Fort Lee Virginia Traffic Demand Management Plan

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Virginia Commonwealth University

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Abstract

Fort Lee is currently experiencing an influx of personnel and students as a result of the latest Base Realignment and Closure decisions. The installation’s assigned personnel will double by the year 2013, with about half of total future personnel arriving in 2009. The installation finds itself in a major upheaval as it has already allocated over $835 million in contracts for new construction with an expected increase to $1.7 billion in the next couple of years. Even with all this spending on new construction, the amount of available housing on the installation is forecast to decrease from its current state of 33 percent of personnel provided housing down to about 24 percent of total personnel living on the installation.

Therefore, this increase in personnel will have an immediate impact on the levels of service, drive times, and installation access on the roadways surrounding the installation for employees trying to get onto Fort Lee and for those who live in the area and have to pass Fort Lee on their commute. The localities impacted by Fort Lee’s upheaval include Chesterfield, Dinwiddie, and Prince George Counties; the cities of Colonial Heights, Hopewell, Petersburg, and potentially Richmond.

There are 17 roadway and intersection improvement projects, as recommended by the Fort Lee Expansion Traffic Study, which are proceeding as funding and project development time allow. However, none of these 17 projects were previously identified as "normal road improvements" in the Tri-Cities 2026 Transportation Plan and the expectation is that normal road improvement will not be able to keep up with the demand the installation requires.

This plan is written for the Crater Planning District Commission and Fort Lee. The plan will look at traffic demand management techniques and recommend 4 techniques that Fort Lee can implement in order to mitigate the increased future traffic load brought on by its expansion.
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1. Introduction

Fort Lee area’s transportation and roadway system is undergoing major public and private investment. Part of this is due to trying to ensure successful integration of personnel incoming to the region as part of the installations expansion. Current residents experience high quality roadway system with adequate service for volume, levels of service, and turning movements. Even with planned roadway improvements, some measures need to be taken by Fort Lee to mitigate future increased single occupancy vehicle (SOV) travel because the roadway systems will not be able to handle the increased demand. Additional people moving to the area will place a greater burden on the roadways surrounding Fort Lee. This paper will analyze current conditions of the roadways surrounding Fort Lee and propose four Traffic Demand Management techniques that the installation can implement in order to mitigate its expansion on the roadways in the area.

2. About Fort Lee

Map 1. Location Map on page 2 shows Fort Lee being located 28 miles south of Richmond, Virginia. Map 2. Fort Lee Map, also on page 2, shows the installation between the cities of Colonial Heights, Hopewell and Petersburg as well as Chesterfield and Prince George Counties. The installations position is highlighted in an olive green.

Fort Lee serves as the focal point for Army Logistics and provides support to U.S. Army Joint and Coalition operations around the world. It is home of the Combined Arms Support Command, U.S. Army Garrison, Army Logistics College, Quartermaster Center and School, and the headquarters for the Defense Commissary Agency. It is home for nearly 3,200 military personnel and equally as many families’ members, 600 single soldiers on the installation, and another 2,300 family’s off-post. On any given day between 3,000 and 4,200 students are trained here. Most of the students attend one of nine Advance Individual Training courses at the Quartermaster Center and School (QMC&S). However, officers, warrant officers, non-commissioned officers, and civilians also attend classes at the QMC&S, and the Army Logistics Management College (ALMC). Students are also enrolled in the distance learning courses offered through ALMC, and the post trains more that 24,000 students annually. The post provides employment for 3,000 civilians who support the military (Facts, 2006).
Map 1. Location Map (Source: 2008 MapQuest Data Map)

Map 2. Fort Lee Map (Source: 2008 MapQuest Data Map)
3. Base Re-Alignment & Closure (BRAC)

