

## Chapter 1 — Background & Overview

### Introduction

The Regional Growth Management Plan (RGMP) developed for the Military Growth Task Force (MGTF) of North Carolina’s Eastern Region analyzed impacts of imminent and substantial growth of military and civilian personnel at the region’s installations. The RGMP focused on impacts to and solutions for housing, workforce and job creation, education, transportation and infrastructure, medical, health, and social services, public safety and emergency services, and quality of life. The RGMP presented solutions and strategies that could best meet the requirements and absorb the impacts generated by the influx of these personnel and their families to the region – and the induced growth that likely will follow from such an influx.

Among the RGMP’s general strategies was one to promote sustainable development patterns in the region’s jurisdictions, the success of which would be measured by their potential for *environmental stewardship, economic prosperity, and equitable distribution of community resources*. The RGMP further noted that sustainability would be achieved by implementing the principles and technologies that organize planning for *smart growth, low-impact development, and green building*.

Defining a path forward for implementing the RGMP and achieving a Regional Partnership that builds upon sustainable development and smart growth is a critical next step for the MGTF. The Transportation Demand Management study for MCB Camp Lejeune / MCAS New River — with strong consideration of the region as a whole — supports the overarching mission of the RGMP to establish sustainability by managing the amount of single occupant vehicles (SOV) on area roads.

A companion study for MCAS Cherry Point is proceeding on a parallel schedule and utilizing a similar planning process. While both studies support the mission to reduce single occupant vehicles on area roads, each is led by a unique Advisory Committee and rooted in a local planning context. The MCAS Cherry Point Transportation Demand Management report is provided under separate cover.

### What is a TDM Plan?

Transportation Demand Management (TDM) is a term for strategies aimed to achieve efficient use of the transportation system without physical modifications (e.g., additional capacity) to the transportation network. TDM strategies are policies or programs intended to achieve shifts in travel patterns such as shifting from automobile to non-automobile modes, from single-occupant vehicles to higher occupancy vehicles, and from peak-hour travel to off-peak travel. In other words, TDM refers to attempts to change travel behavior (how, when, and where people travel) to increase the efficiency of transportation systems and roadways. Strategies tied to a TDM plan focuses on the demand side (behavior changes) rather than the supply side (infrastructure improvements).

TDM strategies typically involve employers and public agencies who can influence the travel behavior of employees and citizens. Benefits of TDM strategies include:

- Reduced congestion on area roadways
- Reduced car maintenance and usage costs
- Increased safety and community appeal
- Increased mobility and choices for non-drivers
- Reduced delay at base entrances
- Energy conservation
- Improved water and air quality

Objectives of typical TDM strategies include (1) improving multimodal transportation options; (2) providing incentives to change travel mode, time, or destination; (3) improving land use accessibility; and (4) reforming transportation policies and programs to provide funding for TDM. The basic premise of TDM is that roadway congestion can be reduced by changing the travel habits of commuters and by increasing public awareness of travel choices. If a significant number of commuters can vary when and how they travel to work or school, the peak-hour traffic volumes can be significantly reduced and the traffic can be spread more evenly throughout the day. Success through TDM programs are being realized across the country, and the more common TDM strategies include ridesharing, telecommuting, flexible work weeks, bicycle and pedestrian master planning, parking management, and transit incentives.

#### **Transportation System Management (TSM)**

Transportation System Management (TSM) is the process of optimizing the existing transportation system and infrastructure through less capital intensive measures. Unlike TDM strategies which focus on travel times and travel choices, TSM strategies focus on physically enhancing the existing transportation infrastructure to increase roadway capacity, increase travel choices, and reduce congestion and delay.

The basic premise of TSM is that minor targeted improvements to transportation infrastructure can significantly increase the capacity, efficiency and utilization of the transportation system. For example, the signal timings along a corridor can be optimized and intersection improvements like turn lanes, pedestrian crosswalks, and vehicle detectors can be implemented to improve the traffic flow and increase traffic capacity. Some of the commonly implemented TSM strategies include traffic signal optimization, geometric roadway modifications, spot roadway and lane modifications, intersection modifications, access management, and pedestrian and bicycle enhancements.

While the focus of the MCB Lejeune / MCAS New River TDM is not on the physical transportation network, many comments received through the public outreach events have voiced support for strategies best categorized as TSM. TSM recommendations will be present in a limited capacity through the scope of this document. Where appropriate, these strategies will be forwarded to agencies (at the municipal, county, regional, and state level) even if they do not appear overtly in the TDM options presented as part of this plan.

### **Why do a TDM now?**

Traffic congestion impacts urban and metropolitan areas across the country. In most areas, the peak-hour roadway capacity has not been able to keep pace with the increasing number of cars on the road. The single-occupant vehicle remains the predominant transportation choice for commuting trips, in part because the existing transportation system is designed to support this convenience. Another reason is the underlying development pattern has created a dependence on the automobile.

