:00-9:00	76	1812	196	3	2087	334	987	66	5	1392	198	277	630	0	1105	17	14	22	0	53	4637
8:15-9:15	88	1872	173	2	2135	307	924	67	9	1307	198	282	715	0	1195	18	17	17	0	52	4689
8:30-9:30	103	1761	150	2	2016	284	871	61	7	1223	191	259	714	0	1164	22	13	19	0	54	4457
8:45-9:45	109	1698	141	2	1950	268	826	59	8	1161	208	251	718	0	1177	19	12	21	0	52	4340
9:00-10:00	126	1573	123	4	1826	242	804	51	11	1108	217	233	687	0	1137	16	14	23	0	53	4124
9:15-10:15	128	1412	110	9	1659	238	779	50	8	1075	202	188	586	0	976	17	16	25	0	58	3768
9:30-10:30	120	1413	113	12	1658	223	776	42	9	1050	195	157	547	0	899	19	28	23	0	70	3677
9:45-10:45	117	1378	118	22	1635	222	761	31	10	1024	178	105	450	0	733	20	31	23	0	74	3466
10:00-11:00	111	1425	134	21	1691	243	763	28	7	1041	163	85	417	0	665	21	34	23	0	78	3475
10:15-11:15	84	1409	150	19	1662	241	797	21	8	1067	163	67	373	0	603	24	34	26	0	84	3416
10:30-11:30	60	1364	141	19	1584	258	877	21	9	1165	161	59	351	0	571	23	30	31	0	84	3404
10:45-11:45	47	1295	139	10	1491	258	967	24	8	1257	143	52	362	0	557	33	38	38	0	109	3414
11:00-12:00	29	1211	126	16	1382	245	1019	26	11	1301	150	49	368	0	567	39	39	42	0	120	3370
11:15-12:15	28	1123	121	17	1289	270	1113	25	11	1419	175	53	382	0	610	53	39	40	0	132	3450
11:30-12:30	27	1085	131	22	1265	257	1158	24	12	1451	194	47	350	0	591	57	46	41	0	144	3451
11:45-12:45	24	1055	138	27	1244	275	1169	21	11	1476	211	51	341	0	603	49	47	39	0	135	3458
12:00-1:00	24	1049	149	26	1248	284	1187	25	8	1504	209	43	305	0	557	49	52	38	0	139	3448
12:15-1:15	24	1051	138	24	1237	282	1153	33	6	1474	186	41	275	0	502	35	68	53	0	156	3369
12:30-1:30	27	1049	139	21	1236	305	1082	35	6	1428	171	51	262	0	484	29	78	56	0	163	3311
12:45-1:45	32	1048	139	24	1243	307	1027	37	8	1379	160	58	237	0	455	31	82	61	0	174	3251
1:00-2:00	27	1000	142	29	1198	328	978	38	8	1352	183	62	229	0	474	32	90	69	0	191	3215
1:15-2:15	26	1015	161	38	1240	327	1004	28	9	1368	198	56	245	0	499	27	118	82	0	227	3334
1:30-2:30	26	1005	192	37	1260	332	1065	24	6	1427	212	51	262	0	525	26	132	85	0	243	3455
1:45-2:45	20	1016	216	35	1287	340	1123	19	3	1485	232	35	283	0	550	29	163	83	0	275	3597
2:00-3:00	18	1023	264	32	1337	335	1191	10	3	1539	225	21	297	0	543	28	183	92	0	303	3722
2:15-3:15	19	1047	310	26	1402	355	1147	9	3	1514	232	25	292	0	549	43	221	89	0	353	3818
2:30-3:30	15	1101	318	28	1462	371	1133	10	5	1519	235	17	288	0	540	43	226	93	0	362	3883
2:45-3:45	11	1126	332	29	1498	367	1127	11	6	1511	235	20	281	0	536	48	283	106	0	437	3982
3:00-4:00	12	1177	334	36	1559	366	1030	10	5	1411	253	21	286	0	560	71	328	106	0	505	4035
3:15-4:15	10	1211	319	46	1586	373	992	14	4	1383	250	15	290	0	555	78	320	97	0	495	4019
3:30-4:30	10	1177	331	46	1564	378	960	14	4	1356	262	17	309	0	588	90	334	97	0	521	4029
3:45-4:45	11	1168	332	38	1549	419	961	11	6	1397	255	17	333	0	605	87	302	92	0	481	4032
4:00-5:00	13	1178	301	24	1516	468	1002	13	6	1489	233	19	347	0	599	76	292	92	0	460	4064
4:15-5:15	10	1156	291	11	1468	523	1088	8	8	1627	213	19	363	0	595	70	291	97	0	458	4148
4:30-5:30	13	1216	273	8	1510	561	1168	8	8	1745	195	19	362	0	576	76	324	117	0	517	4348
4:45-5:45	16	1261	249	11	1537	615	1212	10	5	1842	195	14	351	0	560	89	333	133	0	555	4494
5:00-6:00	13	1264	248	15	1540	660	1281	8	8	1957	197	11	341	0	549	91	324	145	0	560	4606
5:15-6:15	14	1279	235	17	1545	648	1326	10	7	1991	206	13	338	0	557	100	332	156	0	588	4681
5:30-6:30	9	1235	221	15	1480	645	1373	9	5	2032	211	13	340	0	564	90	278	141	0	509	4585
5:45-6:45	6	1197	225	12	1440	584	1433	7	4	2028	204	13	330	0	547	71	219	124	0	414	4429
6:00-7:00	5	1127	216	9	1357	546	1471	6	1	2024	191	13	344	0	548	56	183	101	0	340	4269
PEAK HOUR																					
7:45-8:45	86	1793	202	3	2084	346	1044	69	4	1463	218	287	609	0	1114	17	14	22	0	53	4714
5:15-6:15	14	1279	235	17	1545	648	1326	10	7	1991	206	13	338	0	557	100	332	156	0	588	4681

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Jones Bridge Rd - Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 355		MD 355	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	1	0
6:15-6:30	1	0	0	0
6:30-6:45	0	0	0	1
6:45-7:00	0	0	0	0
7:00-7:15	1	0	3	0
7:15-7:30	7	0	5	0
7:30-7:45	6	0	4	0
7:45-8:00	4	0	5	0
8:00-8:15	3	0	7	0
8:15-8:30	2	0	7	0
8:30-8:45	1	0	5	0
8:45-9:00	1	0	10	0
9:00-9:15	0	0	3	0
9:15-9:30	0	0	3	1
9:30-9:45	0	0	3	1
9:45-10:00	0	0	3	1
10:00-10:15	0	0	4	0
10:15-10:30	0	0	1	1
10:30-10:45	0	0	0	0
10:45-11:00	0	0	1	0
11:00-11:15	1	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	1	0
11:45-12:00	0	0	2	0
12:00-12:15	1	0	0	0
12:15-12:30	0	0	0	0
12:30-12:45	1	0	2	0
12:45-1:00	0	1	3	1
1:00-1:15	1	0	1	0
1:15-1:30	0	0	2	0
1:30-1:45	0	0	5	0
1:45-2:00	1	0	1	0
2:00-2:15	0	0	3	0
2:15-2:30	0	0	0	1
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	1	0	1	0
3:15-3:30	0	0	0	0
3:30-3:45	0	0	2	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	2	0
4:15-4:30	0	0	1	1
4:30-4:45	1	0	6	0
4:45-5:00	0	0	2	0
5:00-5:15	1	0	0	0
5:15-5:30	0	0	0	0
5:30-5:45	1	0	0	0
5:45-6:00	0	0	3	3
6:00-6:15	0	0	0	0
6:15-6:30	1	0	4	0
6:30-6:45	1	0	2	0
6:45-7:00	0	0	4	0
TOTALS	37	1	112	11

PEDESTRIAN OBSERVATIONS

Intersection of: MD 355
and: Jones Bridge Rd - Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Jones Bridge Rd		Center Dr	
	EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	2	0
6:15-6:30	0	0	5	0
6:30-6:45	2	1	7	0
6:45-7:00	0	0	5	0
7:00-7:15	1	0	13	0
7:15-7:30	3	0	18	0
7:30-7:45	1	0	19	1
7:45-8:00	3	0	15	1
8:00-8:15	1	0	12	0
8:15-8:30	0	0	9	0
8:30-8:45	0	0	22	0
8:45-9:00	0	0	16	0
9:00-9:15	0	0	2	0
9:15-9:30	2	0	10	0
9:30-9:45	0	0	1	2
9:45-10:00	1	0	5	0
10:00-10:15	1	0	14	0
10:15-10:30	0	0	8	0
10:30-10:45	0	0	4	0
10:45-11:00	0	0	8	1
11:00-11:15	0	0	0	0
11:15-11:30	1	0	2	0
11:30-11:45	0	0	3	0
11:45-12:00	0	0	2	0
12:00-12:15	1	0	4	0
12:15-12:30	1	0	12	0
12:30-12:45	1	0	7	0
12:45-1:00	4	0	6	2
1:00-1:15	0	0	3	1
1:15-1:30	0	0	3	0
1:30-1:45	1	0	8	1
1:45-2:00	1	0	14	1
2:00-2:15	3	0	5	0
2:15-2:30	0	0	6	1
2:30-2:45	1	0	8	0
2:45-3:00	0	0	6	0
3:00-3:15	0	0	6	0
3:15-3:30	0	0	8	0
3:30-3:45	5	0	22	0
3:45-4:00	0	0	16	0
4:00-4:15	2	2	6	1
4:15-4:30	1	1	3	0
4:30-4:45	11	1	11	3
4:45-5:00	5	0	12	2
5:00-5:15	0	0	17	1
5:15-5:30	0	0	25	2
5:30-5:45	0	0	18	1
5:45-6:00	1	0	21	2
6:00-6:15	0	0	15	3
6:15-6:30	0	0	18	1
6:30-6:45	0	0	7	2
6:45-7:00	0	0	8	1
TOTALS	54	5	497	30

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

8

Intersection of: Cedar Ln
and: Locust Ave-West Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: Locust Ave					TRAFFIC FROM SOUTH on: West Dr					TRAFFIC FROM EAST on: Cedar Ln					TRAFFIC FROM WEST on: Cedar Ln					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	0	0	3	0	3	2	0	0	0	2	3	22	0	1	26	0	26	0	0	26	57
6:15-6:30	0	0	2	0	2	1	0	0	0	1	0	54	0	0	54	0	34	1	0	35	92
6:30-6:45	2	0	0	0	2	0	0	0	0	0	2	47	0	0	49	0	31	3	1	35	86
6:45-7:00	2	0	1	0	3	0	0	0	0	0	2	62	0	0	64	0	40	2	0	42	109
7:00-7:15	1	2	1	0	4	0	0	0	0	0	5	51	3	2	61	3	49	0	0	52	117
7:15-7:30	4	0	7	0	11	0	0	0	0	0	3	72	5	0	80	2	71	0	0	73	164
7:30-7:45	2	0	2	0	4	0	0	0	0	0	1	96	4	0	101	3	109	3	0	115	220
7:45-8:00	3	0	5	0	8	2	0	0	0	2	6	88	4	0	98	3	103	3	0	109	217
8:00-8:15	4	1	4	0	9	1	0	1	0	2	3	107	7	0	117	3	74	2	0	79	207
8:15-8:30	6	0	9	0	15	0	0	0	0	0	7	107	9	0	123	2	80	1	0	83	221
8:30-8:45	2	4	8	0	14	1	0	0	0	1	11	93	7	0	111	4	71	1	0	76	202
8:45-9:00	4	0	9	0	13	0	0	0	0	0	1	106	6	0	113	4	80	1	0	85	211
9:00-9:15	6	1	5	0	12	0	0	0	0	0	4	70	6	0	80	8	86	0	0	94	186
9:15-9:30	5	1	3	0	9	2	0	0	0	2	3	69	9	0	81	5	75	3	0	83	175
9:30-9:45	7	0	4	0	11	0	0	0	0	0	6	70	7	1	84	2	75	3	0	80	175
9:45-10:00	6	1	6	0	13	0	0	0	0	0	3	58	6	0	67	6	58	2	0	66	146
10:00-10:15	2	0	8	0	10	0	0	0	0	0	5	63	3	0	71	1	53	2	0	56	137
10:15-10:30	8	0	9	0	17	1	0	0	0	1	6	45	4	0	55	1	51	2	0	54	127
10:30-10:45	3	1	2	0	6	0	1	0	0	1	3	45	3	0	51	6	52	1	0	59	117
10:45-11:00	7	0	0	0	7	0	0	0	0	0	1	54	5	0	60	1	70	3	0	74	141
11:00-11:15	1	1	1	0	3	0	1	0	0	1	5	67	5	1	78	3	55	0	0	58	140
11:15-11:30	1	0	0	0	1	0	0	0	0	0	2	70	3	0	75	1	53	1	0	55	131
11:30-11:45	0	1	0	0	1	0	0	0	0	0	0	41	1	0	42	2	55	5	0	62	105
11:45-12:00	1	0	2	0	3	1	0	0	0	1	7	59	3	0	69	2	47	0	0	49	122
12:00-12:15	1	0	3	0	4	0	0	0	0	0	6	56	6	0	68	0	66	2	0	68	140
12:15-12:30	1	1	4	0	6	1	0	0	0	1	3	71	3	0	77	1	60	2	1	64	148
12:30-12:45	1	0	2	0	3	0	0	0	0	0	8	48	2	0	58	0	57	3	0	60	121
12:45-1:00	0	0	2	0	2	0	0	1	0	1	7	57	6	0	70	0	67	2	0	69	142
1:00-1:15	2	0	3	0	5	1	0	0	0	1	6	49	4	0	59	2	66	2	1	71	136
1:15-1:30	3	0	4	0	7	0	0	1	0	1	5	42	4	0	51	1	66	3	0	70	129
1:30-1:45	3	0	6	0	9	0	0	0	0	0	3	42	6	0	51	1	70	3	0	74	134
1:45-2:00	2	2	4	0	8	0	0	0	0	0	3	53	1	0	57	0	58	0	0	58	123
2:00-2:15	4	1	7	0	12	0	0	0	0	0	1	46	1	0	48	0	77	3	0	80	140
2:15-2:30	1	0	7	0	8	0	0	0	0	0	9	79	3	0	91	0	96	6	0	102	201
2:30-2:45	2	2	8	0	12	0	0	0	0	0	6	64	4	0	74	1	138	3	0	142	228
2:45-3:00	3	0	2	0	5	0	0	1	0	1	3	79	0	0	82	2	148	3	0	153	241
3:00-3:15	6	0	8	0	14	2	0	0	0	2	3	63	4	0	70	3	166	3	0	172	258
3:15-3:30	4	0	8	0	12	2	1	0	0	3	8	83	2	0	93	0	167	6	0	173	281
3:30-3:45	3	0	7	0	10	1	0	0	0	1	2	74	3	0	79	1	204	4	0	209	299
3:45-4:00	4	0	7	0	11	0	0	0	0	0	5	73	0	0	78	2	203	5	0	210	299
4:00-4:15	3	0	7	0	10	0	0	1	0	1	6	73	1	0	80	1	188	4	0	193	284
4:15-4:30	3	0	4	0	7	0	1	0	0	1	4	71	1	0	76	2	208	3	0	213	297
4:30-4:45	3	0	5	0	8	1	0	0	0	1	7	68	2	0	77	0	189	8	0	197	283
4:45-5:00	5	0	5	0	10	0	2	0	0	2	2	65	1	0	68	1	191	5	0	197	277
5:00-5:15	3	0	10	0	13	0	0	0	0	0	2	82	0	0	84	2	174	6	0	182	279
5:15-5:30	3	0	6	0	9	0	0	0	0	0	12	72	2	1	87	1	182	0	0	183	279
5:30-5:45	2	0	5	0	7	0	1	0	0	1	6	72	2	0	80	0	155	2	0	157	245
5:45-6:00	3	0	3	0	6	0	0	1	0	1	1	75	0	1	77	0	146	6	1	153	237
6:00-6:15	4	0	6	0	10	3	3	0	0	6	9	69	3	0	81	2	148	6	1	157	254
6:15-6:30	4	0	3	0	7	1	1	0	0	2	5	75	1	0	81	1	128	2	0	131	221
6:30-6:45	4	0	5	0	9	0	0	0	0	0	6	48	0	0	54	0	108	4	0	112	175
6:45-7:00	0	0	3	0	3	0	0	1	0	1	7	63	1	0	71	2	98	3	0	103	178
13 Hr Totals	154	19	235	0	408	23	11	7	0	41	234	3428	163	7	3832	88	5122	138	5	5353	9634

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

8 Intersection of: Cedar Ln
and: Locust Ave-West Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW
Day: Thursday



TIME	TRAFFIC FROM NORTH on: Locust Ave					TRAFFIC FROM SOUTH on: West Dr					TRAFFIC FROM EAST on: Cedar Ln					TRAFFIC FROM WEST on: Cedar Ln					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals																					
6:00-7:00	4	0	6	0	10	3	0	0	0	3	7	185	0	1	193	0	131	6	1	138	344
6:15-7:15	5	2	4	0	11	1	0	0	0	1	9	214	3	2	228	3	154	6	1	164	404
6:30-7:30	9	2	9	0	20	0	0	0	0	0	12	232	8	2	254	5	191	5	1	202	476
6:45-7:45	9	2	11	0	22	0	0	0	0	0	11	281	12	2	306	8	269	5	0	282	610
7:00-8:00	10	2	15	0	27	2	0	0	0	2	15	307	16	2	340	11	332	6	0	349	718
7:15-8:15	13	1	18	0	32	3	0	1	0	4	13	363	20	0	396	11	357	8	0	376	808
7:30-8:30	15	1	20	0	36	3	0	1	0	4	17	398	24	0	439	11	366	9	0	386	865
7:45-8:45	15	5	26	0	46	4	0	1	0	5	27	395	27	0	449	12	328	7	0	347	847
8:00-9:00	16	5	30	0	51	2	0	1	0	3	22	413	29	0	464	13	305	5	0	323	841
8:15-9:15	18	5	31	0	54	1	0	0	0	1	23	376	28	0	427	18	317	3	0	338	820
8:30-9:30	17	6	25	0	48	3	0	0	0	3	19	338	28	0	385	21	312	5	0	338	774
8:45-9:45	22	2	21	0	45	2	0	0	0	2	14	315	28	1	358	19	316	7	0	342	747
9:00-10:00	24	3	18	0	45	2	0	0	0	2	16	267	28	1	312	21	294	8	0	323	682
9:15-10:15	20	2	21	0	43	2	0	0	0	2	17	260	25	1	303	14	261	10	0	285	633
9:30-10:30	23	1	27	0	51	1	0	0	0	1	20	236	20	1	277	10	237	9	0	256	585
9:45-10:45	19	2	25	0	46	1	1	0	0	2	17	211	16	0	244	14	214	7	0	235	527
10:00-11:00	20	1	19	0	40	1	1	0	0	2	15	207	15	0	237	9	226	8	0	243	522
10:15-11:15	19	2	12	0	33	1	2	0	0	3	15	211	17	1	244	11	228	6	0	245	525
10:30-11:30	12	2	3	0	17	0	2	0	0	2	11	236	16	1	264	11	230	5	0	246	529
10:45-11:45	9	2	1	0	12	0	1	0	0	1	8	232	14	1	255	7	233	9	0	249	517
11:00-12:00	3	2	3	0	8	1	1	0	0	2	14	237	12	1	264	8	210	6	0	224	498
11:15-12:15	3	1	5	0	9	1	0	0	0	1	15	226	13	0	254	5	221	8	0	234	498
11:30-12:30	3	2	9	0	14	2	0	0	0	2	16	227	13	0	256	5	228	9	1	243	515
11:45-12:45	4	1	11	0	16	2	0	0	0	2	24	234	14	0	272	3	230	7	1	241	531
12:00-1:00	3	1	11	0	15	1	0	1	0	2	24	232	17	0	273	1	250	9	1	261	551
12:15-1:15	4	1	11	0	16	2	0	1	0	3	24	225	15	0	264	3	250	9	2	264	547
12:30-1:30	6	0	11	0	17	1	0	2	0	3	26	196	16	0	238	3	256	10	1	270	528
12:45-1:45	8	0	15	0	23	1	0	2	0	3	21	190	20	0	231	4	269	10	1	284	541
1:00-2:00	10	2	17	0	29	1	0	1	0	2	17	186	15	0	218	4	260	8	1	273	522
1:15-2:15	12	3	21	0	36	0	0	1	0	1	12	183	12	0	207	2	271	9	0	282	526
1:30-2:30	10	3	24	0	37	0	0	0	0	0	16	220	11	0	247	1	301	12	0	314	598
1:45-2:45	9	5	26	0	40	0	0	0	0	0	19	242	9	0	270	1	369	12	0	382	692
2:00-3:00	10	3	24	0	37	0	0	1	0	1	19	268	8	0	295	3	459	15	0	477	810
2:15-3:15	12	2	25	0	39	2	0	1	0	3	21	285	11	0	317	6	548	15	0	569	928
2:30-3:30	15	2	26	0	43	4	1	1	0	6	20	289	10	0	319	6	619	15	0	640	1008
2:45-3:45	16	0	25	0	41	5	1	1	0	7	16	299	9	0	324	6	685	16	0	707	1079
3:00-4:00	17	0	30	0	47	5	1	0	0	6	18	293	9	0	320	6	740	18	0	764	1137
3:15-4:15	14	0	29	0	43	3	1	1	0	5	21	303	6	0	330	4	762	19	0	785	1163
3:30-4:30	13	0	25	0	38	1	1	1	0	3	17	291	5	0	313	6	803	16	0	825	1179
3:45-4:45	13	0	23	0	36	1	1	1	0	3	22	285	4	0	311	5	788	20	0	813	1163
4:00-5:00	14	0	21	0	35	1	3	1	0	5	19	277	5	0	301	4	776	20	0	800	1141
4:15-5:15	14	0	24	0	38	1	3	0	0	4	15	286	4	0	305	5	762	22	0	789	1136
4:30-5:30	14	0	26	0	40	1	2	0	0	3	23	287	5	1	316	4	736	19	0	759	1118
4:45-5:45	13	0	26	0	39	0	3	0	0	3	22	291	5	1	319	4	702	13	0	719	1080
5:00-6:00	11	0	24	0	35	0	1	1	0	2	21	301	4	2	328	3	657	14	1	675	1040
5:15-6:15	12	0	20	0	32	3	4	1	0	8	28	288	7	2	325	3	631	14	2	650	1015
5:30-6:30	13	0	17	0	30	4	5	1	0	10	21	291	6	1	319	3	577	16	2	598	957
5:45-6:45	15	0	17	0	32	4	4	1	0	9	21	267	4	1	293	3	530	18	2	553	887
6:00-7:00	12	0	17	0	29	4	4	1	0	9	27	255	5	0	287	5	482	15	1	503	828
PEAK HOUR																					
7:30-8:30	15	1	20	0	36	3	0	1	0	4	17	398	24	0	439	11	366	9	0	386	865
3:30-4:30	13	0	25	0	38	1	1	1	0	3	17	291	5	0	313	6	803	16	0	825	1179