The BRAC Commission's recommendations for reshaping Department of Defense infrastructure officially took effect at 12:01 a.m. Nov. 9, 2005, after Congress allowed them to pass into law. By statute, the Defense Department was required to begin closing and realigning the installations, as called for in the report, by not later than Sept. 15, 2007. The process must be completed by Sept. 15, 2011. The Army will close 12 major installations and close or realign hundreds of small installations, including Army Reserve and National Guard facilities (BRAC, 2008). Prior to BRAC 2005, Fort Lee leadership thought that the installation might be on the closing list. However, the reality is Fort Lee is the beneficiary of this law. As part of a major realignment, Fort Lee will become the Sustainment Center of Excellence for the Army. The installation will double in size by the year 2013. New command and education buildings in logistics, ordnance, and transportation will be enlarged or newly built to accommodate this expansion.

4. Fort Lee Land Use

Fort Lee facilities will cover 7.5 million square feet and encompass 5907 acres of institutional, office, residential, commercial, retail, and recreational activities. The institutional uses are training land for field exercises, weapons ranges, hand to hand combat ranges, endurance courses, and obstacle courses. Other institutional uses include dining hall facilities, barracks, classroom setting training and education buildings, and even child day care. The office space supports military, government service employees, and contractor use. The commercial and retail activities provide shopping environments for a variety of goods and services. These commercial and retail uses include clothing, grocery, restaurant, dry cleaners, gas stations, computer repair, cell phone purchase and even rental car vendors. Recreational activities include hiking trails, golf course, bowling, parks (sports complex /child parks/pool), theater, game rooms, and even bars. The residential use is low density single family neighborhoods with a few low density multi-family housing units.
5. Fort Lee Population Growth

Due to BRAC, the following table shows the population growth of Fort Lee over the course of 5 years from 2008 to 2013. Twenty percent of the population growth will occur in 2009. Thirty-two percent of the population growth will occur in 2010. Forty-eight percent of the growth will occur in 2011. This population growth means the average daily population of Fort Lee will be 112% greater then it was in 2005 (Community, 2008).

<table>
<thead>
<tr>
<th></th>
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<tr>
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<td>9,445</td>
<td>10,443</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Spouses &amp; Children)</td>
<td>8,634</td>
<td>9,003</td>
<td>10,207</td>
<td>11,364</td>
<td>11,364</td>
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<tr>
<td>Civilian/Cont. Family Members</td>
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<td></td>
<td></td>
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<tr>
<td>(Spouses &amp; Children)</td>
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<td>6,986</td>
<td>8,534</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SUPPORTED POPULATION</td>
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<td>43,890</td>
</tr>
</tbody>
</table>

Table 1. Population Growth Over Time (Source: BRAC Community Briefing)

Table 2. Population Growth by Quarter on page 5 breaks the population growth out by quarter years starting in the second quarter of 2009 and ending in the fourth quarter of 2011. The table is a little more specific than the previous table in accounting for the three critical years of Fort Lee expansion from 2009 thru 2011.
# Fort Lee Population Growth by Qtr/FY

<table>
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<th></th>
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<th>3QFY09</th>
<th>4QFY09</th>
<th>1QFY10</th>
<th>2QFY10</th>
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<th>3QFY11</th>
<th>4QFY11</th>
<th>END STATE</th>
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<td></td>
<td></td>
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<td>450</td>
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<td>4450</td>
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<td>4637</td>
<td>4637</td>
<td>4641</td>
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<td>5401</td>
<td>5403</td>
<td>5853</td>
<td>5853</td>
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<tr>
<td><strong>Civilian</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
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<td></td>
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<td>356</td>
<td>30</td>
<td>37</td>
<td>15</td>
<td>163</td>
<td>20</td>
<td>16</td>
<td>10</td>
<td>680</td>
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<td>1095</td>
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<td></td>
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<td>0</td>
<td>1921</td>
<td>5083</td>
</tr>
<tr>
<td>Load**</td>
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<td>6112</td>
<td>7007</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Members***</td>
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<td>49</td>
<td>68</td>
<td>414</td>
<td>1108</td>
<td>33</td>
<td>306</td>
<td>20</td>
<td>2073</td>
<td>5183</td>
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<tr>
<td></td>
<td>15,532</td>
<td>15,733</td>
<td>16,594</td>
<td>16,643</td>
<td>16,711</td>
<td>17,175</td>
<td>18,282</td>
<td>18,315</td>
<td>18,621</td>
<td>18,641</td>
<td>20,715</td>
<td>20,715</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>0</td>
<td>312</td>
<td>2261</td>
<td>79</td>
<td>109</td>
<td>714</td>
<td>3253</td>
<td>53</td>
<td>1185</td>
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<td>5180</td>
<td>13,178</td>
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<tr>
<td></td>
<td>30,326</td>
<td>30,638</td>
<td>32,899</td>
<td>32,978</td>
<td>33,087</td>
<td>33,801</td>
<td>37,054</td>
<td>37,107</td>
<td>38,292</td>
<td>38,324</td>
<td>43,504</td>
<td>43,504</td>
</tr>
</tbody>
</table>

*FY09 Starting populations come from current (May 08) ASIP Report.

**Student Average Daily Load comes from FY10 ATRRS and IMRL data.

***Family member projections are based on existing Fort Lee statistics applied to incoming populations.

As of 30 Jul 08
6. Roadway Volume

Annual Average Daily Traffic (ADT) Counts from 2006 are provided so the volume of traffic that the roadways surrounding Fort Lee experience can be examined. The turning movement counts were taken in May 2006 and are the 2006 AM Peak and 2006 PM Peak columns in the table below. All these numbers are prior to the population surge that is coming due to the Fort Lee expansion discussed above. With Fort Lee being the largest employer in this area the turning movement numbers can only increase as more personnel are assigned to Fort Lee.

### 2006 Link Volumes

<table>
<thead>
<tr>
<th>Facility</th>
<th>From</th>
<th>To</th>
<th>2006 ADT</th>
<th>2006 AM Peak</th>
<th>2006 PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington Street / Oaklawn Blvd (Route 36)</td>
<td>Puddledock Rd (Route 845)</td>
<td>Lee Ave (Ft. Lee Gate)</td>
<td>17,800</td>
<td>1203</td>
<td>1294</td>
</tr>
<tr>
<td>Oaklawn Blvd (Route 36)</td>
<td>Lee Ave (Ft. Lee Gate)</td>
<td>Temple Ave (Route 144)</td>
<td>18,700</td>
<td>1243</td>
<td>1385</td>
</tr>
<tr>
<td>Oaklawn Blvd (Route 36)</td>
<td>Temple Ave (Route 144)</td>
<td>Jefferson Park Rd (Route 630)</td>
<td>36,100</td>
<td>2250</td>
<td>2840</td>
</tr>
<tr>
<td>Hickory Hill Rd (Route 109)</td>
<td>County Dr (Route 460)</td>
<td>Mahone Ave (Ft. Lee Gate)</td>
<td>9,800</td>
<td>882</td>
<td>746</td>
</tr>
<tr>
<td>Courthouse Rd (Route 106)</td>
<td>County Dr (Route 460)</td>
<td>Baxter Rd (Route 603)</td>
<td>7,900</td>
<td>669</td>
<td>656</td>
</tr>
<tr>
<td>Courthouse Rd (Route 106)</td>
<td>Baxter Rd (Route 603)</td>
<td>Bull Hill Rd (Route 630)</td>
<td>9,900</td>
<td>882</td>
<td>765</td>
</tr>
<tr>
<td>Courthouse Rd (Route 106)</td>
<td>Bull Hill Rd (Route 630)</td>
<td>Allin Rd (Route 634)</td>
<td>7,900</td>
<td>747</td>
<td>502</td>
</tr>
<tr>
<td>Temple Ave (Route 144)</td>
<td>Puddledock Rd (Route 645)</td>
<td>River Rd (Route 725)</td>
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<td>1523</td>
<td>2381</td>
</tr>
<tr>
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<td>River Rd (Route 725)</td>
<td>Oaklawn Blvd (Route 36)</td>
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<td>1202</td>
<td>1985</td>
</tr>
<tr>
<td>Winfield Rd (Route 460)</td>
<td>Crater Rd (Route 301)</td>
<td>Hickory Hill Rd (Route 109)</td>
<td>20,500</td>
<td>1815</td>
<td>1636</td>
</tr>
<tr>
<td>County Dr (Route 460)</td>
<td>Hickory Hill Rd (Route 109)</td>
<td>Baxter Rd (Route 603)</td>
<td>11,700</td>
<td>942</td>
<td>1027</td>
</tr>
<tr>
<td>County Dr (Route 460)</td>
<td>Baxter Rd (Route 603)</td>
<td>Courthouse Rd (Route 106)</td>
<td>9,000</td>
<td>755</td>
<td>751</td>
</tr>
<tr>
<td>Baxter Rd (Route 603)</td>
<td>County Dr (Route 460)</td>
<td>Courthouse Rd (Route 106)</td>
<td>3,300</td>
<td>307</td>
<td>232</td>
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<td>Jefferson Park Rd (Route 630)</td>
<td>Adams Ave (Ft. Lee Gate)</td>
<td>Middle Rd (Route 646)</td>
<td>9,900</td>
<td>809</td>
<td>851</td>
</tr>
<tr>
<td>Jefferson Park Rd (Route 630)</td>
<td>Middle Rd (Route 646)</td>
<td>Oaklawn Blvd (Route 36)</td>
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<td>869</td>
<td>1171</td>
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<tr>
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<td>Courthouse Rd (Route 106)</td>
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<td>488</td>
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<td>Puddledock Rd (Route 645)</td>
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<td>560</td>
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<td>Takach Rd (Route 647)</td>
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<td>794</td>
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<td>River Rd (Route 725)</td>
<td>Temple Ave (Route 144)</td>
<td>Puddledock Rd (Route 645)</td>
<td>5,600</td>
<td>406</td>
<td>356</td>
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</tbody>
</table>