PEDESTRIAN OBSERVATIONS

Intersection of: Cedar Ln
and: Locust Ave-West Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Locust Ave		West Dr	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	2	0
6:15-6:30	1	0	4	0
6:30-6:45	0	0	1	0
6:45-7:00	2	0	2	0
7:00-7:15	0	0	1	0
7:15-7:30	2	0	3	0
7:30-7:45	2	0	5	0
7:45-8:00	1	0	4	0
8:00-8:15	0	0	1	0
8:15-8:30	1	0	5	0
8:30-8:45	4	0	5	0
8:45-9:00	2	0	7	0
9:00-9:15	0	0	7	0
9:15-9:30	0	0	4	0
9:30-9:45	1	0	4	1
9:45-10:00	0	0	7	1
10:00-10:15	1	0	5	0
10:15-10:30	0	0	5	0
10:30-10:45	1	0	4	0
10:45-11:00	1	0	1	0
11:00-11:15	0	0	3	0
11:15-11:30	0	0	2	0
11:30-11:45	0	0	6	1
11:45-12:00	0	0	2	0
12:00-12:15	0	0	2	0
12:15-12:30	0	0	2	0
12:30-12:45	0	0	3	0
12:45-1:00	0	0	2	0
1:00-1:15	0	0	4	0
1:15-1:30	0	0	2	0
1:30-1:45	0	0	0	0
1:45-2:00	1	0	3	0
2:00-2:15	0	0	1	0
2:15-2:30	1	0	0	0
2:30-2:45	1	0	2	0
2:45-3:00	0	0	3	0
3:00-3:15	1	0	1	0
3:15-3:30	2	0	4	0
3:30-3:45	0	0	1	0
3:45-4:00	0	0	2	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	3	0
4:30-4:45	16	0	6	1
4:45-5:00	22	0	4	0
5:00-5:15	0	0	3	0
5:15-5:30	0	0	2	0
5:30-5:45	0	0	4	0
5:45-6:00	0	0	5	0
6:00-6:15	0	0	3	0
6:15-6:30	2	0	7	0
6:30-6:45	0	0	3	0
6:45-7:00	1	0	4	0
TOTALS	66	0	166	4

PEDESTRIAN OBSERVATIONS

Intersection of: Cedar Ln
and: Locust Ave-West Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Cedar Ln EAST LEG		Cedar Ln WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
	AM			
6:00-6:15	0	0	0	0
6:15-6:30	3	0	0	0
6:30-6:45	2	0	1	0
6:45-7:00	1	0	0	0
7:00-7:15	4	0	1	0
7:15-7:30	3	0	2	0
7:30-7:45	2	0	0	0
7:45-8:00	2	0	3	0
8:00-8:15	2	0	3	0
8:15-8:30	1	0	4	0
8:30-8:45	2	0	12	0
8:45-9:00	2	0	5	0
9:00-9:15	0	0	6	0
9:15-9:30	0	0	1	0
9:30-9:45	0	0	8	0
9:45-10:00	3	0	2	0
10:00-10:15	0	0	2	1
10:15-10:30	1	0	1	0
10:30-10:45	0	0	3	0
10:45-11:00	0	0	3	0
11:00-11:15	0	0	0	0
11:15-11:30	1	0	1	0
11:30-11:45	0	0	1	0
11:45-12:00	1	0	0	0
12:00-12:15	2	0	2	0
12:15-12:30	1	0	2	0
12:30-12:45	2	0	1	0
12:45-1:00	1	0	1	0
1:00-1:15	0	0	1	0
1:15-1:30	0	0	2	0
1:30-1:45	0	0	1	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	1	0
2:15-2:30	1	0	4	0
2:30-2:45	0	0	0	0
2:45-3:00	3	0	2	0
3:00-3:15	1	0	4	0
3:15-3:30	1	0	0	0
3:30-3:45	2	0	2	0
3:45-4:00	4	0	1	0
4:00-4:15	0	0	2	0
4:15-4:30	2	0	0	0
4:30-4:45	4	0	0	0
4:45-5:00	4	0	1	0
5:00-5:15	1	0	1	0
5:15-5:30	6	0	2	0
5:30-5:45	6	0	1	0
5:45-6:00	2	0	4	0
6:00-6:15	4	0	4	0
6:15-6:30	3	0	2	0
6:30-6:45	1	0	0	0
6:45-7:00	4	0	1	0
TOTALS	85	0	101	1

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

9

Intersection of: MD 187
and: Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: Center Dr					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15		119	57	1	177	10	53	0	63	2	0	0	2							0	242
6:15-6:30		157	73	0	230	11	57	0	68	6	1	0	7							0	305
6:30-6:45		237	111	1	349	12	92	0	104	7	1	0	8							0	461
6:45-7:00		275	125	0	400	13	101	0	114	9	2	0	11							0	525
7:00-7:15		305	99	0	404	18	122	0	140	5	0	0	5							0	549
7:15-7:30		363	105	0	468	27	156	0	183	10	0	0	10							0	661
7:30-7:45		433	134	0	567	30	231	0	261	15	0	0	15							0	843
7:45-8:00		493	143	1	637	39	225	0	264	10	0	0	10							0	911
8:00-8:15		528	110	1	639	46	249	1	296	9	1	0	10							0	945
8:15-8:30		489	131	0	620	50	227	0	277	8	5	1	14							0	911
8:30-8:45		445	122	0	567	41	254	0	295	11	3	0	14							0	876
8:45-9:00		411	131	3	545	28	224	0	252	18	2	0	20							0	817
9:00-9:15		491	129	0	620	30	220	0	250	15	0	1	16							0	886
9:15-9:30		483	98	1	582	26	234	1	261	11	4	0	15							0	858
9:30-9:45		431	80	1	512	23	217	1	241	18	4	0	22							0	775
9:45-10:00		367	58	1	426	11	209	0	220	10	1	0	11							0	657
10:00-10:15		337	40	1	378	5	179	0	184	15	3	0	18							0	580
10:15-10:30		300	41	1	342	9	152	0	161	18	5	0	23							0	526
10:30-10:45		289	34	2	325	1	200	0	201	17	3	0	20							0	546
10:45-11:00		274	24	2	300	5	222	0	227	33	3	0	36							0	563
11:00-11:15		242	19	1	262	4	211	0	215	23	2	2	27							0	504
11:15-11:30		285	21	4	310	7	228	2	237	22	3	1	26							0	573
11:30-11:45		252	15	1	268	2	232	0	234	24	8	0	32							0	534
11:45-12:00		279	14	2	295	7	263	0	270	26	5	1	32							0	597
12:00-12:15		268	22	5	295	6	302	0	308	34	8	0	42							0	645
12:15-12:30		274	28	3	305	5	276	1	282	28	4	0	32							0	619
12:30-12:45		245	18	1	264	4	286	0	290	37	6	1	44							0	598
12:45-1:00		258	30	2	290	5	281	0	286	31	1	0	32							0	608
1:00-1:15		237	31	0	268	3	245	1	249	19	3	0	22							0	539
1:15-1:30		243	18	2	263	1	263	2	266	37	3	0	40							0	569
1:30-1:45		209	24	2	235	6	286	0	292	45	4	0	49							0	576
1:45-2:00		241	24	1	266	6	270	0	276	52	1	0	53							0	595
2:00-2:15		202	12	0	214	4	289	0	293	50	6	0	56							0	563
2:15-2:30		264	14	0	278	5	313	0	318	42	11	0	53							0	649
2:30-2:45		271	20	1	292	5	325	0	330	78	13	0	91							0	713
2:45-3:00		277	19	2	298	1	311	0	312	71	5	0	76							0	686
3:00-3:15		297	13	4	314	4	338	1	343	79	10	0	89							0	746
3:15-3:30		285	15	3	303	3	297	0	300	84	11	0	95							0	698
3:30-3:45		305	18	1	324	5	475	0	480	165	17	0	182							0	986
3:45-4:00		275	11	5	291	2	427	0	429	142	19	0	161							0	881
4:00-4:15		276	8	2	286	1	442	0	443	127	14	0	141							0	870
4:15-4:30		271	10	2	283	5	503	0	508	137	23	0	160							0	951
4:30-4:45		269	9	0	278	5	456	0	461	158	19	0	177							0	916
4:45-5:00		281	9	1	291	3	446	0	449	162	22	0	184							0	924
5:00-5:15		274	11	2	287	3	486	0	489	148	18	0	166							0	942
5:15-5:30		335	9	2	346	2	481	1	484	147	30	0	177							0	1007
5:30-5:45		296	10	4	310	2	501	0	503	118	31	0	149							0	962
5:45-6:00		269	5	0	274	1	465	0	466	119	20	0	139							0	879
6:00-6:15		295	7	2	304	2	503	0	505	82	18	0	100							0	909
6:15-6:30		356	16	1	373	3	456	0	459	79	12	0	91							0	923
6:30-6:45		260	10	2	272	1	421	0	422	62	12	0	74							0	768
6:45-7:00		232	5	2	239	1	365	1	367	62	13	0	75							0	681
13 Hr Totals	0	15850	2340	76	18266	549	15067	0	12	15628	2737	0	410	7	3154	0	0	0	0	0	37048

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

9

Intersection of: MD 187
and: Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: Center Dr					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
	1 Hr Totals	0	788	366	2	1156	46	303	0	0	349	24	0	4	0	28	0	0	0	0	
6:00-7:00	0	974	408	1	1383	54	372	0	0	426	27	0	4	0	31	0	0	0	0	0	1840
6:30-7:30	0	1180	440	1	1621	70	471	0	0	541	31	0	3	0	34	0	0	0	0	0	2196
6:45-7:45	0	1376	463	0	1839	88	610	0	0	698	39	0	2	0	41	0	0	0	0	0	2578
7:00-8:00	0	1594	481	1	2076	114	734	0	0	848	40	0	0	0	40	0	0	0	0	0	2964
7:15-8:15	0	1817	492	2	2311	142	861	0	1	1004	44	0	1	0	45	0	0	0	0	0	3360
7:30-8:30	0	1943	518	2	2463	165	932	0	1	1098	42	0	6	1	49	0	0	0	0	0	3610
7:45-8:45	0	1955	506	2	2463	176	955	0	1	1132	38	0	9	1	48	0	0	0	0	0	3643
8:00-9:00	0	1873	494	4	2371	165	954	0	1	1120	46	0	11	1	58	0	0	0	0	0	3549
8:15-9:15	0	1836	513	3	2352	149	925	0	0	1074	52	0	10	2	64	0	0	0	0	0	3490
8:30-9:30	0	1830	480	4	2314	125	932	0	1	1058	55	0	9	1	65	0	0	0	0	0	3437
8:45-9:45	0	1816	438	5	2259	107	895	0	2	1004	62	0	10	1	73	0	0	0	0	0	3336
9:00-10:00	0	1772	365	3	2140	90	880	0	2	972	54	0	9	1	64	0	0	0	0	0	3176
9:15-10:15	0	1618	276	4	1898	65	839	0	2	906	54	0	12	0	66	0	0	0	0	0	2870
9:30-10:30	0	1435	219	4	1658	48	757	0	1	806	61	0	13	0	74	0	0	0	0	0	2538
9:45-10:45	0	1293	173	5	1471	26	740	0	0	766	60	0	12	0	72	0	0	0	0	0	2309
10:00-11:00	0	1200	139	6	1345	20	753	0	0	773	83	0	14	0	97	0	0	0	0	0	2215
10:15-11:15	0	1105	118	6	1229	19	785	0	0	804	91	0	13	2	106	0	0	0	0	0	2139
10:30-11:30	0	1090	98	9	1197	17	861	0	2	880	95	0	11	3	109	0	0	0	0	0	2186
10:45-11:45	0	1053	79	8	1140	18	893	0	2	913	102	0	16	3	121	0	0	0	0	0	2174
11:00-12:00	0	1058	69	8	1135	20	934	0	2	956	95	0	18	4	117	0	0	0	0	0	2208
11:15-12:15	0	1084	72	12	1168	22	1025	0	2	1049	106	0	24	2	132	0	0	0	0	0	2349
11:30-12:30	0	1073	79	11	1163	20	1073	0	1	1094	112	0	25	1	138	0	0	0	0	0	2395
11:45-12:45	0	1066	82	11	1159	22	1127	0	1	1150	125	0	23	2	150	0	0	0	0	0	2459
12:00-1:00	0	1045	98	11	1154	20	1145	0	1	1166	130	0	19	1	150	0	0	0	0	0	2470
12:15-1:15	0	1014	107	6	1127	17	1088	0	2	1107	115	0	14	1	130	0	0	0	0	0	2364
12:30-1:30	0	983	97	5	1085	13	1075	0	3	1091	124	0	13	1	138	0	0	0	0	0	2314
12:45-1:45	0	947	103	6	1056	15	1075	0	3	1093	132	0	11	0	143	0	0	0	0	0	2292
1:00-2:00	0	930	97	5	1032	16	1064	0	3	1083	153	0	11	0	164	0	0	0	0	0	2279
1:15-2:15	0	895	78	5	978	17	1108	0	2	1127	184	0	14	0	198	0	0	0	0	0	2303
1:30-2:30	0	916	74	3	993	21	1158	0	0	1179	189	0	22	0	211	0	0	0	0	0	2383
1:45-2:45	0	978	70	2	1050	20	1197	0	0	1217	222	0	31	0	253	0	0	0	0	0	2520
2:00-3:00	0	1014	65	3	1082	15	1238	0	0	1253	241	0	35	0	276	0	0	0	0	0	2611
2:15-3:15	0	1109	66	7	1182	15	1287	0	1	1303	270	0	39	0	309	0	0	0	0	0	2794
2:30-3:30	0	1130	67	10	1207	13	1271	0	1	1285	312	0	39	0	351	0	0	0	0	0	2843
2:45-3:45	0	1164	65	10	1239	13	1421	0	1	1435	399	0	43	0	442	0	0	0	0	0	3116
3:00-4:00	0	1162	57	13	1232	14	1537	0	1	1552	470	0	57	0	527	0	0	0	0	0	3311
3:15-4:15	0	1141	52	11	1204	11	1641	0	0	1652	518	0	61	0	579	0	0	0	0	0	3435
3:30-4:30	0	1127	47	10	1184	13	1847	0	0	1860	571	0	73	0	644	0	0	0	0	0	3688
3:45-4:45	0	1091	38	9	1138	13	1828	0	0	1841	564	0	75	0	639	0	0	0	0	0	3618
4:00-5:00	0	1097	36	5	1138	14	1847	0	0	1861	584	0	78	0	662	0	0	0	0	0	3661
4:15-5:15	0	1095	39	5	1139	16	1891	0	0	1907	605	0	82	0	687	0	0	0	0	0	3733
4:30-5:30	0	1159	38	5	1202	13	1869	0	1	1883	615	0	89	0	704	0	0	0	0	0	3789
4:45-5:45	0	1186	39	9	1234	10	1914	0	1	1925	575	0	101	0	676	0	0	0	0	0	3835
5:00-6:00	0	1174	35	8	1217	8	1933	0	1	1942	532	0	99	0	631	0	0	0	0	0	3790
5:15-6:15	0	1195	31	8	1234	7	1950	0	1	1958	466	0	99	0	565	0	0	0	0	0	3757
5:30-6:30	0	1216	38	7	1261	8	1925	0	0	1933	398	0	81	0	479	0	0	0	0	0	3673
5:45-6:45	0	1180	38	5	1223	7	1845	0	0	1852	342	0	62	0	404	0	0	0	0	0	3479
6:00-7:00	0	1143	38	7	1188	7	1745	0	1	1753	285	0	55	0	340	0	0	0	0	0	3281
PEAK HOUR																					
7:45-8:45	0	1955	506	2	2463	176	955	0	1	1132	38	0	9	1	48	0	0	0	0	0	3643
4:45-5:45	0	1186	39	9	1234	10	1914	0	1	1925	575	0	101	0	676	0	0	0	0	0	3835

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 187		MD 187	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	0	0	1	0
7:45-8:00	0	0	0	0
8:00-8:15	0	0	1	0
8:15-8:30	0	0	2	0
8:30-8:45	0	0	1	0
8:45-9:00	0	0	1	0
9:00-9:15	1	0	0	0
9:15-9:30	0	0	2	2
9:30-9:45	0	0	1	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	0	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	0	0
10:45-11:00	0	0	0	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	0	0	0	0
12:00-12:15	0	0	0	0
12:15-12:30	1	0	1	0
12:30-12:45	0	0	0	0
12:45-1:00	0	0	0	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	2	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	0	0
2:15-2:30	0	0	0	0
2:30-2:45	0	0	0	0
2:45-3:00	0	0	0	0
3:00-3:15	1	0	0	0
3:15-3:30	0	1	0	0
3:30-3:45	0	0	0	0
3:45-4:00	1	0	1	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	0	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	0	0
5:00-5:15	0	0	1	0
5:15-5:30	0	0	0	0
5:30-5:45	0	0	0	0
5:45-6:00	0	0	0	0
6:00-6:15	0	0	0	0
6:15-6:30	0	0	0	0
6:30-6:45	0	0	0	0
6:45-7:00	0	0	0	0
TOTALS	4	1	14	2

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: Center Dr
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Center Dr		WEST LEG	
	EAST LEG			
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0		
6:15-6:30	5	0		
6:30-6:45	9	2		
6:45-7:00	5	0		
7:00-7:15	2	0		
7:15-7:30	0	0		
7:30-7:45	2	0		
7:45-8:00	0	0		
8:00-8:15	2	2		
8:15-8:30	2	1		
8:30-8:45	1	0		
8:45-9:00	1	0		
9:00-9:15	2	0		
9:15-9:30	1	0		
9:30-9:45	3	1		
9:45-10:00	0	0		
10:00-10:15	0	0		
10:15-10:30	3	0		
10:30-10:45	1	1		
10:45-11:00	1	0		
11:00-11:15	0	0		
11:15-11:30	1	0		
11:30-11:45	0	0		
11:45-12:00	2	0		
12:00-12:15	1	0		
12:15-12:30	2	0		
12:30-12:45	2	0		
12:45-1:00	0	0		
1:00-1:15	0	0		
1:15-1:30	1	0		
1:30-1:45	2	0		
1:45-2:00	0	0		
2:00-2:15	1	0		
2:15-2:30	2	0		
2:30-2:45	3	0		
2:45-3:00	2	0		
3:00-3:15	2	0		
3:15-3:30	1	0		
3:30-3:45	5	0		
3:45-4:00	2	1		
4:00-4:15	1	0		
4:15-4:30	2	0		
4:30-4:45	6	0		
4:45-5:00	4	0		
5:00-5:15	3	2		
5:15-5:30	1	3		
5:30-5:45	3	2		
5:45-6:00	1	1		
6:00-6:15	6	1		
6:15-6:30	5	0		
6:30-6:45	11	1		
6:45-7:00	2	0		
TOTALS	114	18	0	0