Figure 1. 2006 Link Volumes (Source: VDOT ADT & Baker 2006 Fort Lee Traffic Study)
The roadways directly surrounding Fort Lee are Temple Avenue, Route 36, Oaklawn Boulevard, County Drive, Jefferson Park Road and Courthouse Road. As seen in the table above, the ADT volume for Temple Avenue, Oaklawn Boulevard, and County Drive are already the highest for the Fort Lee area and again can only be expected to increase as additional personnel move to the installation.

7. Roadway Turning Movements

The turning movement configurations for the roadway intersections around Fort Lee are provided below so the existing lane configurations are known for ADT and Levels of Service analysis that is provided in Figure 3. Levels of Service on page 10. Turning movement counts from above are important because traffic engineers use these numbers to interpret demand on an intersection and evaluate mitigation necessary to improve conditions. The specific intersections that turning movement counts were collected are labeled in Figure 1. 2006 Link Volumes and are shown on page 8 in Figure 2. Turning Movements. Subsequently in Figure 3. Level of Service, the numbered intersections from Figure 2 are assigned different level of service categories. The categories are explained on page 9.
Figure 2. Turning Movements (Source: Baker 2006 Fort Lee Expansion Traffic Study)
8. Roadway Level of Service (LOS)

Level of Service (LOS) is categorized in six levels from A to F. Acceptable LOS is C or better. Most of the roadways shown currently operate at acceptable LOS levels. However, the same roadways that were mentioned above as being directly around Fort Lee and experiencing the highest ADT also do not have acceptable LOS at some intersections. These intersections of concern are Temple Ave and Puddleduck Road; Oaklawn Boulevard and Temple Avenue; Oaklawn Boulevard and Jefferson Park Road; and Oaklawn Boulevard and Lee Avenue. These intersections experience LOS at E and F levels during daily peak traffic periods. Figure 3. Levels of Service on page 10 assign categories of Level of Service to the intersections viewed on the previous page. Additionally the ADT from 2006 Link Volumes is also on the corresponding road below.
Figure 3. Levels of Service (Source: Baker 2006 Fort Lee Expansion Traffic Study)
9. Installation Access

Fort Lee currently has five gates and one planned gate. The planned gate is River Road Gate. It will be accessed from Route 36. This gate is not currently used because the land between Temple Avenue and Route 36 is currently being developed as part of the Fort Lee expansion. River Road is officially closed to through traffic. Of the remaining gates, the first four are in constant use and the fifth gate will be used for at least the duration of the construction associated with the Fort Lee BRAC expansion. These gates are:

1. Main Gate. Installation Lee Avenue accessed from Route 36.
2. Sisisky Gate. Installation Sisisky Road accessed from Temple Avenue or Oaklawn Boulevard.
3. A Avenue Gate. Installation A Avenue accessed from Jefferson Park Road.
4. Mahone Gate. Installation Mahone Avenue accessed from County Drive.
5. Shop Gate. Installation Shop Road accessed from Jefferson Park Avenue.

Again it is important to note that the roads that are used to access Fort Lee already have high AADT as well as LOS concerns at some of the intersections and only one new gate is proposed. As the installation grows the volumes for gate access will only increase. There are 17 roadway and intersection improvement projects, as recommended by the Fort Lee Expansion Traffic Study, which are proceeding as funding and project development time allow. However, none of these 17 projects were previously identified as "normal road improvements" in the Tri-Cities 2026 Transportation Plan and the expectation is that normal road improvement will not be able to keep up with the demand the installation requires. Therefore alternate methods of reducing traffic to the installation must be explored.

10. Traffic Demand Management

Fort Lee must pursue ways to lessen demand for single-occupant vehicle (SOV) travel through its gates if it is to maintain a functional transportation system and limit its expansion impacts on the surrounding community’s residents. Traffic demand management (TDM) is a key tool to reduce SOV travel as well as facilitate mobility options for area residents. TDM increases the efficiency of the transportation system through the promotion and facilitation of alternative modes of travel such as ridesharing, vanpooling, and public transit. Other tools that
TDM promotes are alternative work schedules and telecommuting, which can shift and reduce demand on the installation access points. TDM tools can be used immediately to lesson the burden on a roadway system undergoing improvements and continue to be used in the future after those roadways and intersections construction is completed. This plan will describe the TDM programs and strategies mentioned in this paragraph that Fort Lee can implement to reduce its expansions impact on its neighbors.

11. Goal, Objectives, Strategies

The goal of this traffic demand management effort for Fort Lee is to reduce the demand for SOV travel either by eliminating trips, shortening trips, changing the mode of travel, or changing the time of day that the trip is made.

One objective for this plan is to provide ideas for reducing SOV travel onto Fort Lee without significantly increasing the installations operating costs. Another objective for this plan is to produce ideas that are within the bounds of military regulations so that the installation can actually implement the strategies.

The strategies proposed to Fort Lee for Traffic Demand Management are telecommuting or alternate work schedules, public transit, car/ride sharing, and van shuttle program.

12. Telework

Teleworking reduces the need for commute trips by enabling employees to work from home or another location one or more days a week. The U.S. Office of Personnel Management (OPM) and U.S. General Services Administration (GSA) provides federal job guidance on setting up telework positions (Telework.gov). This is a program that is already authorized and in place with the OPM and GSA to provide area employers with the technical support they need to begin Telework programs.

There are start up costs for telework come in the form of computers, networks, and peripherals. However the return can be measured in reduced absenteeism and tardiness, reduced
parking requirements, reduced overhead (electric, heat, space), and reduced turnover in employees. Besides the reduction in costs other benefits to employers from teleworking employees include increased productivity, improved motivation, flexible staffing, and skills retention.