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

10

Intersection of: MD 187
and: South Dr-Greentree Rd
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: South Dr					TRAFFIC FROM WEST on: Greentree Rd					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	11	94	0	1	106	0	41	2	0	43	0	0	0	0	0	5	0	13	0	18	167
6:15-6:30	6	153	0	7	166	0	51	6	0	57	0	0	0	0	0	9	0	13	0	22	245
6:30-6:45	9	203	0	2	214	0	82	4	0	86	0	0	0	0	0	15	1	21	0	37	337
6:45-7:00	25	280	0	1	306	0	98	6	0	104	0	0	0	0	0	23	0	14	0	37	447
7:00-7:15	17	243	0	3	263	0	96	7	0	103	0	0	0	0	0	37	0	38	0	75	441
7:15-7:30	31	360	0	0	391	0	138	15	2	155	0	0	0	1	1	33	0	47	0	80	627
7:30-7:45	45	344	0	0	389	0	183	15	0	198	0	0	0	0	0	54	0	67	0	121	708
7:45-8:00	51	463	0	2	516	0	215	13	2	230	0	0	0	0	0	55	0	59	0	114	860
8:00-8:15	48	427	0	1	476	0	205	10	0	215	0	0	1	0	1	60	0	68	0	128	820
8:15-8:30	25	496	0	1	522	0	232	15	0	247	0	0	0	0	0	79	0	59	0	138	907
8:30-8:45	16	364	0	3	383	0	222	15	0	237	1	0	1	0	2	76	0	56	0	132	754
8:45-9:00	21	378	0	4	403	0	200	17	0	217	0	0	0	0	0	79	0	54	0	133	753
9:00-9:15	22	422	0	2	446	0	178	11	1	190	0	0	1	0	1	75	0	48	0	123	760
9:15-9:30	42	470	0	5	517	0	212	10	0	222	0	0	1	0	1	60	0	49	0	109	849
9:30-9:45	21	388	0	2	411	0	186	14	1	201	0	0	1	0	1	55	0	53	0	108	721
9:45-10:00	16	350	0	0	366	0	180	9	1	190	0	0	0	0	0	57	2	29	0	88	644
10:00-10:15	22	302	0	1	325	0	148	11	0	159	0	0	0	0	0	29	0	29	0	58	542
10:15-10:30	18	310	0	0	328	0	163	12	0	175	0	0	0	0	0	28	0	14	0	42	545
10:30-10:45	17	295	0	0	312	0	183	12	0	195	0	0	0	0	0	23	0	13	0	36	543
10:45-11:00	14	260	0	0	274	0	189	14	0	203	0	0	0	0	0	22	0	30	0	52	529
11:00-11:15	18	224	0	2	244	0	178	19	3	200	0	0	0	0	0	22	0	24	0	46	490
11:15-11:30	26	243	0	2	271	0	210	22	1	233	0	0	0	0	0	24	0	27	0	51	555
11:30-11:45	15	257	0	0	272	0	221	19	1	241	0	0	0	0	0	13	0	21	0	34	547
11:45-12:00	12	291	0	0	303	0	246	21	0	267	0	0	0	0	0	20	0	30	0	50	620
12:00-12:15	30	244	0	0	274	0	286	17	0	303	0	0	0	0	0	17	0	20	0	37	614
12:15-12:30	31	222	0	2	255	0	246	38	1	285	0	0	0	0	0	10	0	21	0	31	571
12:30-12:45	15	207	0	0	222	0	258	19	1	278	0	0	0	0	0	19	0	29	0	48	548
12:45-1:00	20	251	0	2	273	0	258	23	0	281	0	0	0	0	0	17	0	20	0	37	591
1:00-1:15	19	221	0	1	241	0	241	29	1	271	0	0	0	0	0	15	0	22	0	37	549
1:15-1:30	18	222	0	0	240	0	244	12	1	257	0	0	0	0	0	22	0	24	0	46	543
1:30-1:45	19	188	0	0	207	0	248	27	0	275	0	0	0	0	0	21	0	33	0	54	536
1:45-2:00	23	220	0	1	244	0	239	18	0	257	0	0	0	0	0	28	0	21	0	49	550
2:00-2:15	17	184	0	1	202	0	288	28	0	316	0	0	0	0	0	15	0	19	0	34	552
2:15-2:30	28	243	0	1	272	0	304	25	2	331	0	0	0	0	0	16	0	21	0	37	640
2:30-2:45	36	248	0	2	286	0	294	35	1	330	0	0	1	0	1	21	0	46	0	67	684
2:45-3:00	31	254	0	1	286	0	282	50	1	333	1	1	0	0	2	25	0	23	0	48	669
3:00-3:15	40	254	0	2	296	0	354	41	0	395	5	6	0	0	11	15	0	45	0	60	762
3:15-3:30	45	267	0	0	312	0	249	54	3	306	3	5	3	0	11	18	0	61	0	79	708
3:30-3:45	36	248	0	1	285	0	401	74	0	475	9	20	3	0	32	13	0	31	0	44	836
3:45-4:00	40	281	0	4	325	0	354	45	0	399	3	19	0	0	22	23	0	45	0	68	814
4:00-4:15	33	229	0	1	263	0	381	45	0	426	5	25	5	0	35	26	0	38	0	64	788
4:15-4:30	43	276	0	2	321	0	460	63	1	524	4	26	7	0	37	24	0	52	0	76	958
4:30-4:45	43	236	0	4	283	0	410	58	1	469	5	31	8	0	44	18	1	46	0	65	861
4:45-5:00	36	265	0	0	301	0	404	59	1	464	4	24	4	0	32	17	0	52	0	69	866
5:00-5:15	45	225	0	0	270	0	441	71	1	513	7	31	9	0	47	24	0	41	0	65	895
5:15-5:30	43	315	0	2	360	0	444	79	1	524	7	30	5	0	42	19	0	45	0	64	990
5:30-5:45	44	260	0	0	304	0	445	77	0	522	7	37	5	0	49	27	0	40	0	67	942
5:45-6:00	49	275	0	2	326	0	441	84	0	525	4	29	3	0	36	23	0	35	0	58	945
6:00-6:15	42	245	0	2	289	0	431	59	0	490	2	20	2	0	24	16	0	54	0	70	873
6:15-6:30	37	287	0	1	325	0	443	57	0	500	0	9	4	0	13	23	0	39	0	62	900
6:30-6:45	35	236	0	0	271	0	385	45	0	430	0	8	1	0	9	19	0	28	0	47	757
6:45-7:00	28	226	0	1	255	0	344	40	1	385	0	5	1	0	6	25	0	33	0	58	704
13 Hr Totals	1474	14446	0	72	15992	0	13632	1571	29	15232	67	326	66	1	460	1509	4	1860	0	3373	35057

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

10

Intersection of: MD 187
and: South Dr-Greentree Rd
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: South Dr					TRAFFIC FROM WEST on: Greentree Rd					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
1 Hr Totals																					
6:00-7:00	51	730	0	11	792	0	272	18	0	290	0	0	0	0	0	52	1	61	0	114	1196
6:15-7:15	57	879	0	13	949	0	327	23	0	350	0	0	0	0	0	84	1	86	0	171	1470
6:30-7:30	82	1086	0	6	1174	0	414	32	2	448	0	0	0	1	1	108	1	120	0	229	1852
6:45-7:45	118	1227	0	4	1349	0	515	43	2	560	0	0	0	1	1	147	0	166	0	313	2223
7:00-8:00	144	1410	0	5	1559	0	632	50	4	686	0	0	0	1	1	179	0	211	0	390	2636
7:15-8:15	175	1594	0	3	1772	0	741	53	4	798	0	0	1	1	2	202	0	241	0	443	3015
7:30-8:30	169	1730	0	4	1903	0	835	53	2	890	0	0	1	0	1	248	0	253	0	501	3295
7:45-8:45	140	1750	0	7	1897	0	874	53	2	929	1	0	2	0	3	270	0	242	0	512	3341
8:00-9:00	110	1665	0	9	1784	0	859	57	0	916	1	0	2	0	3	294	0	237	0	531	3234
8:15-9:15	84	1660	0	10	1754	0	832	58	1	891	1	0	2	0	3	309	0	217	0	526	3174
8:30-9:30	101	1634	0	14	1749	0	812	53	1	866	1	0	3	0	4	290	0	207	0	497	3116
8:45-9:45	106	1658	0	13	1777	0	776	52	2	830	0	0	3	0	3	269	0	204	0	473	3083
9:00-10:00	101	1630	0	9	1740	0	756	44	3	803	0	0	3	0	3	247	2	179	0	428	2974
9:15-10:15	101	1510	0	8	1619	0	726	44	2	772	0	0	2	0	2	201	2	160	0	363	2756
9:30-10:30	77	1350	0	3	1430	0	677	46	2	725	0	0	1	0	1	169	2	125	0	296	2452
9:45-10:45	73	1257	0	1	1331	0	674	44	1	719	0	0	0	0	0	137	2	85	0	224	2274
10:00-11:00	71	1167	0	1	1239	0	683	49	0	732	0	0	0	0	0	102	0	86	0	188	2159
10:15-11:15	67	1089	0	2	1158	0	713	57	3	773	0	0	0	0	0	95	0	81	0	176	2107
10:30-11:30	75	1022	0	4	1101	0	760	67	4	831	0	0	0	0	0	91	0	94	0	185	2117
10:45-11:45	73	984	0	4	1061	0	798	74	5	877	0	0	0	0	0	81	0	102	0	183	2121
11:00-12:00	71	1015	0	4	1090	0	855	81	5	941	0	0	0	0	0	79	0	102	0	181	2212
11:15-12:15	83	1035	0	2	1120	0	963	79	2	1044	0	0	0	0	0	74	0	98	0	172	2336
11:30-12:30	88	1014	0	2	1104	0	999	95	2	1096	0	0	0	0	0	60	0	92	0	152	2352
11:45-12:45	88	964	0	2	1054	0	1036	95	2	1133	0	0	0	0	0	66	0	100	0	166	2353
12:00-1:00	96	924	0	4	1024	0	1048	97	2	1147	0	0	0	0	0	63	0	90	0	153	2324
12:15-1:15	85	901	0	5	991	0	1003	109	3	1115	0	0	0	0	0	61	0	92	0	153	2259
12:30-1:30	72	901	0	3	976	0	1001	83	3	1087	0	0	0	0	0	73	0	95	0	168	2231
12:45-1:45	76	882	0	3	961	0	991	91	2	1084	0	0	0	0	0	75	0	99	0	174	2219
1:00-2:00	79	851	0	2	932	0	972	86	2	1060	0	0	0	0	0	86	0	100	0	186	2178
1:15-2:15	77	814	0	2	893	0	1019	85	1	1105	0	0	0	0	0	86	0	97	0	183	2181
1:30-2:30	87	835	0	3	925	0	1079	98	2	1179	0	0	0	0	0	80	0	94	0	174	2278
1:45-2:45	104	895	0	5	1004	0	1125	106	3	1234	0	0	1	0	1	80	0	107	0	187	2426
2:00-3:00	112	929	0	5	1046	0	1168	138	4	1310	1	1	1	0	3	77	0	109	0	186	2545
2:15-3:15	135	999	0	6	1140	0	1234	151	4	1389	6	7	1	0	14	77	0	135	0	212	2755
2:30-3:30	152	1023	0	5	1180	0	1179	180	5	1364	9	12	4	0	25	79	0	175	0	254	2823
2:45-3:45	152	1023	0	4	1179	0	1286	219	4	1509	18	32	6	0	56	71	0	160	0	231	2975
3:00-4:00	161	1050	0	7	1218	0	1358	214	3	1575	20	50	6	0	76	69	0	182	0	251	3120
3:15-4:15	154	1025	0	6	1185	0	1385	218	3	1606	20	69	11	0	100	80	0	175	0	255	3146
3:30-4:30	152	1034	0	8	1194	0	1596	227	1	1824	21	90	15	0	126	86	0	166	0	252	3396
3:45-4:45	159	1022	0	11	1192	0	1605	211	2	1818	17	101	20	0	138	91	1	181	0	273	3421
4:00-5:00	155	1006	0	7	1168	0	1655	225	3	1883	18	106	24	0	148	85	1	188	0	274	3473
4:15-5:15	167	1002	0	6	1175	0	1715	251	4	1970	20	112	28	0	160	83	1	191	0	275	3580
4:30-5:30	167	1041	0	6	1214	0	1699	267	4	1970	23	116	26	0	165	78	1	184	0	263	3612
4:45-5:45	168	1065	0	2	1235	0	1734	286	3	2023	25	122	23	0	170	87	0	178	0	265	3693
5:00-6:00	181	1075	0	4	1260	0	1771	311	2	2084	25	127	22	0	174	93	0	161	0	254	3772
5:15-6:15	178	1095	0	6	1279	0	1761	299	1	2061	20	116	15	0	151	85	0	174	0	259	3750
5:30-6:30	172	1067	0	5	1244	0	1760	277	0	2037	13	95	14	0	122	89	0	168	0	257	3660
5:45-6:45	163	1043	0	5	1211	0	1700	245	0	1945	6	66	10	0	82	81	0	156	0	237	3475
6:00-7:00	142	994	0	4	1140	0	1603	201	1	1805	2	42	8	0	52	83	0	154	0	237	3234
PEAK HOUR																					
7:45-8:45	140	1750	0	7	1897	0	874	53	2	929	1	0	2	0	3	270	0	242	0	512	3341
5:00-6:00	181	1075	0	4	1260	0	1771	311	2	2084	25	127	22	0	174	93	0	161	0	254	3772

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: South Dr-Greentree Rd
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 187		MD 187	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	4	0
6:15-6:30	0	0	1	0
6:30-6:45	0	0	2	0
6:45-7:00	0	0	3	0
7:00-7:15	0	0	1	0
7:15-7:30	0	0	3	0
7:30-7:45	0	0	1	0
7:45-8:00	0	0	3	0
8:00-8:15	0	0	1	0
8:15-8:30	1	0	1	0
8:30-8:45	0	0	2	0
8:45-9:00	1	0	9	2
9:00-9:15	0	0	4	0
9:15-9:30	1	0	7	0
9:30-9:45	0	0	1	0
9:45-10:00	2	0	8	0
10:00-10:15	3	0	5	0
10:15-10:30	1	0	3	0
10:30-10:45	0	0	8	0
10:45-11:00	0	0	3	0
11:00-11:15	0	0	1	0
11:15-11:30	0	0	4	0
11:30-11:45	0	0	6	0
11:45-12:00	0	0	3	0
12:00-12:15	0	0	8	0
12:15-12:30	0	0	3	0
12:30-12:45	0	1	7	0
12:45-1:00	0	0	1	0
1:00-1:15	3	0	11	0
1:15-1:30	0	0	1	0
1:30-1:45	2	0	4	0
1:45-2:00	0	0	1	0
2:00-2:15	0	0	3	0
2:15-2:30	0	0	4	0
2:30-2:45	0	0	3	0
2:45-3:00	1	0	0	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	2	0
3:30-3:45	0	0	1	0
3:45-4:00	0	0	3	0
4:00-4:15	0	0	0	0
4:15-4:30	0	0	2	0
4:30-4:45	0	0	3	0
4:45-5:00	1	0	2	0
5:00-5:15	1	0	5	0
5:15-5:30	2	0	5	1
5:30-5:45	0	0	8	0
5:45-6:00	2	0	8	0
6:00-6:15	1	0	3	0
6:15-6:30	1	0	3	0
6:30-6:45	1	0	4	0
6:45-7:00	0	0	1	0
TOTALS	24	1	180	3

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: South Dr-Greentree Rd
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	South Dr		Greentree Rd	
	EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	3	1	0	0
6:15-6:30	3	0	0	0
6:30-6:45	11	0	0	0
6:45-7:00	7	0	1	0
7:00-7:15	0	0	0	0
7:15-7:30	2	1	3	0
7:30-7:45	1	1	1	0
7:45-8:00	0	1	2	1
8:00-8:15	1	1	0	0
8:15-8:30	3	1	1	0
8:30-8:45	3	0	0	0
8:45-9:00	1	0	1	0
9:00-9:15	2	0	2	0
9:15-9:30	3	0	4	0
9:30-9:45	0	0	0	1
9:45-10:00	1	0	2	0
10:00-10:15	0	0	2	0
10:15-10:30	0	0	2	0
10:30-10:45	0	0	2	0
10:45-11:00	0	0	2	0
11:00-11:15	1	0	0	0
11:15-11:30	2	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	3	0	0	0
12:00-12:15	0	0	3	0
12:15-12:30	1	0	0	0
12:30-12:45	1	0	1	0
12:45-1:00	2	0	1	0
1:00-1:15	1	0	2	0
1:15-1:30	1	0	2	0
1:30-1:45	0	0	0	0
1:45-2:00	0	0	2	0
2:00-2:15	2	0	2	0
2:15-2:30	0	0	2	0
2:30-2:45	1	0	3	0
2:45-3:00	2	0	5	0
3:00-3:15	1	0	0	0
3:15-3:30	0	0	0	0
3:30-3:45	4	0	0	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	6	0
4:15-4:30	3	1	6	0
4:30-4:45	1	2	3	0
4:45-5:00	1	0	1	0
5:00-5:15	1	0	6	0
5:15-5:30	7	0	0	0
5:30-5:45	0	0	7	0
5:45-6:00	0	0	6	1
6:00-6:15	1	0	1	0
6:15-6:30	4	0	1	0
6:30-6:45	1	0	0	0
6:45-7:00	0	0	1	0
TOTALS	82	9	86	3

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

11

Intersection of: MD 187
and: Lincoln Dr-Lincoln St
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: Lincoln Dr					TRAFFIC FROM WEST on: Lincoln St					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:00-6:15	9	72	30	0	111	4	36	0	0	40	4	0	0	0	4	1	0	6	0	7	162
6:15-6:30	15	100	31	1	147	4	47	5	0	56	7	0	0	0	7	0	1	7	0	8	218
6:30-6:45	32	132	47	1	212	9	74	6	0	89	2	0	0	0	2	0	0	9	0	9	312
6:45-7:00	43	174	57	0	274	6	90	8	0	104	0	0	0	0	0	0	2	10	0	12	390
7:00-7:15	31	244	42	0	317	12	94	4	0	110	4	0	0	0	4	2	3	12	0	17	448
7:15-7:30	19	312	62	1	394	21	136	6	0	163	6	1	0	0	7	3	3	7	0	13	577
7:30-7:45	24	351	72	0	447	20	187	6	0	213	0	0	0	0	0	3	4	21	0	28	688
7:45-8:00	19	408	83	2	512	27	202	9	0	238	0	0	0	0	0	2	4	20	0	26	776
8:00-8:15	27	435	71	0	533	32	196	6	0	234	6	0	0	0	6	4	2	19	0	25	798
8:15-8:30	25	427	90	1	543	31	213	5	0	249	12	0	0	0	12	2	11	13	0	26	830
8:30-8:45	19	364	69	2	454	35	209	7	0	251	10	0	0	0	10	4	14	15	0	33	748
8:45-9:00	19	353	68	1	441	39	212	2	0	253	7	0	0	0	7	2	30	13	0	45	746
9:00-9:15	39	418	61	1	519	35	191	3	0	229	0	0	0	0	0	4	26	12	0	42	790
9:15-9:30	33	429	69	0	531	43	207	6	1	257	0	0	0	0	0	1	32	8	0	41	829
9:30-9:45	33	364	84	0	481	31	166	7	0	204	1	0	0	0	1	8	27	9	0	44	730
9:45-10:00	22	306	80	0	408	14	185	5	0	204	1	0	0	0	1	3	16	10	0	29	642
10:00-10:15	21	284	49	1	355	12	139	15	0	166	5	0	2	0	7	4	5	8	0	17	545
10:15-10:30	19	264	43	0	326	3	156	9	0	168	7	0	0	0	7	4	2	4	0	10	511
10:30-10:45	32	239	25	0	296	5	193	12	0	210	8	0	4	0	12	4	5	5	0	14	532
10:45-11:00	21	243	24	2	290	6	171	7	0	184	10	0	2	0	12	2	0	13	0	15	501
11:00-11:15	14	235	8	1	258	3	185	2	0	190	12	0	3	0	15	2	0	10	0	12	475
11:15-11:30	25	234	19	0	278	8	193	16	0	217	15	0	4	0	19	2	3	17	0	22	536
11:30-11:45	21	239	13	1	274	7	198	8	1	214	14	0	4	0	18	5	0	11	0	16	522
11:45-12:00	24	256	13	0	293	7	235	9	0	251	22	2	4	0	28	4	0	12	0	16	588
12:00-12:15	17	240	10	0	267	4	262	14	0	280	24	0	9	0	33	7	0	12	0	19	599
12:15-12:30	19	204	18	3	244	4	231	9	0	244	32	0	8	0	40	4	0	14	0	18	546
12:30-12:45	20	216	8	1	245	4	237	15	0	256	13	0	5	0	18	4	1	15	0	20	539
12:45-1:00	15	231	10	0	256	6	249	15	0	270	21	0	8	0	29	3	1	13	0	17	572
1:00-1:15	23	210	8	0	241	5	212	15	0	232	20	0	6	0	26	2	1	13	0	16	515
1:15-1:30	23	206	8	0	237	4	252	10	0	266	18	0	6	0	24	8	1	17	0	26	553
1:30-1:45	16	190	2	0	208	4	218	5	0	227	22	0	0	0	22	3	1	12	0	16	473
1:45-2:00	18	225	12	0	255	9	223	6	0	238	21	0	5	0	26	4	0	15	0	19	538
2:00-2:15	21	175	6	0	202	4	242	8	0	254	35	0	7	0	42	9	0	21	0	30	528
2:15-2:30	31	225	7	0	263	5	255	8	0	268	43	0	5	0	48	2	0	14	0	16	595
2:30-2:45	28	216	8	2	254	4	247	11	1	263	41	2	14	0	57	5	0	24	0	29	603
2:45-3:00	36	222	7	3	268	2	283	7	0	292	48	0	7	0	55	15	0	14	0	29	644
3:00-3:15	13	272	6	1	292	6	317	7	0	330	56	1	10	0	67	9	0	17	0	26	715
3:15-3:30	17	256	4	0	277	3	306	12	0	321	43	6	11	0	60	10	0	16	0	26	684
3:30-3:45	19	255	5	0	279	6	312	10	0	328	71	6	33	0	110	14	1	31	0	46	763
3:45-4:00	26	256	5	0	287	3	276	6	0	285	67	2	18	0	87	10	0	22	0	32	691
4:00-4:15	14	249	4	1	268	2	350	9	0	361	69	3	17	0	89	5	1	29	0	35	753
4:15-4:30	21	273	5	1	300	6	400	10	0	416	70	2	26	0	98	8	1	32	0	41	855
4:30-4:45	15	246	2	1	264	3	380	12	0	395	84	1	25	0	110	10	1	13	0	24	793
4:45-5:00	15	261	4	1	281	2	343	3	0	348	73	2	37	0	112	5	1	14	0	20	761
5:00-5:15	13	242	6	1	262	4	415	8	0	427	90	1	36	0	127	6	0	16	0	22	838
5:15-5:30	17	316	5	0	338	3	398	9	0	410	90	7	28	0	125	10	2	17	0	29	902
5:30-5:45	9	296	5	1	311	3	434	10	0	447	87	2	24	0	113	6	1	19	0	26	897
5:45-6:00	19	244	3	2	268	3	397	3	0	403	90	4	32	0	126	6	1	9	0	16	813
6:00-6:15	15	249	3	0	267	1	417	4	0	422	76	7	35	0	118	4	0	18	0	22	829
6:15-6:30	23	295	1	1	320	4	400	12	0	416	50	2	19	0	71	3	0	13	0	16	823
6:30-6:45	36	224	2	1	263	4	382	9	0	395	54	5	16	0	75	6	0	13	0	19	752
6:45-7:00	35	212	0	1	248	1	327	8	0	336	37	2	7	0	46	2	0	11	0	13	643
13 Hr Totals	1160	13589	1374	36	####	523	12680	418	3	13624	1598	58	477	0	2133	246	204	745	0	1195	33111