13. Telework Implementation

Fort Lee needs to expand outreach efforts through the use of marketing campaigns and direct contact to the various commands on the installation that have the over 5600 civilian and contractor employee positions who can begin teleworking. Outreach activities should inform the managers, supervisors and leaders of the benefits associated with telework programs and provide them with the resources and knowledge needed to implement and run successful telework programs. OPM and the Contracting office can do a review of those positions that have a chance of being transformed into telework positions. Not all commands or every employee will be able to telework. The mission of each command and position dictate the feasibility of the opportunity, but a list generated to the commands will help produce result for this strategy. Plus the start up costs to each command would be negligible for this strategy because computers and peripherals would already be purchased for an on site working employee and could just be transferred to telework. Also networks are already established and paid for by individual connection.

Specific commands that should be targeted are Combined Arms Support Command, Defense Commissary Agency Headquarters, Army Procurement Research and Analysis Center, PM Combat Global Service Support, and the Information Systems Software Development Center.

14. Compressed/Alternate Work Schedule

Compressed work schedules typically allow employees to work 40 hours in four days or 80 hours in nine days. This allows these employees to reduce the number of days they must commute to work. It also allows more opportunities for travelers to avoid peak congested weekend travel times. Alternate daily work schedules allow employees to start and end their
work days at nontraditional times, possibly avoiding peak travel times. Again this is a program that is open to government federal employees. Contracted employees can engage in this program as long as the signed contract is worded in a way that encourages compressed or alternate work hour schedules.

15. Compressed/Alternate Work Schedule Implementation

Have the OPM or the contracting office conduct a review of jobs that they consider as opportunities for telecommuting, flex schedule or flex hours. Publish the list to the commanders and have open dialogue with the employee and the command about the opportunity these programs represent. Again cost for this strategy is negligible because the only thing changing is the start and end times for individual employees.

Additionally, Fort Lee needs to take action similar to telework, efforts through the use of marketing campaigns and direct contact to the various commands on the installation that have the over 5600 civilian and contractor employee positions who can begin compressed or alternate work hour schedules. Outreach activities should inform the managers, supervisors and leaders of the various organizations of benefits associated with compressed and alternate work programs and provide them with the resources and knowledge needed to implement and run successful compressed and alternate work programs.

The same specific commands mentioned in the telework section should be targeted. Additional commands targeted for this program are Installation Management Agency, Army Logistics Management College, Quartermaster Center and School, Ordnance Center and School, and Transportation Center and School.

16. Public Transit

In 2008 the Fort Lee Installation Management Agency and Petersburg Area Transit (PAT) worked together to get a bus route established that included access onto and off Fort Lee. PAT runs a route that from Fort Lee to downtown Petersburg and then Southpark Mall. This route
was established in order to provide Fort Lee students and trainees an opportunity to get to the mall at a rate that is much reduced over taking a taxi to the same destination. In response to this agreement the Southpark Mall built bus shelters around Southpark Circle to accommodate the soldiers (Brown, 2007). Public transportation is also provided between Richmond and Petersburg by PAT and Greater Richmond Transit Company (GRTC).

17. Public Transit Implementation

Fort Lee needs to market this bus route to the civilian and military employees of the installation. Efforts to increase ridership need to be explored through the use of marketing campaigns and direct contact to the various commands on the installation. Outreach activities should inform the managers, supervisors and leaders of the benefits associated with public transportation in place. There is an opportunity to expand bus routes and times if demand merits the increased services.

If enough interest is garnered in public transportation then other opportunities for park and ride arrangements are present. The Defense Supply Center (DSC) is a military installation located off of the Jeff Davis Highway (US 1) and Chippenham Parkway (VA 150). The DSC is in Chesterfield County situated in close proximity to geographic location like Chester Virginia where many current and future employees of Fort Lee choose to reside. The DSC can be set up as a park and ride for easy public transportation to Fort Lee.

Unfortunately, there are significant costs associated with this strategy that the City of Petersburg is currently handling alone. Average yearly deficit that the PAT is experiencing is $50,000. Broken down to Fort Lee, each ride cost the individual one dollar, but the actual cost to run the trip is around $4.19 per individual. In order to continue the route and to expand into a possible park and ride opportunity the installation should consider providing a stipend to Petersburg Area Transit to offset the deficit it currently incurs by providing public transportation to the installation. Increasing ridership can also help.
18. Car Pool / Share Ride

Fort Lee has many large organizations with multiple employees living in close proximity to each other who choose to drive individually to work. Additionally, there are thousands of soldiers who are assigned to Fort Lee in a temporary duty status to attend various schools. Sometimes 2 or 3 soldiers from the same unit are sent to the same school. Each soldier is authorized to bring their privately owned vehicle (POV) and receive “in and around” mileage reimbursement. Other times each soldier from the same unit is authorized a rental car for the duration of their training.

There is not enough barracks space on Fort Lee to handle all the trainees for all the different classes taking place on the installation. Fort Lee contracts out to house soldiers in hotels around the area in a 3-12 mile radius. Again each individual soldier is authorized a POV or a rental car. As seen above in the population growth table, the number of trainees coming to the installation is going to increase over the next five years. The SOV gate access will also increase.

19. Car Pool / Share Ride Implementation

This cost effective strategy can be implemented by using Army Regulation (AR) 11-27 - Army Energy Program. Installation or activity commanders are instructed to promote ridesharing. Ridesharing incentives, such as preferred parking for carpools, will be implemented. Cost to the installation to run this program is again negligible in terms of mandating it, providing preferred parking and having an established office implement the program. Information and assistance on ridesharing programs can be obtained from the Federal Highway Administration division office located in each State, or from the National Ridesharing Information Center, U.S. Department of Transportation, telephone (202) 366-4069 (AR 11-27, 1997).

The Installation Management Agency (IMA) can encourage car pooling within individual commands by mandating a Car Pool Command Policy Letter be one of the required letters written by all commands on the installation. IMA can go one step further by having an entity like Transportation Office, Army Community Service, or Morale, Welfare and Recreation Office
keep a list of installation employees who would like to car pool but don’t live close to someone within their own command. This would enable car pooling to the installation to take place across the various organizations on the installation.

Another method for reducing SOVs accessing the installation is to require the soldiers who are from different units, but attending the same class, and living in the same hotel to car pool. Trainees are basically all on the exact same schedule so 2-4 members of a class can arrive to physical training in the morning, return to their housing, attend class, and go to lunch and dinner together thereby vastly decreasing the number of SOVs accessing the installation gates.

Some of the specific courses that can be targeted for this car pooling method include Basic Non Commissioned Officer Course (BNCOC), Advanced Non Commissioned Officer Course (ANCOC), Officer Basic Course (OBC), and Intermediate Level Education (ILE).

20. Van Shuttle Program

The van shuttle strategy is based on the same considerations as the car pool/rideshare section of this plan. The car pool strategy is a less formal method of getting SOV use to the installation reduced. The van shuttle approach is more formal and will also work because thousands of soldiers attend training courses on temporary duty (TDY) status at Fort Lee every year. An effective and mandatory van shuttle program is possible. A van shuttle program can actually be a cost-saving measure for the Army (Tice, 2008). The program would provide transportation services in the form of passenger vans to students who normally use government-funded rental cars or are reimbursed for “in-and-around” mileage using their personal cars. This government transportation services would be available to active-duty and Reserve soldiers on TDY orders to officer and enlisted service school courses, regardless of whether their lodging is on or off post.

21. Van Shuttle Implementation

Students attending various classes on Fort Lee will be required to participate unless they receive authority to drive a private vehicle. They likely will not be approved for rental cars, or for mileage reimbursement if driving their own cars. The money saved from rental car authorization and mileage reimbursement can be used to purchase or lease passenger vans with
an occupancy rate of 7 to 12 people. The vans should be under the purview of the General Services Administration which already runs a motor pool for government owned or leased vehicles which are available for use by military personnel. The van shuttle program could also help reduce or eliminate transportation hassles and out-of-pocket expenses for soldiers attending schools.