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

11

Intersection of: MD 187
and: Lincoln Dr-Lincoln St
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	TRAFFIC FROM NORTH on: MD 187					TRAFFIC FROM SOUTH on: MD 187					TRAFFIC FROM EAST on: Lincoln Dr					TRAFFIC FROM WEST on: Lincoln St					TOTAL		
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	N + S +	E + W	
1 Hr Totals																							
6:00-7:00	99	478	165	2	744	23	247	19	0	289	13	0	0	0	13	1	3	32	0	36	1082		
6:15-7:15	121	650	177	2	950	31	305	23	0	359	13	0	0	0	13	2	6	38	0	46	1368		
6:30-7:30	125	862	208	2	1197	48	394	24	0	466	12	1	0	0	13	5	8	38	0	51	1727		
6:45-7:45	117	1081	233	1	1432	59	507	24	0	590	10	1	0	0	11	8	12	50	0	70	2103		
7:00-8:00	93	1315	259	3	1670	80	619	25	0	724	10	1	0	0	11	10	14	60	0	84	2489		
7:15-8:15	89	1506	288	3	1886	100	721	27	0	848	12	1	0	0	13	12	13	67	0	92	2839		
7:30-8:30	95	1621	316	3	2035	110	798	26	0	934	18	0	0	0	18	11	21	73	0	105	3092		
7:45-8:45	90	1634	313	5	2042	125	820	27	0	972	28	0	0	0	28	12	31	67	0	110	3152		
8:00-9:00	90	1579	298	4	1971	137	830	20	0	987	35	0	0	0	35	12	57	60	0	129	3122		
8:15-9:15	102	1562	288	5	1957	140	825	17	0	982	29	0	0	0	29	12	81	53	0	146	3114		
8:30-9:30	110	1564	267	4	1945	152	819	18	1	990	17	0	0	0	17	11	102	48	0	161	3113		
8:45-9:45	124	1564	282	2	1972	148	776	18	1	943	8	0	0	0	8	15	115	42	0	172	3095		
9:00-10:00	127	1517	294	1	1939	123	749	21	1	894	2	0	0	0	2	16	101	39	0	156	2991		
9:15-10:15	109	1383	282	1	1775	100	697	33	1	831	7	0	2	0	9	16	80	35	0	131	2746		
9:30-10:30	95	1218	256	1	1570	60	646	36	0	742	14	0	2	0	16	19	50	31	0	100	2428		
9:45-10:45	94	1093	197	1	1385	34	673	41	0	748	21	0	6	0	27	15	28	27	0	70	2230		
10:00-11:00	93	1030	141	3	1267	26	659	43	0	728	30	0	8	0	38	14	12	30	0	56	2089		
10:15-11:15	86	981	100	3	1170	17	705	30	0	752	37	0	9	0	46	12	7	32	0	51	2019		
10:30-11:30	92	951	76	3	1122	22	742	37	0	801	45	0	13	0	58	10	8	45	0	63	2044		
10:45-11:45	81	951	64	4	1100	24	747	33	1	805	51	0	13	0	64	11	3	51	0	65	2034		
11:00-12:00	84	964	53	2	1103	25	811	35	1	872	63	2	15	0	80	13	3	50	0	66	2121		
11:15-12:15	87	969	55	1	1112	26	888	47	1	962	75	2	21	0	98	18	3	52	0	73	2245		
11:30-12:30	81	939	54	4	1078	22	926	40	1	989	92	2	25	0	119	20	0	49	0	69	2255		
11:45-12:45	80	916	49	4	1049	19	965	47	0	1031	91	2	26	0	119	19	1	53	0	73	2272		
12:00-1:00	71	891	46	4	1012	18	979	53	0	1050	90	0	30	0	120	18	2	54	0	74	2256		
12:15-1:15	77	861	44	4	986	19	929	54	0	1002	86	0	27	0	113	13	3	55	0	71	2172		
12:30-1:30	81	863	34	1	979	19	950	55	0	1024	72	0	25	0	97	17	4	58	0	79	2179		
12:45-1:45	77	837	28	0	942	19	931	45	0	995	81	0	20	0	101	16	4	55	0	75	2113		
1:00-2:00	80	831	30	0	941	22	905	36	0	963	81	0	17	0	98	17	3	57	0	77	2079		
1:15-2:15	78	796	28	0	902	21	935	29	0	985	96	0	18	0	114	24	2	65	0	91	2092		
1:30-2:30	86	815	27	0	928	22	938	27	0	987	121	0	17	0	138	18	1	62	0	81	2134		
1:45-2:45	98	841	33	2	974	22	967	33	1	1023	140	2	31	0	173	20	0	74	0	94	2264		
2:00-3:00	116	838	28	5	987	15	1027	34	1	1077	167	2	33	0	202	31	0	73	0	104	2370		
2:15-3:15	108	935	28	6	1077	17	1102	33	1	1153	188	3	36	0	227	31	0	69	0	100	2557		
2:30-3:30	94	966	25	6	1091	15	1153	37	1	1206	188	9	42	0	239	39	0	71	0	110	2646		
2:45-3:45	85	1005	22	4	1116	17	1218	36	0	1271	218	13	61	0	292	48	1	78	0	127	2806		
3:00-4:00	75	1039	20	1	1135	18	1211	35	0	1264	237	15	72	0	324	43	1	86	0	130	2853		
3:15-4:15	76	1016	18	1	1111	14	1244	37	0	1295	250	17	79	0	346	39	2	98	0	139	2891		
3:30-4:30	80	1033	19	2	1134	17	1338	35	0	1390	277	13	94	0	384	37	3	114	0	154	3062		
3:45-4:45	76	1024	16	3	1119	14	1406	37	0	1457	290	8	86	0	384	33	3	96	0	132	3092		
4:00-5:00	65	1029	15	4	1113	13	1473	34	0	1520	296	8	105	0	409	28	4	88	0	120	3162		
4:15-5:15	64	1022	17	4	1107	15	1538	33	0	1586	317	6	124	0	447	29	3	75	0	107	3247		
4:30-5:30	60	1065	17	3	1145	12	1536	32	0	1580	337	11	126	0	474	31	4	60	0	95	3294		
4:45-5:45	54	1115	20	3	1192	12	1590	30	0	1632	340	12	125	0	477	27	4	66	0	97	3398		
5:00-6:00	58	1098	19	4	1179	13	1644	30	0	1687	357	14	120	0	491	28	4	61	0	93	3450		
5:15-6:15	60	1105	16	3	1184	10	1646	26	0	1682	343	20	119	0	482	26	4	63	0	93	3441		
5:30-6:30	66	1084	12	4	1166	11	1648	29	0	1688	303	15	110	0	428	19	2	59	0	80	3362		
5:45-6:45	93	1012	9	4	1118	12	1596	28	0	1636	270	18	102	0	390	19	1	53	0	73	3217		
6:00-7:00	109	980	6	3	1098	10	1526	33	0	1569	217	16	77	0	310	15	0	55	0	70	3047		
PEAK HOUR																							
7:45-8:45	90	1634	313	5	2042	125	820	27	0	972	28	0	0	0	28	12	31	67	0	110	3152		
5:00-6:00	58	1098	19	4	1179	13	1644	30	0	1687	357	14	120	0	491	28	4	61	0	93	3450		

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: Lincoln Dr-Lincoln St
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	MD 187		MD 187	
	NORTH LEG		SOUTH LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM				
6:00-6:15	0	0	2	0
6:15-6:30	0	0	2	0
6:30-6:45	0	0	1	0
6:45-7:00	0	0	1	0
7:00-7:15	0	0	1	0
7:15-7:30	0	0	3	0
7:30-7:45	0	0	1	0
7:45-8:00	0	0	1	0
8:00-8:15	0	0	3	0
8:15-8:30	0	0	0	0
8:30-8:45	0	0	2	0
8:45-9:00	0	0	3	0
9:00-9:15	0	0	1	0
9:15-9:30	0	0	0	0
9:30-9:45	0	0	2	0
9:45-10:00	0	0	0	0
10:00-10:15	0	0	1	0
10:15-10:30	0	0	0	0
10:30-10:45	0	0	2	0
10:45-11:00	0	0	1	0
11:00-11:15	0	0	0	0
11:15-11:30	0	0	1	0
11:30-11:45	0	0	1	0
11:45-12:00	0	0	1	0
12:00-12:15	0	0	1	0
12:15-12:30	0	0	2	0
12:30-12:45	0	0	2	0
12:45-1:00	0	0	1	0
1:00-1:15	0	0	0	0
1:15-1:30	0	0	0	0
1:30-1:45	0	0	1	0
1:45-2:00	0	0	0	0
2:00-2:15	0	0	3	0
2:15-2:30	0	0	1	0
2:30-2:45	0	0	2	0
2:45-3:00	0	0	4	0
3:00-3:15	0	0	0	0
3:15-3:30	0	0	5	0
3:30-3:45	0	0	3	0
3:45-4:00	0	0	4	1
4:00-4:15	0	0	2	0
4:15-4:30	0	0	4	0
4:30-4:45	0	0	0	0
4:45-5:00	0	0	6	0
5:00-5:15	0	0	3	0
5:15-5:30	0	0	5	0
5:30-5:45	0	0	0	0
5:45-6:00	0	0	3	0
6:00-6:15	1	0	4	2
6:15-6:30	0	0	1	0
6:30-6:45	0	0	1	0
6:45-7:00	0	0	2	0
TOTALS	1	0	90	3

PEDESTRIAN OBSERVATIONS

Intersection of: MD 187
and: Lincoln Dr-Lincoln St
Location: Montgomery Co., MD

Counted by: VCU
Date: October 27, 2011
Weather: Rainy, Cool
Entered by: JW

Day: Thursday



TIME	Lincoln Dr EAST LEG		Lincoln St WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
	AM			
6:00-6:15	4	0	1	0
6:15-6:30	0	0	0	0
6:30-6:45	2	0	1	0
6:45-7:00	5	0	0	0
7:00-7:15	0	0	0	0
7:15-7:30	0	0	0	0
7:30-7:45	1	0	0	0
7:45-8:00	1	0	0	0
8:00-8:15	0	1	0	0
8:15-8:30	2	0	0	0
8:30-8:45	1	0	0	0
8:45-9:00	1	0	1	0
9:00-9:15	3	0	0	0
9:15-9:30	4	0	0	0
9:30-9:45	2	0	2	0
9:45-10:00	1	0	0	0
10:00-10:15	1	0	1	1
10:15-10:30	0	0	0	0
10:30-10:45	4	0	0	0
10:45-11:00	1	0	1	0
11:00-11:15	1	0	0	0
11:15-11:30	0	0	0	0
11:30-11:45	0	0	0	0
11:45-12:00	4	0	1	0
12:00-12:15	1	0	1	0
12:15-12:30	1	1	1	0
12:30-12:45	2	0	1	0
12:45-1:00	2	0	1	0
1:00-1:15	0	0	1	0
1:15-1:30	0	0	1	0
1:30-1:45	0	0	1	0
1:45-2:00	0	0	0	0
2:00-2:15	0	1	0	0
2:15-2:30	0	0	1	0
2:30-2:45	2	0	1	0
2:45-3:00	1	0	0	0
3:00-3:15	2	0	3	1
3:15-3:30	1	0	3	0
3:30-3:45	0	0	2	0
3:45-4:00	0	0	0	0
4:00-4:15	0	0	1	0
4:15-4:30	0	0	0	0
4:30-4:45	5	0	0	1
4:45-5:00	5	0	5	0
5:00-5:15	3	0	1	1
5:15-5:30	4	3	2	0
5:30-5:45	3	2	5	1
5:45-6:00	3	0	3	1
6:00-6:15	4	2	1	0
6:15-6:30	6	0	0	0
6:30-6:45	10	0	0	1
6:45-7:00	2	0	1	0
TOTALS	95	10	44	7

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NIH TMP

Attachment 2

Memorandum of Understanding

by and among the

National Capital Planning Commission,

The Montgomery County Planning Board of the Maryland-
National Capital Park and Planning Commission,

and the National Institutes of Health

05-14-1992

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MEMORANDUM OF UNDERSTANDING
BY AND AMONG THE
NATIONAL CAPITAL PLANNING COMMISSION,
THE MONTGOMERY COUNTY PLANNING BOARD OF THE
MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION,
AND THE NATIONAL INSTITUTES OF HEALTH

This memorandum of understanding (MOU) sets forth the agreement among the National Capital Planning Commission (NCPC), the Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission (MCPB), and the National Institutes of Health (NIH) regarding implementation of a Transportation Management Plan (TMP) for the NIH Bethesda Campus.

WHEREAS, the Comprehensive Plan for the National Capital urges that parking facilities at Federal facilities be provided and managed at a level which assumes maximum use of public transportation and high-occupancy vehicles.

WHEREAS, NCPC's Project Plans Submission Requirements require that sponsoring agencies' TMPs incorporate the following:

- o descriptions of existing and proposed peak hour traffic by mode
- o summary of existing and proposed parking by type and assignment
- o goals for trip reduction, modal split, and vehicle occupancy
- o strategies to minimize vehicle work trips and discourage single-occupancy commuting
- o discussion of projected transportation impacts and description of mitigation measures
- o description of applicable local, state, and regional transportation management requirements and recommendations for implementation
- o measures for monitoring and adjustment

WHEREAS, NIH has prepared a TMP that established program goals and short-term and long-term implementation strategies.

WHEREAS, on December 19, 1991, the MCPB recommended that NCPC defer action on the proposed parking garage and temporary parking lots located at the NIH Bethesda campus, until NIH satisfies the conditions and concerns identified in the MCPB staff memorandum of December 16, 1991, including a condition that NIH, NCPC, and MCPB execute an agreement to implement the TMP.

WHEREAS, the NCPC, on January 9, 1992, approved the preliminary plans for the garage and temporary lots with a request that NIH work with NCPC and MCPB to resolve outstanding issues related to the TMP including the establishment of a formal agreement respecting implementation of TMP strategies.

WHEREAS, on February 18, 1992, NIH, NCPC, and MCPB agreed to meet on a regular basis to exchange transportation, planning, and demographic information for the mutual benefit of all.

IT IS THEREFORE AGREED THAT:

1. NIH, NCPC, and MCPB will meet at a minimum of two times per year to discuss updated planning, master planning, project development, and transportation information, as well as outstanding issues that need to be resolved.
2. NIH commits itself to undertake its best faith effort to implement the TMP strategies in order to achieve TMP goals, and will take appropriate action regarding funding strategies. (TMP goals and strategies are listed in the attached Addendum.) To this end, NIH will monitor the success of the TMP strategies already implemented by providing NCPC and MCPB with quarterly traffic counts and annual evaluations. This data will be used in conjunction with supplementary transportation data such as the number of employees and visitors using public transportation, carpools, and vanpools, etc. to determine the overall effectiveness of the TMP in preventing additional NIH-generated peak hour traffic on roadways which serve the campus.
3. Consistent with this MOU and the NIH master plan, NIH will assess the need for parking associated with proposed future growth and attempt to reduce the future parking demand to the extent practicable.
4. NCPC and MCPB will evaluate the proposed future employment and parking growth at the NIH Bethesda campus in light of NIH's success in implementing TMP strategies and achieving TMP program goals.
5. NIH will implement other measures as appropriate, upon consultation with NCPC and MCPB, if current strategies prove unsuccessful.

THE NATIONAL INSTITUTES OF HEALTH

By: Bernadine Healy
Bernadine Healy, M.D. Date
Director

MAY 14 1992

THE MONTGOMERY COUNTY PLANNING BOARD OF THE MARYLAND-
NATIONAL CAPITAL PARK AND PLANNING COMMISSION

By: Gus Bauman 5/2/92
Gus Bauman Date
Chairman

THE NATIONAL CAPITAL PLANNING COMMISSION

By: Glen T. Urquhart
Glen T. Urquhart Date
Chairman

ADDENDUM

GOALS OF THE NIH BETHESDA CAMPUS TRANSPORTATION MANAGEMENT PROGRAM

1. Improve the availability of parking spaces on campus for NIH personnel and visitors.
2. Mitigate the traffic impacts of further campus development on the roadways serving the NIH campus (such that the level of congestion along the roadways serving NIH is made no worse than if such development did not occur).
3. Maintain a "good neighbor" relationship with the surrounding community.

SHORT-TERM STRATEGIES

1. Establish an Employee Transportation Services Office to coordinate TMP strategies and promote non-single occupant travel modes by employees.
2. Continue to place carpool, vanpool, handicapped, and visitor parking in close proximity to the intended destination of the users. Disincentives will be enacted to discourage violation of carpool regulations.
3. Implement a transit discount program for employees up to the maximum tax-free benefit allowable by law, and initiate a request for legislative action to allow parking and ticketing revenues and/or appropriated funds to be used by NIH to make such a program self-sustaining.
4. Improve NIH campus shuttle bus service as demand warrants and provide adequate covered waiting areas at or near shuttle bus stops, where possible.
5. Implement a comprehensive campus-wide re-signage for vehicles and pedestrians, including a study of internal safety signage and signaling.
6. Emphasize parking regulation enforcement by providing an adequately staffed parking enforcement work force and provisions to minimize off-campus parking.
7. Further promote the use of flexitime and flexitour by employees. Reserve selected parking areas for later-arriving employees to encourage use of flexitime.
8. Have the employee transportation office publicize existing programs which utilize outlying parking areas, such as church lots and park-and-ride areas.
9. Institute pay parking for visitors to NIH, exclusive of patients and blood donors, except after normal working hours.

LONG-TERM STRATEGIES

1. As the campus develops, maintain the parking supply at no greater than 0.5 spaces per NIH employee, plus additional parking spaces to serve the parking needs of visitors and patients at NIH. In determining a parking supply, and applying a ratio not to exceed 0.5 spaces per employee, the number of employees used in this calculation should be no greater than the maximum employment level of the approved master plan.
2. Within the context of the development of the NIH master plan, the parking requirements associated with future campus growth and the reestablishment of the buffer zone surrounding the campus should be accommodated by the construction of multi-level parking (MLP) structures, within the parking supply criteria adopted by NIH. Planning and funding for these new MLP's should be linked to the funding plans for other buildings to be added to the campus.
3. Implement an internal loop road circulation system within the NIH campus, with two-way traffic.
4. Improve congested roadway intersections through the addition of more turning lanes to selected intersections adjacent to the NIH campus to mitigate traffic congestion. The Employee Transportation Services Office will coordinate with appropriate County and State agencies to determine funding strategies, design implications, timing, and implementation requirements.
5. Have the Employee Transportation Services Office explore the feasibility of developing or leasing satellite parking areas near outlying Metrorail Red Line stations to serve NIH employees.
6. NIH will continue to explore alternative strategies, and if all strategies fail to achieve the stated TMP goals, pay parking for employees will be instituted as a last resort.

NIH TMP

Attachment 3

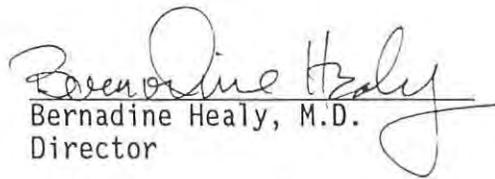
Transportation Management Plan
for the
National Institutes of Health
Bethesda Campus

10-04-1991

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TRANSPORTATION MANAGEMENT PLAN
FOR THE
NATIONAL INSTITUTES OF HEALTH
BETHESDA CAMPUS

OCTOBER 1991


Bernadine Healy, M.D.
Director

OCT 04 1991
Date

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Site Characteristics	II.1
Transportation Service Characteristics	II.4
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I. INTRODUCTION

This report presents the Transportation Management Plan (TMP) for the Bethesda campus of the National Institutes of Health (NIH). This section describes the background, purpose, and scope of this plan.

BACKGROUND

During the past several years, NIH has been in the process of revising its Master Plan to help guide the continuing development of the Bethesda campus. The current Master Plan was produced in 1972. Since that time, significant growth has occurred both on campus and in the Washington metropolitan area. This growth has led to capacity problems for both the NIH parking system and the roadway system surrounding the NIH campus. The latter problem has caused planning agencies in Montgomery County to suggest that NIH seek ways to reduce employee reliance on single-occupancy vehicle commuting to and from the campus.

As part of the Master Plan update process, NIH commissioned a study in 1988 of the parking and transportation needs of NIH campus employees and visitors, within the context of capacity constraints imposed by the current transportation and parking systems, both on campus and in the surrounding environs. The resulting report, which was completed in June 1989, provided a comprehensive assessment of the parking and transportation problems and requirements of the NIH Bethesda campus.¹ It also identified a series of possible strategies aimed at mitigating the traffic congestion and parking demands associated with future campus expansion.

Following completion of the Parking and Transportation Program Study, NIH established a task force to review parking and transportation management strategies described in the consultant study and to develop a refined program of actions to address the current and future parking and transportation needs of the whole campus. The task force was made up of representatives of selected Institutes, Centers, and Divisions (ICDs) making up NIH (see Appendix A for a list of the Transportation Management Plan Task Force members). This group met on a weekly basis during the fall of 1989 to discuss the policy and technical implications of various parking and traffic mitigation strategies, including those suggested in the consultant study. During these discussions, the Task Force weighed the advantages and disadvantages of each possible strategy relative to the criteria of parking availability, traffic mitigation, employee acceptance, and suitability to the unique nature of the NIH community. Each strategy was thoroughly discussed, resulting in a Task Force resolution recommending either acceptance, rejection, or modification.

¹ Parking and Transportation Program Study - Final Report. AEPA Architects Engineers and KPMG Peat Marwick. Prepared for National Institutes of Health, June 23, 1989.

In late 1989, NIH conducted a survey of its employees regarding their parking and transportation behavior and their attitudes toward possible changes in parking and transportation services.² Useful insights were gained from this survey which confirmed much of the data contained in the 1989 NIH Parking and Transportation Program Study regarding employee parking and transportation behavior.

The Task Force issued a report in January 1990, proposing an integrated set of short-term and long-term parking and transportation management strategies designed to meet the goals of a new NIH TMP. These strategies were presented and discussed with nine key NIH management groups during the months of January through March 1990. The report underwent two revisions and was subsequently reissued by the Task Force on April 18, 1990.³ The final Task Force report formed the framework for the parking and transportation management strategies presented in this plan.

This 1991 NIH Transportation Management Plan reflects updated information concerning the NIH campus population, parking supply, and number of parking permits by type.