An average lease for a standard 8-12 passenger van is $345.00 per month for a five year total contract. If the installation acquires 100 vans then cost would be $414,000.00 per year plus 20 percent for maintenance of $82,800.00 per year bringing total estimated cost to run the fleet at $496,400.00 per year. Compare that to the cost for rental cars which is $28.00 per day, $748.00 per month, and $8,976.00 per year for one vehicle or $897,600.00 for 100 rental cars. Plus “in and around” mileage reimbursement for one person is $00.485 at 24 miles per day. This equals $11.64 per day, $349.20 per month, $4,190.40 per year, or $419,040.00 for 100 per year. Total to run the rental and “in and around” mileage program is $1,316,640.00 per year per 100 vehicles. Savings to the installation for running a Van Shuttle Program is $820,240.00 for running 100 vans versus 100 rental cars. Ten vans can handle 100 students so then it is $49,640 to run ten vans for one year versus the full $1,316,640.00 for 100 individual cars making the savings be $1,267,000.00.

22. Strategy Prioritization and Evaluation

The order of priority to implement the four strategies discussed in this plan are:

1. Van Shuttle
2. Car Pool
3. Telework/Alternate Work Schedule
4. Public Transportation

The Van Shuttle programs cost effectiveness is reason enough to place it at the top of the priority list. But this program can be taken one step further. An average student attending ILE can make between 6 and 8 SOV trips onto the installation every day for physical training, breakfast/morning class, lunch/afternoon class, and dinner. For 100 students this is between 600
and 800 SOV trips everyday. By placing those same 100 students in vans and estimating 10 trips per van per day the number of vehicles accessing the installation is reduced by 500 to 700 every day. These reductions in trips lower ADT, pollution, consumption, and wait times for installation access for those who live and work in the surrounding areas as well as Fort Lee.

The car pool / share ride program would be the next priority. If the Van Shuttle program isn’t in place then it could be mandated that students in the same class, living in the same housing car pool or share rides. The cost for rental cars and “in and around” mileage reimbursement could be reduced by 25 to 75 percent by getting 2 to 4 people in a vehicle versus SOV trips. Additionally, any car pooling taking place internal to various commands or even just within the installation would help reduce ADT and wait times at the limited access points of the installation.

The third priority for implementation is telework or compressed/alternate work schedules. As discussed earlier the cost for these programs is negligible. The return for the installation for implementing this strategy is lowered ADT on the roadways surrounding Fort Lee. Even if just ten percent of the eligible 5600 civilian and contracted employees take advantage of the program there are still 560 less trips per day onto the installation.

The last priority for implementation is public transit. As discussed in the earlier section for this topic there is a shortfall between revenue gained from ridership and cost to run the route. Public transportation is difficult to offer and expand when it is running at a deficit. Fort Lee would have to provide funds to PAT and possible GRTC to set up park and ride opportunities or even to offer additional pick up times on the current route. Since one of the objectives of this plan is to keep operating cost to the installation at a minimum this strategy is the last priority.

23. Conclusion

This studio project reviewed existing conditions for Fort Lee area roadways. These conditions where then found to be inadequate to meet the future demands that Fort Lee’s expansion is sure to bring. Four traffic demand mitigation strategies that Fort Lee can implement in a manner that has a positive outcome for itself and the communities around it where suggested. If implemented, the TDM strategies will help relieve expected increased traffic demands on the roadways around the installation. The first significant off-base roadway construction project will
not start until 2010. Therefore, existing capacities will be all that is available to absorb anticipated increased installation traffic. This means there is an immediate opportunity for TDM alternatives to be introduced at Fort Lee (the largest employer in the Tri-Cities) to mitigate expected traffic congestion in the future that the current projects do not account for.
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