PURPOSE

The purpose of this report is to describe the major parking and transportation characteristics and needs of the NIH campus and its environs, and to present short- and long-term strategies to address these needs. The current and projected parking and transportation needs provide the context and rationale behind the recommended strategies comprising the NIH Transportation Management Plan (TMP). This plan is intended to support and complement the development of a new Master Plan revision for the NIH Bethesda campus.

SCOPE

The NIH Transportation Management Plan focuses on the parking and transportation characteristics and needs of the NIH Bethesda campus and its immediate environs, from the present time until the year 2000. This plan is based upon the results of the 1989 NIH Parking and Transportation Program Study, the 1990 Report of the NIH Transportation Management Plan Task Force, and the 1990 NIH Employee Transportation Survey. The plan contains the following sections:

- Section II - Current Conditions: describes the current status of the NIH Bethesda campus in terms of its location, land use, population, transportation services, and parking supply and demand characteristics.

² NIH Employee Transportation Survey - Final Report. Consulting and Program Management Services, Inc. Prepared for National Institutes of Health, April 1990.

³ Report of the NIH Transportation Management Plan Task Force. April 18, 1990.

- Section III - Future Conditions: describes the key assumptions regarding future development of the NIH campus and the potential traffic and parking impacts associated with this development.
- Section IV - Parking and Transportation Management Strategies: lists the major parking and transportation issues confronting the NIH campus, defines the goals of the NIH Transportation Management Plan, and presents the short- and long-term strategies which comprise the plan.
- Section V - Implementation Plan: describes the action steps, responsibilities, and timing for implementing the NIH Transportation Management Plan strategies.
- Section VI - Conclusions: provides the final comments of the report.

II. CURRENT CONDITIONS

This section describes the current status of the NIH Bethesda campus, in terms of its location, land use, population, transportation services, and parking supply and demand characteristics. This information provides a baseline for assessing the current parking and transportation requirements of NIH personnel and visitors to the Bethesda campus, and for postulating strategies to address these requirements.

SITE CHARACTERISTICS

The NIH campus is located in Montgomery County, Maryland, just northwest of the City of Washington, D.C. (as shown in Exhibit II-1). The campus is situated between Rockville Pike and Old Georgetown Road, in Bethesda, Maryland. It is composed of numerous Institutes, Centers, and Divisions of the NIH, Food and Drug Administration, and Alcohol, Drug Abuse, and Mental Health Administration, as shown in Exhibit II-2.

Seventy-seven buildings of various kinds and sizes are located on the NIH campus, comprising over 7.3 million square feet of gross floor area. These buildings support the following major functions:

<u>Function</u>	<u>Gross Floor Area</u> ¹ (Thousands of Square Feet)	
• Office	978	(14%)
• Hospital	2,805	(39%)
• Research and Development	1,988	(27%)
• Service	534	(7%)
• Storage	18	(-)
• Housing	162	(2%)
• Other	<u>768</u>	<u>(11%)</u>
Total	7,253	(100%)

The NIH campus is one of the largest employment centers in Montgomery County, Maryland. Its various Institutes, Centers, and Divisions employ from 11,600 to 12,600 personnel. Of this total, about 400 are involved in second shift work while about 240 are involved in night shift work. In addition, there are approximately 3,400 other personnel including trainees, guest researchers, contractors, consultants, and others who remain on campus one week or more. This amounts to approximately 15,000 to 16,000 total personnel on the NIH campus per day. For the purposes of this plan, it is assumed that the NIH employee population is 16,000.

¹ National Institutes of Health-Division of Space Management, ORS.
December 26, 1990.

EXHIBIT II-1

NIH CAMPUS SITE MAP

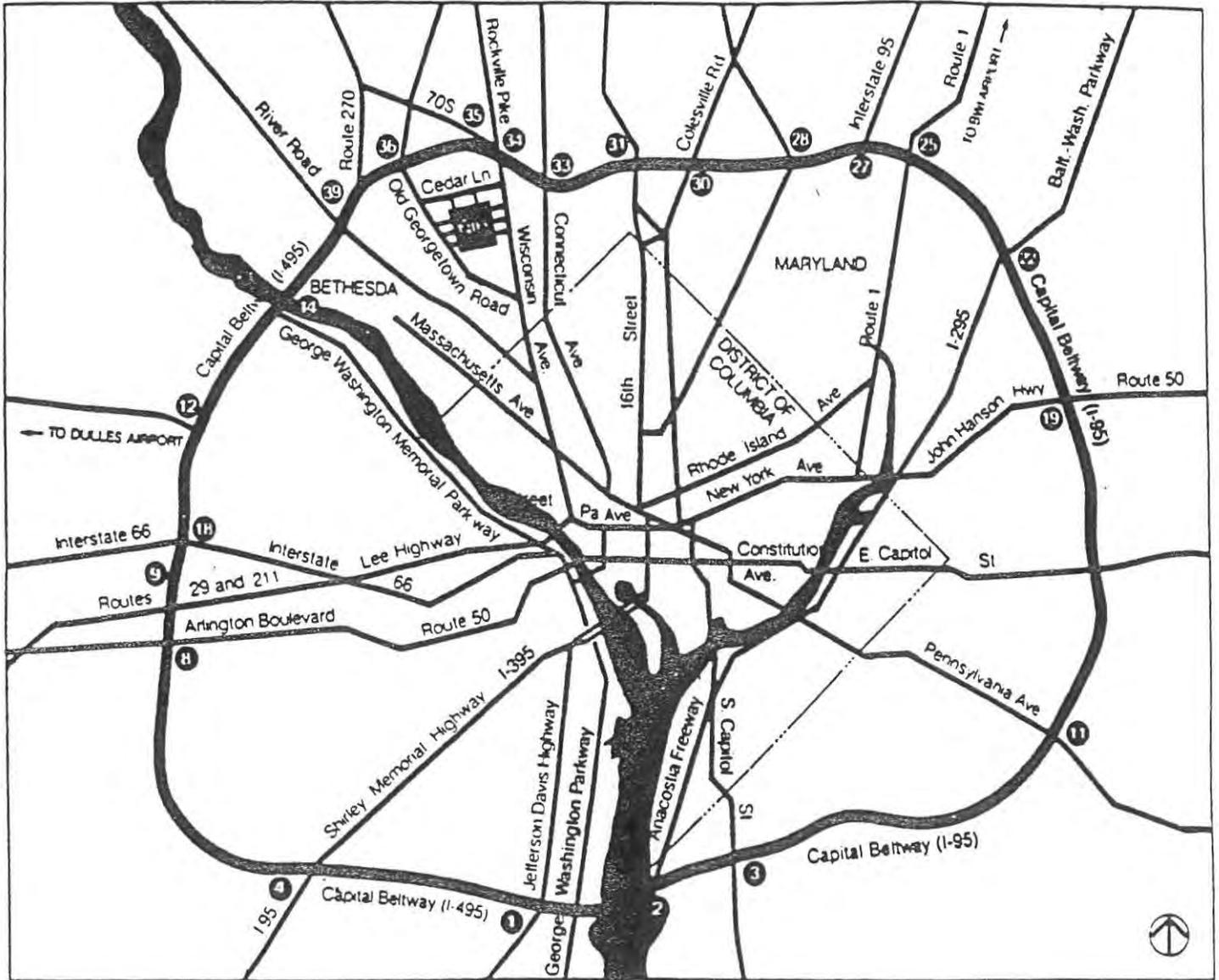
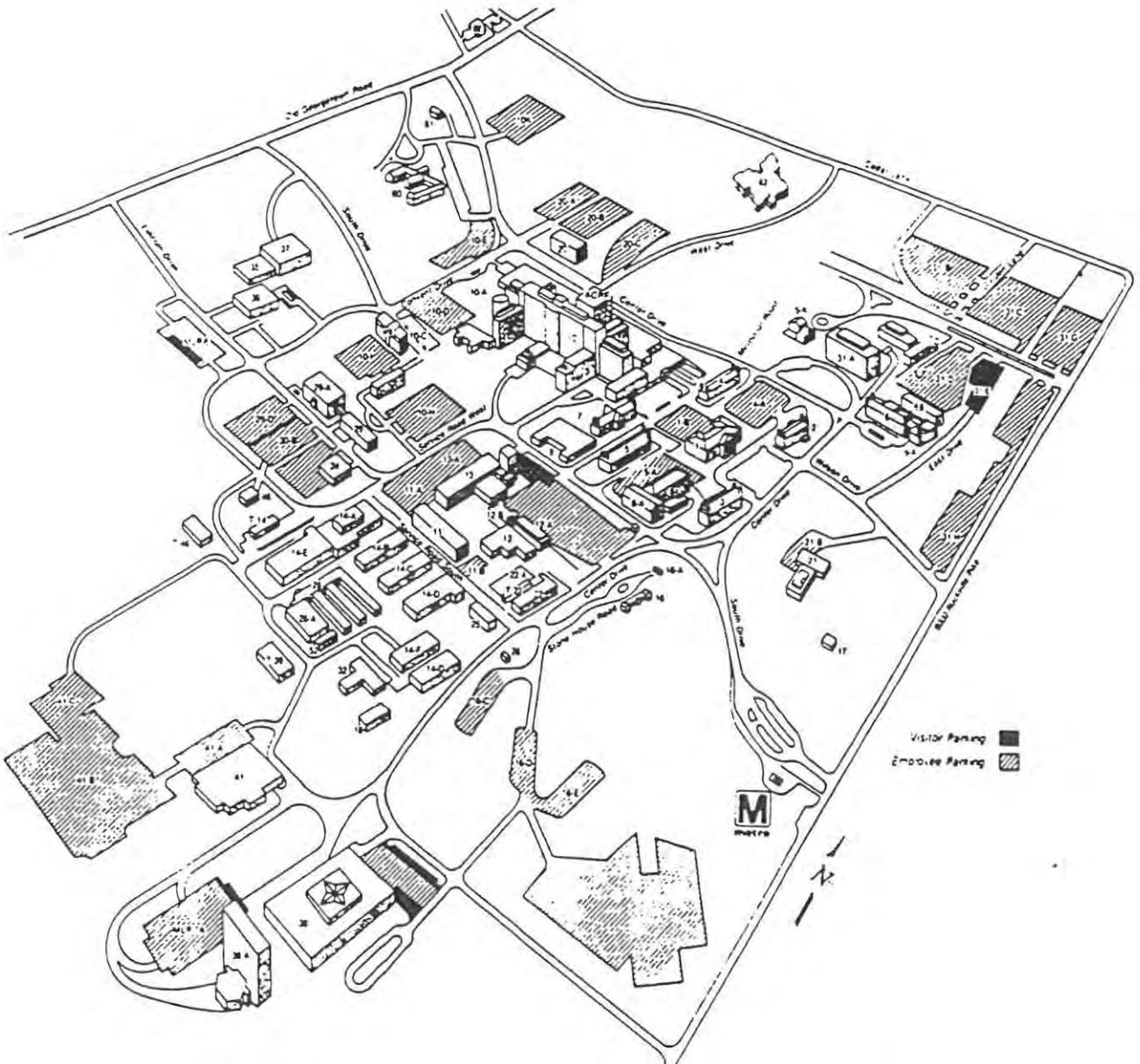


EXHIBIT II-2

NIH CAMPUS FACILITY MAP



- | | | | |
|---|---|---|---|
| <p>1 Administration</p> <p>2 National Institute of Diabetes and Digestive and Kidney Diseases</p> <p>3 National Heart, Lung, & Blood Institute</p> <p>4 Under Renovation</p> <p>5 National Institute of Allergy & Infectious Diseases</p> <p>6 National Institute of Child Health & Human Development; National Eye Institute; National Institute of Diabetes and Digestive and Kidney Diseases; National Institute of Arthritis and Musculoskeletal and Skin Diseases</p> <p>6A National Institute of Child Health & Human Development & National Eye Institute</p> <p>6B National Institute of Child Health and Human Development; National Eye Institute; National Institute of Diabetes and Digestive and Kidney Diseases</p> <p>7 National Institute of Allergy & Infectious Diseases</p> <p>8A National Institute of Diabetes and Digestive and Kidney Diseases</p> <p>9 National Institute of Mental Health; National Institute of Neurological & Communicative Disorders & Stroke; National Eye Institute</p> | <p>10 Warren Grant Magnuson Clinical Center (Hospital and Clinic)</p> <p>11 Boiler, Refrigeration & Incinerator Bldg</p> <p>11A Incinerator Building</p> <p>12 Division of Computer Research & Technology; Fire House; Garage</p> <p>12A Division of Research Services; Division of Computer Research & Technology</p> <p>13 Supply Operations Branch; Personal Property Branch; DL Division of Engineering Services; Design & Construction Br.; Facilities Engineering Br.; Maintenance Engineering Br.; Coordination & Planning; Materials Acquisition & Supply Br.; Shops B.; DES; Division of Safety; Biomedical Engineering & Instrumentation Br.; OPS; Laundry, CC</p> <p>14LB, C, D, E, F, G Animal & Animal Feeding Building; Veterinary Resources Branch, OPS</p> <p>T14 Contractor Storage</p> <p>15K Wilson House; National Institute of Mental Health</p> <p>16, 16A Fogarty International Center</p> <p>17 Electrical Power Vault</p> <p>18 Cell Biology and Metabolism Branch; National Institute of Child Health & Human Development</p> | <p>20 Apartment</p> <p>21 Radiation Safety Branch; DS Radiochemical Section; Nuclear Medicine Dept.; CC</p> <p>22 Grounds Maintenance Building; Transportation</p> <p>T22 Grounds Maintenance & Landscaping Storage</p> <p>25 Chemical Storage</p> <p>26 Chemical Disposal</p> <p>28 Experimental Surgery & Clinical Medicine Sec.; VRB, OPS</p> <p>28A Veterinary Resources Branch; Comparative Pathology Section</p> <p>28B CDB - Office of Biologics</p> <p>28C CDB - Office of Biologics; National Institute of Dental Research</p> <p>30 National Institute of Dental Research</p> <p>31 General Office Building</p> <p>32 Greenhouse; National Institute of Mental Health</p> <p>34 Chilled Water Plant</p> <p>35 Cafeteria</p> | <p>36 National Institute of Mental Health; National Institute of Neurological & Communicative Disorders & Stroke; National Institute of Child Health & Human Development; National Heart, Lung, & Blood Institute</p> <p>37 National Cancer Institute</p> <p>38 National Library of Medicine</p> <p>38A Lister Hill National Center; Fogarty Inter National Center; National Center For Nursing Research</p> <p>T38 Fitness Center</p> <p>41 National Cancer Institute</p> <p>T46 Childcare, etc.</p> <p>48 National Institute of Child Health & Human Development; National Institute of Neurological & Communicative Disorders & Stroke; National Institute of Mental Health; National Eye Institute; National Institute of Dental Research; National Institute of Alcohol Abuse and Alcoholism; National Institute on Aging</p> <p>60 Mary Woodard Lasker Center for Health Research & Education (The Cloister)</p> <p>61 Cottage</p> <p>62 Children's Inn</p> <p>62 R. A. Bloch International Cancer Information Center</p> <p>MLPE Multi Level Parking</p> <p>MLP7 & Multi Level Parking</p> |
|---|---|---|---|

Due to the nature of the activities carried out on the NIH campus by the various Institutes, Centers, and Divisions making up NIH, a sizeable number of visitors require access to the campus each day. These include Clinical Center patients, visitors, and outpatients; conference/seminar/workshop/lecture attendees; visiting professionals and consultants; library visitors; off-campus employees; vendor/contractor/service personnel; and personal visitors. Based upon data provided by NIH visitor-oriented units and parking survey data collected during the 1989 consultant study, it is estimated that from 3,100 to 3,600 persons visit the NIH campus on a daily basis. This consists of the following visitor categories:

<u>NIH Visitor Category</u>	<u>Estimated Daily Number of NIH Visitors</u>
• Off-campus employees	150
• Outpatients/patients	780
• Patient-related visitors	900
• Contractors/service technicians	200
• Deliveries/messengers/vendors	200
• Professional/technical visitors	485
• Conference/meeting attendees	255-730
• Personal visitors	<u>150</u>
Total	3,120-3,595

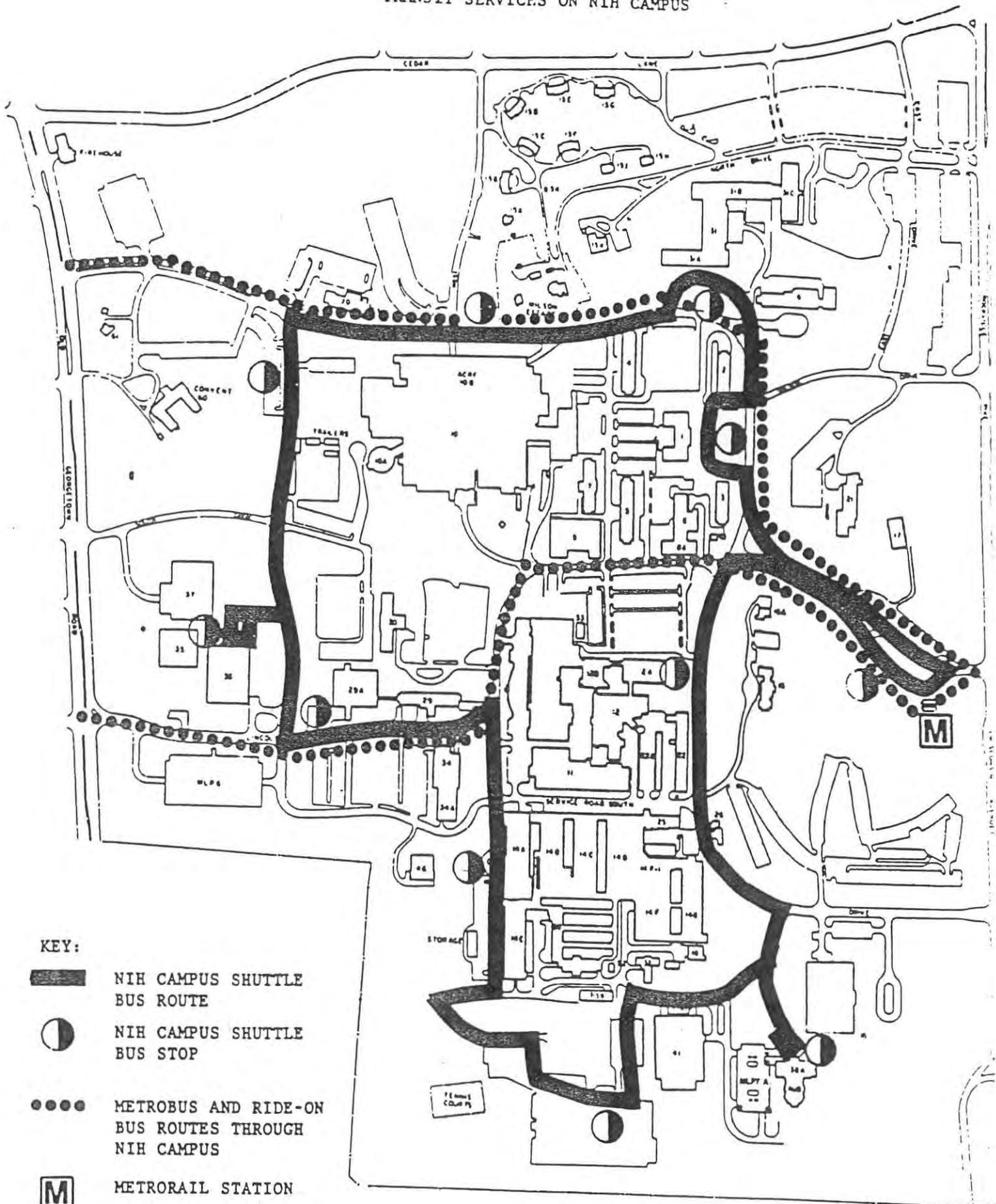
For the purposes of this plan, it is assumed that the NIH visitor population (including patients) is 3,600.

TRANSPORTATION SERVICE CHARACTERISTICS

The NIH Bethesda campus is served by a variety of transportation modes and services. As shown in Exhibit II-3, personnel and visitors can gain access to the NIH campus via two major arterials, Rockville Pike and Old Georgetown Road. In addition, there is direct Metrorail service to the campus via a station located at the corner of Rockville Pike and South Drive. Both Metrobus and Montgomery County Ride-On buses operate through the campus, as shown in Exhibit II-3.

There is also a campus shuttle bus service that links many of the buildings and parking facilities on the NIH campus. Exhibit II-3 illustrates the NIH campus shuttle bus route and major stops. This service has been operating since September 1987 by the Division of Logistics. It consists of 20-seat buses operating on weekdays between the hours of 6:30 a.m. and 6:26 p.m. Currently, shuttle buses operate every eight minutes during this timeframe. All shuttle bus runs begin and end at the Metrorail station on South Drive at Rockville Pike. However, due to concerns raised by the Washington Metropolitan Area Transit Authority (WMATA) over potential liability, NIH shuttle buses are prohibited from using any of the bus service bays at the Metrorail station. Lift equipped vans are also available for handicapped persons upon advanced request. Other NIH shuttle vans transport NIH employees to and from the various off-campus buildings occupied by NIH staff.

TRANSIT SERVICES ON NIH CAMPUS



KEY:

-  NIH CAMPUS SHUTTLE BUS ROUTE
-  NIH CAMPUS SHUTTLE BUS STOP
-  METROBUS AND RIDE-ON BUS ROUTES THROUGH NIH CAMPUS
-  METRORAIL STATION



Another transportation service option available to NIH personnel is the use of ridesharing, through the formation of carpools and vanpools. Historically, carpooling has been the preferred commuting alternative to the single-occupant automobile among NIH personnel. During the energy crisis of 1979-1980 and after parking fees were implemented in 1980 (note: these fees were withdrawn in 1981), the level of carpool/vanpool use reached a peak of 38 percent of all employee commuter trips to and from the campus.² This compares to an estimated transit modal split for NIH campus personnel of 17 percent now³ and 7 percent in 1980 (prior to the opening of the Metrorail station at Rockville Pike and South Drive). There are currently over 1,100 carpools/vanpools operating to the NIH campus, representing about 14 percent of all staff commuting trips to and from the campus. Despite the large number of carpools operating to and from the NIH campus, most are small in size (two-person carpools).

Given the many transportation service options available to NIH personnel, the preferred method of travel used by NIH personnel remains the single-occupant automobile, as illustrated by the figures listed below:

<u>Travel Mode</u>	<u>NIH Personnel</u> ³	<u>Bethesda Central Business District Employees</u> ⁴	<u>Bethesda-Chevy Chase Employed Residents</u> ⁵	<u>Montgomery County Employed Residents</u> ⁵
Single-Occupant Auto	63%	74%	75%	80%
Carpool/Vanpool	13%	8%	8%	8%
Public Transportation	18%	16%	11%	9%
Walk/Bicycle	6%	2%	6%	3%

While an estimated 63 percent of NIH personnel typically use an automobile to individually commute to and from work, 13 percent are involved in carpools and vanpools, based on the responses of those NIH personnel surveyed in the Spring of 1990. This is significantly higher than the 8 percent use of carpools/vanpools by employees in the Bethesda central

² Raising Commuter Parking Prices: Impacts at Federal Work Sites in Metropolitan Washington, DC. By Gerald K. Miller and Carol T. Everett, The Urban Institute, March 1989, Page A-25.

³ NIH Employee Transportation Survey - Final Report. Consulting and Program Management Services, Inc. Prepared for National Institutes of Health, April 1990, Page 2.

⁴ Post-Metrorail Transportation Characteristics Study. JHK & Associates. Prepared for Maryland-National Capital Park and Planning Commission, July, 1987, Page 221.

⁵ Bethesda - Chevy Chase Trends and Conditions Report. Montgomery County Planning Department, Community Planning South, February 1988, Page 26.

business district (CBD), employed residents of Bethesda-Chevy Chase, and employed residents of Montgomery County. Based on the recent survey, 18 percent of NIH personnel commute using public transportation on a regular or occasional basis, via the Metrorail station on campus and direct Metrobus and Montgomery County Ride-On bus services. This level of transit usage is higher than that indicated for the other categories of commuters listed above. Of the 18 percent of NIH personnel who use public transit to commute to and from work, 12 percent use Metrorail while 6 percent use bus services. Greater transit usage is hindered by the radial orientation of Metrorail and Metrobus services, which require highly circuitous trips for many NIH campus personnel.

PARKING SUPPLY CHARACTERISTICS

The NIH campus has numerous surface parking lots and three multi-level parking structures, plus limited on-street parking to serve the daily needs of NIH campus personnel and visitors (as shown in Exhibit II-2). The current number of on-campus parking spaces is broken down by type below:

<u>Type of Parking</u>	<u>Number of Parking Spaces⁶</u>	
• On-Street	234	(3%)
• Surface Lots	6,031	(67%)
• Multi-level Parking Structures	<u>2,721</u>	<u>(30%)</u>
Total Supply	8,986	(100%)

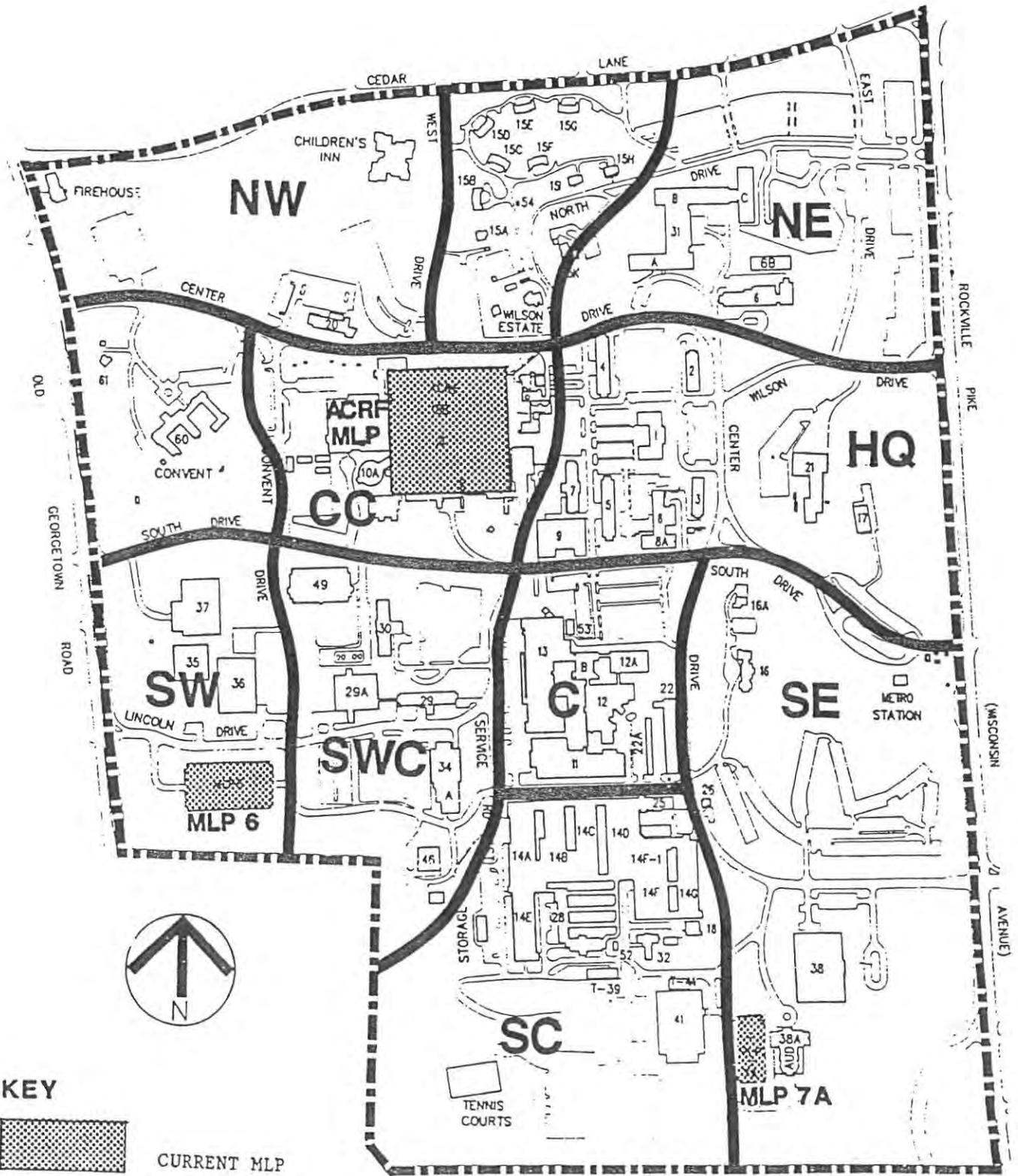
Of this total, 297 parking spaces are designated for use only by NIH-dedicated government vehicles and other special purposes. Therefore, the total effective parking supply for employees, visitors, and patients on the NIH campus is 8,689 parking spaces.

About two-thirds of the NIH campus parking supply is comprised of surface lots, which consume almost 38 acres of the campus (representing 12 percent of the total 308-acre campus site). Several of these lots (Lots 31B, C, F, G, and H, Lot 16F, and Lot 41B) are either partially or entirely located in the 200-foot perimeter buffer of the campus.

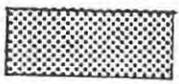
The NIH campus currently has three multi-level parking (MLP) facilities, one of which is located under the Clinical Center, one in the southwestern part of the campus across from Building 36, and one in the southeastern part of the campus next to the Lister Hill National Center (see Exhibit II-4). These three MLPs have a combined capacity of 2,721 parking spaces, representing almost one-third of the total NIH campus parking supply. The Clinical Center parking garage is underground and serves general employees, patients, and preferential parkers in designated levels. The other two MLPs are above-ground structures that serve primarily general employees.

⁶ Based on parking space inventory data provided by NIH in March 1991.

CURRENT NIH CAMPUS
MULTI-LEVEL PARKING FACILITIES

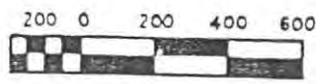


KEY



CURRENT MLP

	SPACES
ACRF MLP	1,487
MLP 7A	372
MLP 6	862
TOTAL	2,721



The parking supply on the NIH campus is designated for use by certain categories of parkers. The current allocation of on-campus parking supply by major user category is shown below:

<u>User Category</u>	<u>Number of Parking Spaces</u>	
• Employee	7,499	(83%)
• Visitor	690	(8%)
• Patient/Patient-Related Visitor	500	(6%)
• Other (NIH-dedicated government vehicles and other special purposes)	<u>297</u>	<u>(3%)</u>
Total Supply	8,986	(100%)

Of the 8,986 parking spaces on the NIH campus, only 7,499 are available for use by NIH employees. The remaining 1,487 parking spaces include 1,190 parking spaces for visitors and patients, and 297 parking spaces for government vehicles and other special purposes.

Except for visitor and handicapped spaces, on-campus parkers must have a valid NIH-issued parking permit in order to legally occupy designated parking areas. Evidence of a parking permit includes a rear windshield sticker and a permit hanger on the rear view mirror.

NIH personnel may park on campus only if they have a valid parking permit. Currently, the number of employee parking permits issued by the Office of Parking, by type, are listed below:

<u>Type of NIH Parking Permit</u>	<u>Number of Employee Permits Issued</u> ⁷	
• General (black and white permit)	11,757	(78%)
• Preferential (red permit)	1,236	(8%)
• Carpool Permit (hangers)	1,142	(8%)
• Patient Care Permit	520	(4%)
• Special Shift Permit (ACRF Level P-3 after 2:00 p.m.)	<u>365</u>	<u>(2%)</u>
Total Supply	15,020	(100%)

⁷ This includes parking permits issued to NIH personnel who are based at off-campus facilities, as well as those NIH personnel who are based on campus.

For the entire NIH campus, the ratio of total effective personnel parking spaces per employee is 0.47 (based on 7,499 employee parking spaces per 16,000 employees). If visitor and patient parking demand and supply are included, the ratio falls to 0.44 total effective parking spaces per total daily employee, visitor, and patient (based on 8,689 parking spaces per 19,600 employees, visitors, and patients).

For all practical purposes, there is little or no off-campus parking available to NIH personnel or visitors within a reasonable walking distance to campus. This is due to the existence of residential parking permit programs that have been instituted in each of the neighborhoods surrounding the NIH campus. These programs prohibit long-term non-resident parking and are actively enforced by Montgomery County police.

PARKING USAGE CHARACTERISTICS

The demand for parking on the NIH campus is generated by two primary groups--NIH personnel and visitors (including patients). In order to assess the utilization of NIH campus parking by NIH personnel and visitors, a comprehensive parking accumulation and turnover survey was conducted in the fall of 1988. This survey provided parking utilization information by type of parker and time of day for each parking facility surveyed. This information was aggregated by geographic zone making up the NIH campus. Estimates of effective parking demand were based upon expanding the observed parking volumes by 5 percent to account for latent parking demand and possible spillover parking. Estimates of effective parking supply were based upon reducing the actual parking supply by 10 percent to account for vacancies that occur when spaces turn over.

Exhibit II-5 shows the observed and effective total parking accumulation on the NIH campus by time of day. This exhibit shows that the effective campus-wide parking capacity was saturated from 9:00 a.m. to 4:00 p.m. during the 1988 survey.

When comparing the effective supply and demand for parking by campus zone, all zones indicated a parking shortage, ranging from 6 to 18 percent, as shown in Exhibits II-6 and II-7. The largest parking supply deficits occurred in Zones CC, C, SW, NE, and HQ. Parking user categories most impacted by the shortage of parking included:

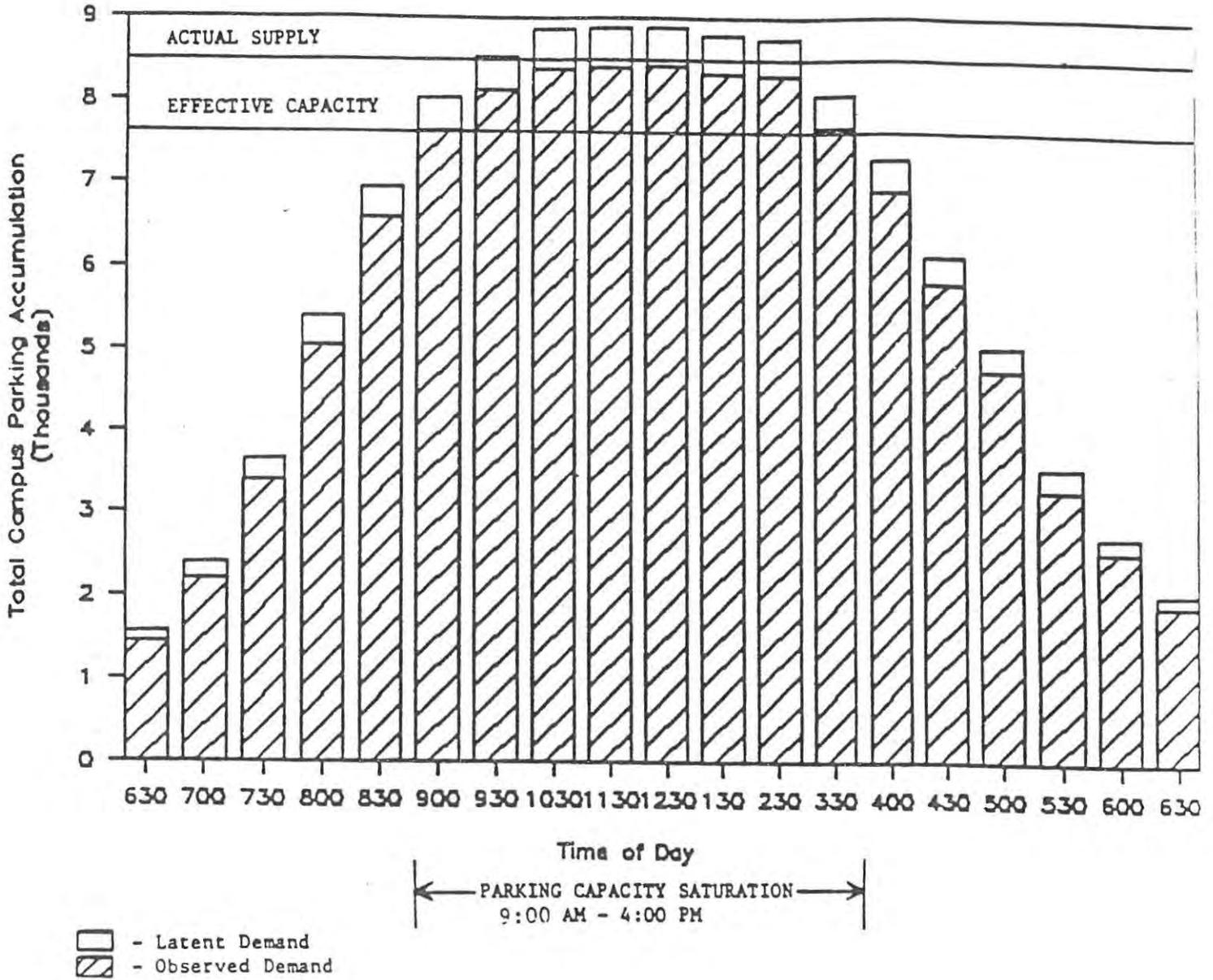
- Visitors (including patients) - 41 percent shortage
- Preferential permit holders - 26 percent shortage
- General employees - 13 percent shortage

The severe shortage of parking designated for visitors and patients on the NIH campus was reflected by a large number of visitors illegally parking in spaces designated for employees (including general and preferential spaces). Illegal visitor parking was most prevalent in Zones NE, SE, HQ, and C, representing the eastern portion of campus nearest Rockville Pike and the Metrorail station.

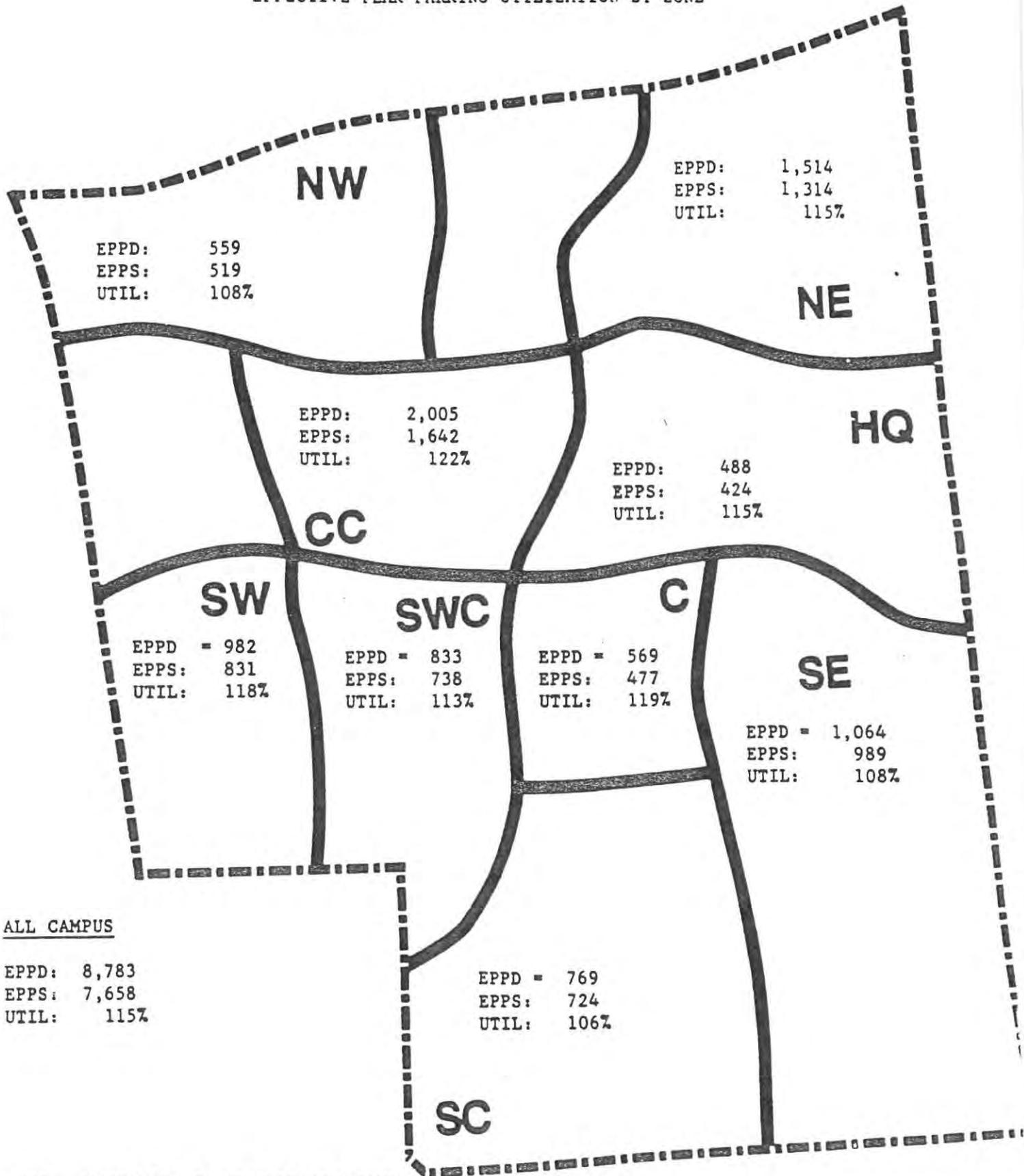
Based on the results of the 1988 NIH campus parking accumulation survey, the average parking duration was just over 6 hours, with visitor parking

EXHIBIT II-5

NIH CAMPUS PARKING ACCUMULATION BY TIME OF DAY



EFFECTIVE PEAK PARKING UTILIZATION BY ZONE



EPPD: EFFECTIVE PEAK PARKING DEMAND
 EPPS: EFFECTIVE PEAK PARKING SUPPLY
 UTIL: PERCENT EFFECTIVE CAPACITY UTILIZED DURING PEAK PERIOD

EXHIBIT II-7

EFFECTIVE PEAK PARKING SUPPLY/DEMAND
RATIOS BY ZONE AND PARKING CATEGORY

<u>Zone</u>	<u>G</u>	<u>P</u>	<u>CP</u>	<u>V</u>	<u>O</u>	<u>All Categories</u>
NW	0.94	-	0.97	-	14.14	0.93
NE	0.84	7.04	1.15	0.30	1.12	0.87
CC	0.90	0.60	-	0.72	1.30	0.82
HQ	0.67	1.34	1.83	0.02	22.29	0.87
SW	0.88	-	1.42	0.47	1.71	0.85
SWC	0.86	1.19	0.94	-	4.29	0.89
C	0.60	1.17	1.31	0.28	1.23	0.84
SE	1.13	0.92	1.54	0.32	1.43	0.93
SC	<u>0.75</u>	<u>-</u>	<u>1.02</u>	<u>1.55</u>	<u>8.57</u>	<u>0.94</u>
All Zones	0.87	0.74	1.17	0.59	1.89	0.87

G - General Employee
P - Preferential
CP - Carpool
V - Visitor
O - Other (e.g., reserved, handicapped, service vehicles, government vehicles, etc.)

duration equaling two-thirds of the average parking duration for employees. Average parking space turnover (based on the number of cars parked per space during the 12-hour period of the survey) on the NIH campus was 1.44. The highest parking space turnover was for visitor spaces at 2.07, while the lowest turnover rate was for general NIH personnel, at 1.29. The highest turnover rates occurred in Zones C and CC, near the Clinical Center and campus general services buildings.

One of the factors affecting the demand for parking on the NIH campus is the overlap of morning and evening shifts, particularly for certain Clinical Center staff. Because of the need to brief arriving shift employees, both sets of employees are required to be present during the shift change. This increases the demand for parking by NIH personnel, particularly in the Clinical Center, during the afternoon shift change (2:30 p.m. to 3:30 p.m.). Evening shift employees can now obtain Special Shift Permits, which allow them to park in the multi-level parking garage of the Clinical Center after 2:00 p.m.

PARKING DEMAND REQUIREMENTS

It is estimated that the minimum peak period parking supply requirement on the NIH campus ranges from 10,000 to 10,900 parking spaces, based upon the current NIH campus population and the travel and parking behavior of NIH campus personnel and visitors observed during the 1988 parking accumulation survey. There is currently a total of 7,499 parking spaces serving approximately 16,000 personnel and 1,190 parking spaces serving approximately 3,600 visitors and patients on campus each day.

The current parking supply rate of 0.47 employee parking spaces per employee on the NIH campus is higher than the rate of 0.33 parking spaces per employee recommended for the NIH campus by the Maryland-National Capital Park and Planning Commission in 1976. However, the current NIH employee parking supply rate compares favorably with the general standard of 0.50 parking spaces per employee established by the National Capital Planning Commission for federal installations in the NIH-Navy Medical Area.⁸ These rates are lower than those which would be produced by applying either the Montgomery County Parking Policy regulations or the Institute of Transportation Engineers' parking generation rates, given the size and population of the NIH campus. The lower rates described above reflect other constraints which are relevant to the consideration of parking supply on the NIH campus, such as the level of congestion along roadways and intersections adjacent to the NIH campus, as well as difficulties in funding parking lot replacement in the form of multi-level parking structures. These important issues will be addressed in the next section of this report.

⁸ Comprehensive Plan for the National Capital-Federal Facilities Element.
National Capital Planning Commission, 1989.

III. FUTURE CONDITIONS

This section describes key assumptions regarding future development of the NIH Bethesda campus and the potential traffic and parking impacts associated with this development. This information provides a basis for developing parking and transportation management strategies which are oriented not only to current needs, but also to future requirements.

FUTURE NIH CAMPUS DEVELOPMENT

During the next ten years, the NIH campus population is expected to continue to expand, based upon the construction of new facilities and the expansion/renovation of existing facilities. Among the new facilities currently under construction or in design are two new lab buildings (Building 49 and Building 29B).

In addition, NIH is planning construction of a Consolidated Office Building (COB) on the southeastern portion of the campus adjacent to the Metrorail station. The proposed COB is expected to house approximately 3,100 NIH health science administrators, management personnel, and their staffs. These personnel are currently located in several buildings, each located several miles from the NIH campus. By consolidating these employees in one location, NIH hopes to increase operational efficiency, improve logistics, and maximize managerial and scientific effectiveness.

The proposed COB facility would house administrative offices, a conference center, a visitor's information center, cafeterias, and other support services. There are 1,800 parking spaces planned in the multi-level parking garage basement, with an additional 100 parking spaces to be located in surface lots. These would replace 636 surface parking spaces currently occupying the proposed COB site.

During the next ten-year time frame, it is assumed that the personnel level for the NIH campus will reach 20,000, including both permanent and temporary personnel. This is based on the addition of the planned COB, representing an increase of 3,100 employees, plus an assumed annual background growth rate of 0.6 percent applied to the approximate employment level of 16,000 personnel.¹

It is further assumed that the ratio of visitors and patients to personnel on the NIH campus will remain the same during the next ten-year time frame.

These assumptions will be reviewed as NIH revises its Master Plan.

¹ This growth rate reflects a 10 to 15 percent increase in NIH campus personnel over the next 20-year period, estimated by NIH to be in addition to any increase resulting from the planned COB.

TRAFFIC IMPACTS OF FUTURE NIH CAMPUS DEVELOPMENT

For the purpose of this report, the traffic impact analysis of future NIH campus development focuses on the most critical parts of the local road network surrounding the NIH campus. The major road intersections along Old Georgetown Road and Rockville Pike, adjacent to the NIH campus, represent the areas of greatest traffic congestion in this network. These intersections and their approach lane configurations are shown in Exhibit III-1.

The analysis of the traffic impacts of future NIH campus development is based on Montgomery County's intersection capacity analysis methodology. According to this method, the volume of traffic during the peak travel period (either a.m. peak hour or p.m. peak hour) is determined and summed for those movements in exclusive lanes or groups of lanes which control the requirements for green time allocation per signal phase. By comparing this volume to predefined levels of traffic, the Level of Service (LOS) or level of traffic congestion at an intersection can be determined.

For each of the intersections shown in Exhibit III-1, the morning and evening peak hour traffic volumes were obtained from Montgomery County Division of Traffic Engineering vehicle turning movement counts. Those counts from 1984 were expanded by a factor of 10 percent while those counts from 1987 were expanded by a factor of 3 percent to obtain current volume levels. The resulting volumes were adjusted to properly balance the flow of traffic through the area. The peak periods for these intersections, based on the traffic counts, are 8:00 to 9:00 in the morning and 4:45 to 5:45 in the evening. This information was applied in the major intersections adjacent to the NIH campus to determine their current LOS ratings. Exhibit III-2 shows the current critical lane volumes and LOS ratings for the seven major road intersections adjacent to the NIH campus.

The turning movements for each intersection adjacent to the NIH campus were projected by escalating the background (non-NIH) traffic volumes by 2 percent, compounded annually over the 10-year study time frame. NIH-based traffic volumes were projected by adding the peak hour proportion of vehicle trips implied by the expected 10-year growth in NIH campus employment (based on current peak hour vehicle trip generation rates per NIH campus employee) to the existing NIH-based traffic volumes. The assignment of this increase in NIH-based traffic to specific intersection approach lanes was based upon the location of the major trip generators on the NIH campus and the geographic distribution of NIH employee residences (based upon the current distribution of NIH employee residences in the Washington, D.C., metropolitan area).

The results of the traffic impact analysis of future (ten-year) NIH campus development is shown in Exhibit III-2. These results indicate that several intersections along Rockville Pike are currently nearing capacity, particularly during the evening peak hour. In ten years, most major road intersections adjacent to the NIH campus are expected to be operating at or beyond their effective capacity (Level of Service D or higher), even without counting traffic resulting from projected NIH campus development, due to expected growth in background traffic along Rockville Pike and Old Georgetown Road.

KEY INTERSECTIONS SERVING NIH CAMPUS

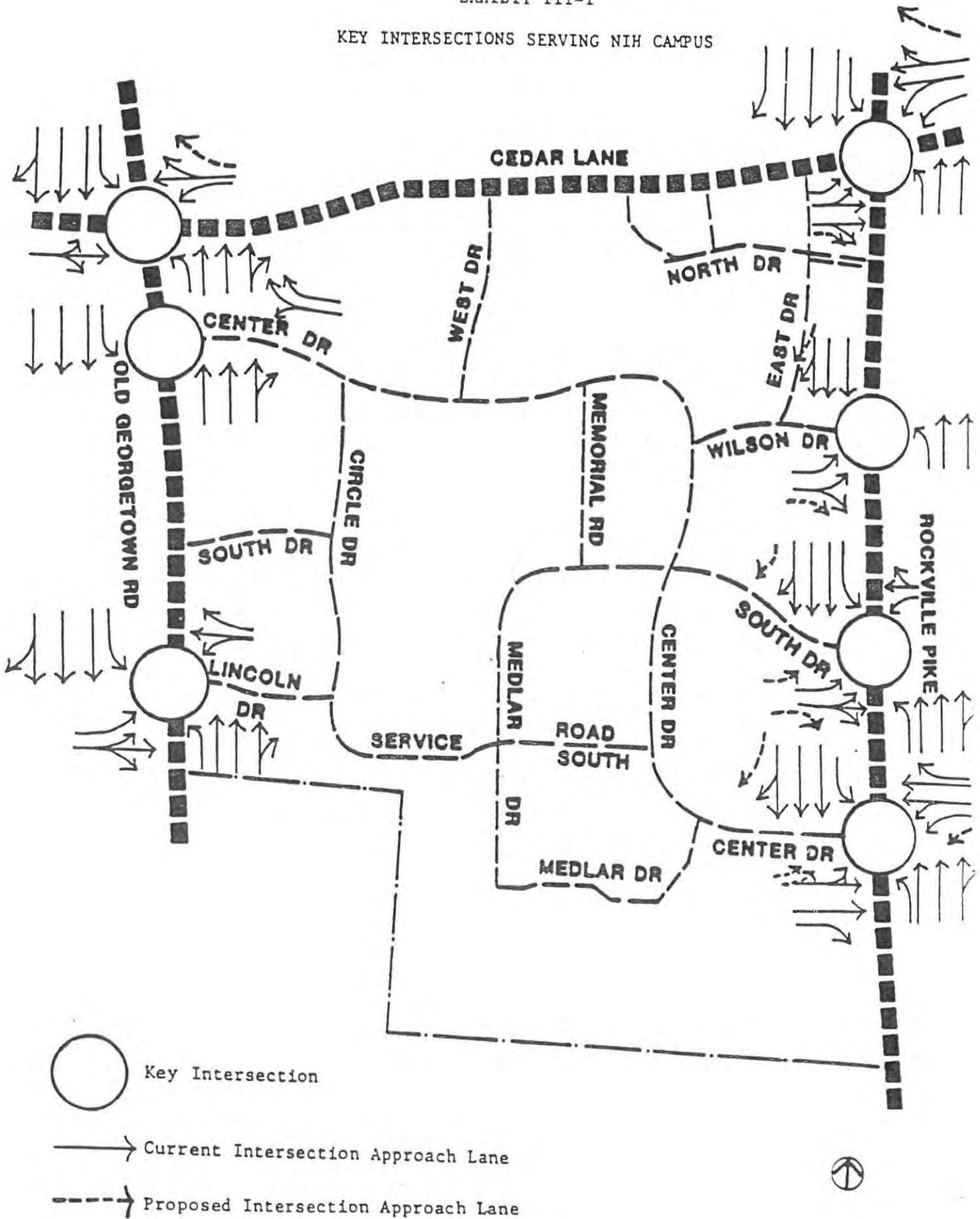


EXHIBIT III-2

NET PEAK HOUR TRAFFIC
 IMPACTS OF NIH CAMPUS DEVELOPMENT
 (Critical Lane Volumes in a.m. and p.m. Peak Hours)

Intersection	Ten-Year Time Frame							
	Existing Time Frame		Without NIH Growth		With NIH Growth		Net NIH Growth	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Old Georgetown Road at:								
Lincoln Drive	814(A)	1109(B)	914(A)	1252(C)	1091(B)	1397(D)	+177	+145
Center Drive	907(A)	1004(AB)	994(AB)	1328(D)	1177(C)	1477(E)	+183	+149
Cedar Lane	1252(C)	1290(CD)	1395(D)	1443(DE)	1531(E)	1733(F)	+136	+290
Rockville Pike at:								
Cedar Lane	1897(F)	1532(E)	2071(F)	1688(F)	2531(F)	1867(F)	+460	+179
Wilson Drive	1226(C)	1469(DE)	1407(D)	1631(F)	1744(F)	1900(F)	+337	+269
South Drive	1185(C)	1238(C)	1340(D)	1383(D)	1734(F)	1784(F)	+394	+401
Center Drive	1558(E)	1462(DE)	1703(F)	1889(F)	2308(F)	2204(F)	+605	+315

Level of Service critical lane volume ranges for Montgomery County:

A: 977 or less	C: 1173-1277	E: 1473-1577
AB: 978-1022	CD: 1278-1322	EF: 1578-1622
B: 1023-1127	D: 1323-1427	F: 1623 or more
BC: 1128-1172	DE: 1428-1472	

Projected NIH campus development will add varying amounts of traffic to these intersections, as shown in Exhibit III-2. This will amount to the following percentage increases in traffic per intersection at the highest peak hour volume:

- +12% - Lincoln Drive @ Old Georgetown Road
- +11% - Center Drive @ Old Georgetown Road
- +20% - Cedar Lane @ Old Georgetown Road
- +22% - Cedar Lane @ Rockville Pike
- +16% - Wilson Drive @ Rockville Pike
- +29% - South Drive @ Rockville Pike
- +36% - Center Drive @ Rockville Pike

To help mitigate traffic impacts of future NIH campus development, the capacity of the most severely congested intersections could be increased by the addition of various turning lanes, as shown in Exhibit III-1. Exhibit III-3 lists the various turning lane additions that would provide the greatest congestion relief relative to traffic produced by the NIH campus. However, the addition of these turning lanes alone would mitigate only about 34 percent of the traffic impacts attributable to projected NIH campus development.

Full mitigation of the traffic impacts of the projected NIH campus development would require the implementation of transportation management strategies which remove at least 15 percent of the auto traffic generated by the NIH campus in the peak travel periods, coupled with efforts to improve the capacity of the most severely congested road intersections adjacent to the NIH campus. In addition, further improvement to the capacity of Rockville Pike adjacent to the NIH campus might also result from the potential addition of one through lane in each direction between Cedar Lane and Woodmont Avenue, and construction of an urban interchange at Rockville Pike and Cedar Lane.²

PARKING IMPACTS OF FUTURE NIH CAMPUS DEVELOPMENT

The addition of about 4,000 new personnel on the NIH campus will place a significant additional burden on the current NIH campus parking system over the next ten years. If a ratio of 0.5 parking spaces (excluding visitor and patient spaces) per NIH personnel were to be maintained, there would be a need to add about 2,000 new employee parking spaces to the NIH campus parking system due to this growth.

Continued development of the NIH campus could require even more new parking spaces to be built to compensate for the loss of existing spaces in surface lots replaced by new construction or building expansion. For example, construction of Building 49 has displaced 179 parking spaces, while the

² These improvements are noted as long-term considerations in the Initial Bethesda-Chevy Chase Master Plan Interim Highway Needs Analysis, contained in the Bethesda-Chevy Chase Master Plan Appendix, Staff Draft, October 1988, pages 26 and 27.

EXHIBIT III-3

POTENTIAL INTERSECTION IMPROVEMENTS
TO HELP MITIGATE FUTURE NIH CAMPUS
DEVELOPMENT TRAFFIC IMPACTS

<u>Intersection</u>	<u>Improvement</u>	<u>Required Length³</u> (feet)
Old Georgetown Road at:		
Lincoln Drive	—	
Center Drive	—	
Cedar Lane	Add west bound right turn lane	300
Rockville Pike at:		
Cedar Lane ¹	Add east bound right turn lane	300
	Add west bound right turn lane ²	600
Wilson Drive	Add south bound right turn lane	400
	Add east bound right turn lane	405
South Drive	Add south bound right turn lane	400
	Add east bound left turn lane	200
	Add east bound right turn lane	160
Center Drive	Add south bound right turn lane	400
	Add two east bound left turn lanes	260
	Add west bound left turn lane ²	345

¹ Ultimately, consideration of replacing this intersection with an urban interchange should be made by Montgomery County due to present traffic conditions.

² Land would be required from other property owners along Rockville Pike for these specific improvements. The remaining improvements would primarily affect NIH campus property.

³ Turn lane length based upon deceleration or queue size criteria and includes taper.

proposed COB would displace 536 surface parking spaces. In addition, there is strong community sentiment favoring the elimination of surface parking lots from the 200-foot buffer area on the perimeter of the NIH campus. There are about 1,170 parking spaces currently located within this buffer area which would have to be eliminated or replaced if the buffer area were to be made development-free.

While future NIH campus development will generate increased pressure to expand the supply of on-campus parking, the use of campus open green space for parking automobiles is a significant concern to NIH senior staff, employees, and adjacent neighborhoods. Given the finite amount of land within the NIH campus, there is widespread sentiment to maintain NIH's campus atmosphere by retaining or expanding the amount of open green space. Considering the expectations for future campus development, these objectives can be met only by reducing the amount of surface parking capacity. This will require establishing additional multi-level parking (MLP) facilities on campus, assuming that the number of on-campus parking spaces per employee and visitor remains about the same. MLPs, while more costly, are much more efficient users of open green space than surface lots. Many also believe that the visual intrusion of a multi-level structure with proper landscaping and a pleasing facade treatment is less significant than a comparably sized surface lot. Other advantages of MLPs versus surface lots include the following:

- Allow for more effective management and control of parking relative to existing regulations by limiting the access points to parking facilities
- Minimize parking search time for staff and visitors by limiting parking supply to fewer, higher-capacity facilities
- Facilitate effectiveness of parking directional signage by reducing the number of parking facilities
- Reduce water runoff by reducing the surface-area requirements of parking facilities

The amount and type of parking that NIH will ultimately provide for its employees and visitors will depend upon many factors, including:

- The level of future development of the NIH campus
- The effectiveness of efforts to reduce the extent to which NIH personnel and visitors rely upon the single-occupant automobile for traveling to and from the NIH campus
- The extent to which employee and visitor parking will be constrained, consistent with the TMP for the entire NIH campus
- The extent to which the campus peripheral buffer will be restored
- The extent to which NIH can afford to maintain its existing open green space and campus-like setting by constructing MLP facilities versus surface lots

These factors will be considered as NIH revises its Master Plan to guide future campus development.

IV. PARKING AND TRANSPORTATION MANAGEMENT STRATEGIES

This section summarizes the major parking and transportation issues confronting the NIH Bethesda campus, defines the goals and key premises for this Transportation Management Plan, and presents the short- and long-term strategies for addressing these issues and accomplishing the goals of the plan.

MAJOR PARKING AND TRANSPORTATION ISSUES

Parking and transportation are highly sensitive and significant topics on the NIH campus, particularly among NIH personnel and visitors who have great difficulty finding a legal parking space, NIH administrators who are trying to sustain program initiatives and maintain staff morale, and County planners who are struggling to limit further congestion along the roads and intersections in the vicinity of the NIH campus. Given these related but often conflicting concerns, NIH is challenged to find effective ways to resolve these problems to the mutual benefit of all affected groups. Before determining how best to address these overall concerns, it is necessary to describe the full range of major parking and transportation issues confronting the NIH campus. The following list summarizes these issues and concerns, based on interviews and meetings with NIH staff, discussions with Montgomery County staff, surveys of NIH personnel, and prior reports and plans:

- NIH campus parking is currently being fully utilized. There are only 0.47 parking spaces (excluding visitor and patient parking spaces) per NIH campus employee. The current demand for parking on the NIH campus exceeds the available capacity by about 1,760 spaces or 20 percent. The groups most impacted by the parking shortage include visitors (representing a 41 percent shortage), preferential permit holders, and those personnel who require flexible work hours and midday off-campus trips. Between the hours of 9:00 a.m. and 4:00 p.m., the campus parking system is saturated.
- Lack of adequate parking capacity on campus hurts staff morale and productivity and makes it difficult for visitors to use NIH facilities.
- Flexitime is discouraged by the lack of available parking spaces after the morning rush hour.
- Parking demand on the NIH campus is comprised of several user categories and activities that distinguish the campus from traditional office parking and trip generation categories:
 - Large numbers of visitors
 - Handicapped persons
 - Multiple shift overlap
 - Researchers/scientists and patient care staff with irregular and varied work hours

- The roadway system surrounding the NIH campus is becoming quite congested. In particular, the intersections on Rockville Pike adjacent to the campus are either at or approaching capacity due to peak period traffic volumes. With limited opportunity to increase the capacity of the road system in this area due to land use constraints, Montgomery County, through its zoning approval process, is constraining future development by the capacity of public facilities, such as roads, to serve this development.
- Available transit services, both on-campus and off-campus, are perceived to be somewhat inadequate by most NIH personnel. NIH personnel surveyed in early 1990 expressed concern about the adequacy of the frequency, routing, and hours of operation of the on-campus shuttle bus service.
- NIH campus directional signage is considered inadequate for most visitors unfamiliar with the location of buildings and parking facilities on the campus. Originally installed in the 1970s, these signs are difficult to read, resulting in confused or lost drivers and parkers.
- Continued growth in the NIH population will aggravate the current parking and traffic problems unless parking/roadway capacity is increased and/or effective parking/traffic mitigation measures are implemented.
- Montgomery County opposes increasing employment and parking capacity on the NIH campus without development of an effective transportation management plan that will mitigate the resulting traffic impacts on local roads and neighborhoods.

GOALS OF THE NIH CAMPUS TRANSPORTATION MANAGEMENT PLAN

The development of a meaningful TMP for the NIH campus requires that a clear set of goals be established toward which the action steps making up the TMP are directed. These goals address the key parking and transportation issues affecting the campus, both currently and in the future. These goals are consistent with the overall mission and goals of NIH, as defined by its enabling legislation and reflected in its Master Plan. The goals of the NIH campus TMP are listed below:

- Improve the availability of parking spaces on campus for NIH personnel and visitors.
- Mitigate the traffic impacts of further campus development on the roadways serving the NIH campus (such that the level of congestion along roadways serving NIH is made no worse than if such development did not occur).
- Maintain a "good neighbor" relationship with the surrounding community.

KEY PREMISES OF THE NIH CAMPUS TRANSPORTATION MANAGEMENT PLAN

Several key premises are required before the NIH campus TMP can be developed. These assumptions define the current and projected conditions under which the TMP strategies are intended to occur. For the purposes of this TMP, the following assumptions are postulated (as described earlier in Section III):

- The time frame for the TMP is ten years.
- Future campus population growth is assumed to consist of the proposed Consolidated Office Building (3,100 employees), plus an annual background growth of 0.6 percent applied to the approximate personnel level of 16,000. This results in a ten-year campus employment level of about 20,000.
- The ratio of visitors and patients to personnel on the NIH campus is expected to remain the same during this ten-year time frame.

These assumptions are subject to change as future events occur and as the NIH Master Plan is revised.

PARKING AND TRANSPORTATION MANAGEMENT STRATEGIES

An integrated set of parking and transportation management strategies is proposed for implementation by NIH to meet the goals established for the TMP. These strategies fall into two sets, depending upon the timing or precedence of their planned implementation. The first set represents those strategies that can and should be implemented on a more immediate and short-term basis (one to two years). The second set includes those strategies that either require a longer lead time (three to five years) for planning, programming, and execution, or represent more drastic measures to which NIH may turn if other strategies fail to achieve or reasonably approach the goals of the TMP.

Short-term Strategies

The following list of strategies is intended to address the dual problems created by the limited capacity of parking and roadway facilities in and around the NIH campus within the next two-year time frame.

Establish an Employee Transportation Services Office to Coordinate TMP Strategies and Promote Non-Single Occupant Travel Modes by Employees.

The proposed Employee Transportation Services Office would be responsible for developing and administering a promotional program for ridesharing and transit usage by NIH personnel and visitors. This office would develop and distribute informational and promotional brochures regarding ridesharing and various transit services, provide information on the NIH campus parking permit program, and develop and administer an NIH ridesharing data base and information matching system. This office will be a key element in the successful implementation of all TMP strategies by coordinating the efforts

of other NIH offices responsible for aspects of the program. This strategy would promote each of the goals of this TMP and would facilitate most of the other TMP strategies recommended in this report.

Continue Current Guidelines for Placing Carpool, Vanpool, Handicapped, and Visitor Parking in Close Proximity to the Intended Destination of the Users. Have the Employee Transportation Services Office Explore the Possibility of Greater Incentives for Larger Carpools. The Office should Investigate Increasing the Minimum Number of People to Three in a Carpool. Disincentives should be Enacted to Discourage Violation of Carpool Regulations.

There is a significant concern about the number of vehicles with carpool stickers entering the NIH campus with only one occupant. Besides violating NIH carpool permit and parking regulations, this practice seriously erodes the credibility and effectiveness of the NIH carpool program. Given the many advantages of an effective carpool program for addressing the parking and traffic problems facing NIH, the Employee Transportation Services Office will be requested to develop strategies to increase enforcement of carpool regulations, raise penalties for violations of these regulations, and improve incentives for larger carpools. The Employee Transportation Services Office will further be requested to study the ramifications of increasing the minimum eligible carpool size to 3, as well as developing an automated carpool rider matching program to facilitate carpool formation among NIH personnel. This strategy would promote each of the goals of this TMP.

Implement a Transit Discount Program for Employees and Initiate Legislative Action to Allow Parking and Ticketing Revenues and/or Appropriated Funds to be Used by NIH to Make Such a Program Self-Sustaining.

This strategy would help to promote greater employee use of available public transportation services for their commute to/from the NIH campus, thereby reducing reliance on the automobile, demand for on-campus parking, and traffic congestion on roads and intersections near the campus. This strategy would promote each of the goals of this TMP.

Improve NIH Campus Shuttle Bus Service/Use.

The NIH campus shuttle bus represents a vital link between on-campus public transit stops/stations, parking facilities, and work/activity destinations of NIH employees and visitors. The frequency of the shuttle service has recently been increased. This improvement should be evaluated along with the reliability and operating hours of the shuttle service. Adjustments should then be made, as appropriate, to further facilitate the use of available public transportation services, reduce traffic congestion within the campus, and improve pedestrian safety and security on campus. Other possible improvements include establishment of additional peak period express routes and increased distribution/posting of shuttle bus service and schedule information. This strategy would promote each of the goals of this TMP and would facilitate many of the other TMP strategies recommended in this report.

Implement a Comprehensive Campus-Wide Re-signage for Vehicles and Pedestrians, Including a Study of Internal Safety Signage and Signaling.

Given the size and complexity of the NIH campus and the large number of visitors and temporary employees who frequent the campus each day, there is an urgent need to provide an easy-to-read, campus-wide sign system to locate campus buildings (especially the Clinical Center) and parking areas (especially those for visitors), and to direct both employees and visitors via the least circuitous route to these facilities. In addition to adequate directional signage, proper safety/regulatory signs and signals should be considered through a traffic engineering analysis to improve safety of both pedestrians and vehicle occupants. This strategy would primarily promote the TMP goal of improving parking availability on campus for NIH employees and visitors.

Emphasize Parking Regulation Enforcement by Providing an Adequately Staffed Parking Enforcement Work Force.

Timely and consistent enforcement of parking regulations and limits is an essential prerequisite for effective control of illegal parking and maintenance of parking availability on an equitable basis. It will be necessary that the Division of Security Operations, Police Branch, continue to adequately staff the Police Traffic Squad so that enforcement remains consistent and fair. This strategy would primarily promote the TMP goals of improving parking availability and mitigating on-campus traffic impacts of future NIH campus development.

Further Promote the Use of Flexitime by Employees and Investigate the Selected Application of Flexitour 9-Day Bi-Weekly Work Schedules. Reserve Selected Parking Areas for Later-Arriving Employees to Encourage Use of Flexitime by Employees.

Flexitime is already in effect or available for a significant portion of the NIH campus population. However, given the current parking limitations on campus, this strategy is used primarily by early-arriving employees. Later-arriving employees are typically not able to find available parking spaces. For this strategy to succeed beyond present levels of use, selected parking areas would need to be reserved for later-arriving employees, including shift workers, and the concept should be more aggressively promoted within NIH.

A variation on the use of flexitime is the 9-day, 2-week work schedule known as flexitour, with eight 9-hour days and one 8-hour day per pay period. By freeing up one day per participating employee every two weeks, both parking and traffic requirements can be reduced by ten percent for each participating employee. While flexitour would not apply to all portions of the NIH campus population, it might be applicable to many segments and therefore offer a significant opportunity to mitigate both parking and traffic problems. For successful implementation, both top management and staff support would be needed. In addition, careful planning and administration of such a program would be required to prevent logistical problems.

This strategy would promote each of the goals of this TMP.

Have the Employee Transportation Services Office Explore the Immediate Opportunities Which May Be Available in Publicizing Existing Programs Which Utilize Outlying Parking Areas, such as Church Lots and Park-and-Ride Areas.

Almost two-thirds of NIH employees reside in Montgomery County. The County has helped sponsor or coordinate a variety of shuttle bus or commuter bus services which access underutilized parking areas such as church or mall parking lots, or established park-and-ride parking lots. These and other related parking/shuttle arrangements may offer NIH employees a convenient alternative to driving and parking on campus. However, such programs would have to be publicized and coordinated with NIH to ensure that NIH employees can be adequately served through the use of church, mall, or park-and-ride lots linked to Metrorail stations or the NIH campus via shuttle buses or carpools/vanpools. This strategy would promote each of the goals of this TMP.

Institute Pay Parking for Visitors to NIH, Exclusive of Patients and Blood Donors, Except After Normal Working Hours.

Charging visitors (excluding patients and blood donors) to park at the NIH campus on an hourly basis will promote higher visitor parking space turnover, thereby increasing parking space availability for all visitors. This will also reduce illegal parking by employees in visitor spaces, encourage visitors to use public transportation, and provide revenues which could be used to offset the costs of administering this strategy. Visitor parking fees could be eliminated after normal working hours when there is significantly greater availability of parking spaces on campus. This strategy would promote each of the goals in this TMP.

Long-term Strategies

The following list of strategies is intended to address the dual problems created by the limited capacity of parking and roadway facilities in and around the NIH campus during the next three-to-five-year time frame.

As the Campus Develops, Maintain the Effective Parking Supply at 0.5 Spaces (Excluding Visitor and Patient Parking Spaces) per NIH Employee (Including Both Ceiling and Non-Ceiling Employees Representing the Non-Transient Campus Population), Plus 16 Percent Additional Parking Spaces to Serve the Parking Needs of Visitors and Patients at NIH.

Given the current constrained NIH campus parking supply levels and the prior concerns raised by local agencies regarding future campus development, this strategy adopts as a long-term objective maintaining employee parking capacity on campus at 0.5 spaces per NIH personnel (including temporary staff and others who remain on campus for at least one week). Additional parking spaces for short-term visitors and patients would be limited to 16 percent of the allowable employee parking space supply, based on the current proportion of visitor and patient parking spaces to employee parking spaces on campus (this rate is obtained by dividing 1,190 visitor and patient parking spaces by 7,499 employee parking spaces).

Maintaining the on-campus parking supply limits (based on 0.5 parking spaces per NIH employee plus 16 percent additional parking spaces for visitors and patients) as the NIH campus develops provides a definitive tool for

influencing parking and travel behavior of NIH personnel and visitors through implementation of the NIH campus development Master Plan. It also provides a benchmark for evaluating the success of the NIH campus TMP. This strategy would primarily promote the TMP goal of mitigating the traffic impacts of future NIH campus development.

Within the Context of the Development of the NIH Master Plan, the Parking Requirements Associated with Future Campus Growth and the Reestablishment of the Buffer Zone Surrounding the Campus Should Be Accommodated by the Construction of Multi-Level Parking (MLP) Structures, within the Parking Supply Criteria Adopted by NIH. Planning and Funding for These New MLPs Should Be Linked to the Funding Plans for Other Buildings to be Added to the Campus.

While MLP facilities are more expensive than surface parking lots, their more efficient use of land makes them well suited to accommodating future campus development, consistent with the parking supply limits noted above. Such facilities would also facilitate reestablishing the perimeter buffer zone and reduce on-campus traffic volumes resulting from parking searches. The number, capacity, and location of future MLP facilities will be addressed as part of the NIH campus Master Plan update. This strategy would promote the parking availability and "good neighbor" goals of this TMP.

Implement an Internal Loop Road Circulation System Within the NIH Campus, with Two-Way Traffic.

The internal circulation loop road envisioned by the NIH campus Master Plan is designed to improve traffic circulation and pedestrian safety on campus, by:

- Reducing the amount of cut-through traffic
- Improving accessibility to perimeter multi-level parking structures
- Reducing the number of vehicle/pedestrian conflict locations
- Providing a more efficient route and bus stop arrangement for the NIH campus shuttle bus service

This strategy would primarily promote the TMP goals of improving parking availability and mitigating on-campus traffic impacts of future NIH campus development by reducing parking search time.

Improve Congested Roadway Intersections through the Addition of More Turning Lanes to Selected Intersections Adjacent to the NIH Campus to Mitigate Traffic Congestion. The Employee Transportation Services Office Should Coordinate with Appropriate County and State Agencies to Determine Funding Strategies, Design Implications, Timing, and Implementation Requirements.

This strategy deals primarily with the mitigation of traffic congestion at five key intersections adjacent to the NIH campus (as discussed in Section III) by facilitating easier turning movements, a major cause of intersection capacity constraints. Design, funding, and scheduling of these

intersection improvements would need to be coordinated with appropriate County and State agencies, whose participation would be required to reflect the level of background traffic using these intersections which is not associated with NIH. The effect of these additional turning lanes on the buffer zone surrounding the campus is expected to be slight. This strategy would primarily promote the TMP goal of mitigating traffic impacts of future NIH campus development.

Have the Employee Transportation Services Office Explore the Feasibility of Developing or Leasing Satellite Parking Areas Near Outlying Metrorail Red Line Stations to Serve NIH Employees, If Necessary after Other Strategies Are Employed.

The ability of NIH to increase the use of public transportation by NIH employees is in part dependent upon NIH employees having access to parking at or near outlying Metrorail stations. To facilitate this, the Employee Transportation Services Office could work with Montgomery County and WMATA to assess the feasibility of developing or leasing satellite parking areas for NIH employees, once other public transit promotion strategies are attempted. Such lots would be attractive to NIH employees if they could be located near outlying Metrorail stations along the Red Line, in communities with large concentrations of NIH employees. This would include such stations as Shady Grove, Rockville, and Twinbrook. Where major parking garages are located near these stations, arrangements might be made to reserve a portion of these facilities for use by NIH employees. Another arrangement would be for NIH to establish or lease satellite parking lots served by the NIH campus shuttle buses. This strategy would promote each of the goals of this TMP.

Pay Parking for Employees of NIH Will Be Considered If NIH Does Not Achieve TMP Goals with Other Strategies Recommended for Implementation.

Establishment of parking fees for employees of NIH is considered a strategy of last resort for achieving the goals of this TMP. While parking fees represent a strong and effective disincentive to commuting by single-occupant automobile, their use by federal government agencies has been limited. Prior efforts by the federal government to impose \$12 per month parking fees at the NIH campus in 1980 were met with strong employee resistance and even legal challenges. While this program was overturned on procedural grounds in 1981 by Federal Court action, a subsequent ruling in 1982 by the U.S. Court of Appeals reversed this decision. However, the program was not reinstated by the new administration.

Given the diversity of strategies contained in this TMP, it is hoped that the combination of the other parking and transportation management strategies will enable NIH to sufficiently satisfy its goals that it will not have to resort to charging employees to park on campus. However, should the collective results of these other strategies not achieve the intended reduction in parking demand and traffic congestion, then NIH will consider the possibility of adopting an employee parking fee program, perhaps excluding employee carpools and vanpools exceeding a certain minimum size. This strategy would promote each of the goals of this TMP.

V. IMPLEMENTATION PLAN

This section describes the action steps, responsibilities, and timing for implementing the NIH Transportation Management Plan strategies presented in the prior section. It also discusses a number of important considerations which would facilitate implementation of these strategies.

IMPLEMENTATION STEPS

The responsibilities and time frames of recommended TMP strategies are summarized below, arranged by short- and long-term strategies. Time frames will begin with the formal adoption of this TMP. These strategies represent a significant undertaking for NIH. NIH will make every effort possible to achieve these strategies within the time frames listed below. However, these time frames can be affected by a variety of external influences that are beyond the control of NIH.

<u>Short-Term Action Steps</u>	<u>Responsible Group</u>	<u>Time Frame</u>
• Establish Employee Transportation Services Office	Office of Research Services (ORS)	6 months
• Enact greater incentives for larger carpools and disincentives for violators of carpool regulations	Employee Transportation Services Office, ORS/ Division of Security Operations, ORS	6-12 months
• Secure legislative action to implement transit discount program	Employee Transportation Services Office, ORS	12-18 months (6-12 months for legislative action)
• Improve NIH campus shuttle bus service/use	Division of Logistics, Office of Administration	Ongoing
• Implement campus-wide re-signage program	Division of Engineering Services, ORS	18-24 months
• Emphasize parking regulation enforcement	Division of Security Operations, ORS	Ongoing
• Promote flexitime and assess flexitour work schedules for NIH personnel	ICD Directors	12-24 months

<u>Short-Term Action Steps</u>	<u>Responsible Group</u>	<u>Time Frame</u>
<ul style="list-style-type: none"> Assess use of existing County shuttle/park-and-ride programs by NIH personnel 	Employee Transportation Services Office, ORS	6-12 months
<ul style="list-style-type: none"> Institute pay parking for visitors, exclusive of patients and blood donors 	Employee Transportation Services Office, ORS/ Division of Security Operations, ORS	12-18 months
<u>Long-Term Action Steps</u>	<u>Responsible Group</u>	<u>Time Frame</u>
<ul style="list-style-type: none"> Maintain the effective parking supply at 0.5 spaces (not including visitor and patient parking spaces) per employee, plus 16 percent additional parking spaces for visitors and patients 	Office of the Director	10 years, as the campus develops
<ul style="list-style-type: none"> Use MLPs to meet parking space requirements within TMP parking supply criteria and budget constraints 	Division of Engineering Services, ORS	3-10 years
<ul style="list-style-type: none"> Implement internal loop road circulation system 	Division of Engineering Services	3-5 years
<ul style="list-style-type: none"> Improve congested roadway intersections adjacent to NIH campus 	Employee Transportation Services Office, ORS/ Division of Engineering Services, ORS/ Division of Space Management, ORS/ MDOT/Montgomery County	3-10 years
<ul style="list-style-type: none"> Assess use of satellite parking areas near Metro-rail stations 	Employee Transportation Services Office/ Division of Space Management	3-5 years
<ul style="list-style-type: none"> Consider pay parking for NIH employees if TMP goals are not met by other strategies 	Employee Transportation Services Office, ORS/ ICD Directors/ Office of the Director	Discretionary

IMPLEMENTATION CONSIDERATIONS

The success of the recommended NIH campus Transportation Management Plan in mitigating the traffic impacts of projected development within the campus and reducing the shortage of parking on campus will depend upon both the viability of the various parking and transportation management strategies and the skill of NIH in implementing these strategies. To improve the chances for successful implementation, the following approaches will be taken:

- The various strategies comprising the NIH campus TMP are complementary and often highly interrelated. They represent a balanced combination of higher-occupancy vehicle travel incentives, parking disincentives, road and parking facility capital improvements, transit service improvements, and work schedule changes to reduce traffic congestion and improve parking space availability at the NIH campus. It is therefore important to consider these strategies as a package with components that can be adjusted as time goes by and conditions change.
- A phased approach will be taken for implementing TMP strategies, as illustrated by the various time frames listed above for each strategy. This will permit NIH to implement quickly those strategies that require the fewest resources or institutional changes, while allowing NIH to lay the proper budgetary, legislative, and administrative groundwork to successfully implement other more significant, harder-to-implement strategies. This phasing process will also allow NIH to maintain the parking supply rate as the campus develops and to gauge the effectiveness of alternative parking and transportation management strategies before considering whether to implement employee parking fees.
- One of the key prerequisites for successful TMP implementation is strong support and commitment by NIH management. This will be demonstrated through presentations and discussions, involving NIH management and employee groups, County planning and transportation agencies, and congressional oversight, appropriations, and budget committees.
- Establishment of the Employee Transportation Services Office will likely be the first TMP strategy to be implemented, since it represents a key unit for planning, managing, and monitoring other TMP strategies and programs. In setting up this office, NIH will provide the necessary staff, administrative, and systems resources to help ensure successful implementation of the program. This office will work closely in support of the various Institutes, Centers, and Divisions making up NIH whose own resources and efforts are essential to the successful implementation of the TMP and the achievement of its ultimate goals.

- NIH, through the Employee Transportation Services Office, will carefully monitor the effectiveness of TMP strategies relative to expected results and established program goals. The office also will measure other related impacts which may support or inhibit the overall objectives of the program. Possible mechanisms which could be used to monitor TMP strategies include:

- Employee travel surveys
- Visitor travel surveys
- Parking accumulation surveys
- Shuttle bus utilization surveys
- Parking violation ticket frequency
- Employee permit usage by type
- Carpool/vanpool compliance surveys
- Transit discount passes sold (if applicable)
- Visitor parking fee revenues by facility

Such time-series data would enable NIH to measure the success of parking and transportation management strategies in promoting the goals and objectives of the TMP.

The development of a baseline data base which documents current parking and travel characteristics of the NIH campus is already under way. NIH, through the Division of Engineering Services, recently conducted a parking and transportation survey of NIH employees. The results of this survey will help form the pre-TMP baseline for measuring changes in parking and travel behavior by NIH personnel. The parking utilization survey conducted in the fall of 1988 as part of the prior consultant study represents another baseline data base documenting parking activity on the NIH campus prior to TMP implementation. Together, these data bases can be used to measure the effects of TMP strategies by comparing their results to that produced by similar data collected in subsequent years.

For the first two years of the TMP program, NIH will reassess the results of the program on a six-month basis to guide implementation and identify necessary modifications to the program. Thereafter, yearly evaluations will be conducted to ensure compliance and identify possible weaknesses or further opportunities. Each assessment will culminate in a written report.

- In addition to TMP program monitoring, NIH will perform a variety of other functions to support implementation of the TMP strategies through the Employee Transportation Services Office. These will include:
 - Developing and distributing alternative transportation services information brochures and inquiry forms aimed at NIH personnel and visitors
 - Developing and distributing NIH campus parking and transportation services information brochures and schedules for NIH personnel and visitors

- Developing and distributing a bicycle path map showing on-campus and regional bicycle paths and trails for NIH personnel and visitors
- Conducting employee workshops on TMP program strategies
- Developing specific information management systems to support NIH parking and transportation management programs
- Conducting coordination meetings with representatives of the Institute, Centers, and Divisions of NIH who are responsible for helping to implement and administer TMP programs
- Acting as a liaison between NIH and other external agencies or groups addressing local transportation and land use issues

These implementation considerations reflect the serious and deliberate approach NIH is planning to take to address the parking and transportation concerns and needs associated with its Bethesda campus.

VI. CONCLUSIONS

The NIH campus is currently experiencing a number of problems in its parking and transportation programs, involving shortages of parking spaces for both NIH personnel and visitors, growing congestion along roads and at intersections adjacent to the campus, inadequate directional and regulatory signage on campus, and inadequate public transportation services. These problems are negatively affecting the productivity and morale of NIH personnel, while impeding NIH programs that involve outpatients and visitors. Further development of the campus will exacerbate these problems as surface parking lots are replaced by new or expanded buildings and employment increases generate more traffic and parking demands. Given the finite capacity of local roads to handle traffic generated by NIH and other employers in the Bethesda-Chevy Chase area, NIH faces difficult choices in trying to accommodate program growth within the constraints imposed by the area's limited transportation infrastructure.

This plan lays out a comprehensive package of strategies aimed at (1) reducing the proportion of NIH personnel and visitors who use single-occupant vehicles to access the campus, (2) increasing the capacity of the local road system, and (3) providing adequate on-campus parking capacity to meet subsequent parking demands by carpools, vanpools, and those personnel and visitors who must use their automobiles to access the campus, within acceptable limits established by the TMP. The success of these interrelated strategies will depend on NIH's ability to provide substantial incentives and program support for NIH personnel to use transit, ridesharing, or pedestrian methods of travel; adjust employee work schedules to reduce travel and parking impacts; aggressively enforce parking regulations on campus; implement paid parking for visitors other than patients and blood donors; and improve roadway circulation and signage within the campus.

The findings and strategies contained in this plan recognize that the NIH campus is not an island, isolated within Bethesda-Chevy Chase. As one of Montgomery County's largest and most prestigious employers, NIH both impacts and is impacted by its surrounding community. In the spirit of maintaining and fostering good relationships with its surrounding community, NIH has formulated this plan of action to achieve a balance between its objectives and constraints and those of its surrounding community. This means finding ways to get NIH personnel and visitors to reduce their reliance on single-occupant automobiles for accessing the campus without immediate adoption of such draconian measures as employee parking fees, while also enabling NIH to fulfill its program directives.

The immediate challenge for NIH is to garner the cooperation of the management and staff of the various Institutes, Centers, and Divisions making up NIH and to foster the support of outside agencies to ensure that there are adequate resources and legislative authority to successfully implement the TMP program of strategies and to maintain/improve its effectiveness over the long term.

National Institutes of Health
Transportation Management Plan
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END OF APPENDIX A.

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