As urban areas continue to develop at greater intensities, traffic congestion also has greater social, environmental, and economic impacts on fuel consumption, productivity, and pollution. These impacts present challenges for regional and local governments to improve mobility and maintain quality of life. Commuters also are seeking alternatives to traveling alone as gas prices continue to rise, as the average person becomes more conscious of their impact on the environment, and as employees realize the cost of single occupancy vehicle travel and the amount of time spent waiting in traffic. With funding from the Federal government, military and civilian employees have access to commuter assistance programs. TDM strategies can influence travel behavior within a community and create public awareness about the benefits

of participating (including but not limited to monetary assistance or reimbursement). This statement may hold more weight in a community with a strong military presence such as Jacksonville.

A TDM program is an integral part of a community’s approach to transportation planning. It is not intended to be the lone solution but is designed to provide choices in travel and to efficiently use the community’s existing resources. A well-crafted program provides a menu of strategies to reduce congestion and improve multimodal transportation. Collectively, the strategies can have a greater impact and should be used in combination rather than individually.

The impetus behind the timing of MCB Camp Lejeune / MCAS New River TDM is twofold.

### Growth is Coming<sup>1</sup>

#### The Regional Growth Management Plan

Military growth communities across the nation are taking steps to address the impacts of a rapid influx of service members and their families. Some of this growth is attributable to the decisions of the 2005 Base Realignment and Closure Commission, while some results from the Army’s “Grow the Army” (GTA) and the Marine Corps’ “Grow the Force” (GTF) initiatives. These latter initiatives are the result of war fighting realities in Afghanistan and Iraq that require the deployment of ground forces beyond levels that the two services could sustain with their pre-war force structure.

Between the years 2006 and 2011, the Marine Corps will add 11,477 jobs at its eastern NC installations. These service members will bring with them an estimated 13,500 dependents. The combined totals of these two population groups are referred to as the “direct impact” growth. Using commonly accepted population projection practices, [the RGMP] concludes that the direct impact growth will induce the influx of an approximately 15,000 new residents that arrive to reinforce the regional service industry in response to the increased military population and activity. This growth of approximately 40,000 new residents represents a 160% increase in the normal regional population growth of 25,157 in the same period, as forecasted by the NC State Demographer before the announcement of GTF impacts.

This growth report is not the subject of speculation, modeling, estimation or expectations. For eastern NC, the arrival of 11,477 new service members and civilian employees is a bona fide reality that has come to pass in a very short period of time. As affirmed by then-Lieutenant Governor Beverly Perdue in

Installation	Active Duty	Dependents	Total
Marine Corps Base, Camp Lejeune	8,581	10,093	18,674
Marine Corps Air Station, New River	1,411	1,660	3,071
Marine Corps Air Station, Cherry Point	1,485	1,746	3,231
Induced Growth (Est. / Service Industry)	//	//	15,110
<b>Total</b>	<b>11,477</b>	<b>13,499</b>	<b>40,086</b>

Marine Corps “Grow The Force” Population Increases Eastern North Carolina Installations

October 2007, this influx of new growth represents the largest single job growth event in the state of North Carolina since the World War II era. Although many military growth communities are grappling with these issues nationally, eastern North Carolina stands out as one of the most significantly impacted. The following table describes the net effect on area employment, among North Carolina communities as well as other comparable areas nationally, in the wake of BRAC, GTA and GTF decisions.

<sup>1</sup> Regional Growth Management Plan (RGMP) for North Carolina’s Eastern Region

MSA (Installation) <sup>1</sup>	Impact Source	Net Employment Increase	Area Employment <sup>1</sup>	Percent Increase
Jacksonville, NC (Camp Lejeune/MCAS New River)	BRAC <sup>1</sup> /GTF <sup>2</sup>	8,806	91,677	9.6%
New Bern, NC (MCAS Cherry Point)	BRAC <sup>1</sup> /GTF <sup>2</sup>	1,184	66,366	1.8%
Goldsboro, NC (Seymour Johnson Air Force Base)	BRAC <sup>1</sup>	663	60,040	1.1%
Fayetteville, NC (Fort Bragg)	BRAC <sup>1</sup> /GTA <sup>3</sup>	1,843	195,370	0.9%
El Paso, TX (Ft Bliss)	BRAC <sup>1</sup> /GTA <sup>3</sup>	29,423	328,741	9.0%
Columbus, GA (Ft Benning)	BRAC <sup>1</sup> /GTA <sup>3</sup>	13,873	163,565	8.5%
Manhattan, KS (Ft Riley)	BRAC <sup>1</sup> /GTA <sup>3</sup>	5,988	72,434	8.3%
Colorado Springs, CO (Ft Carson)	BRAC <sup>1</sup> /GTA <sup>3</sup>	13,535	349,783	3.9%
Baltimore-Towson, MD (Aberdeen Proving Grounds)	BRAC <sup>1</sup> /GTA <sup>3</sup>	14,888	1,568,140	0.95%
San Antonio, TX (Ft Sam Houston)	BRAC <sup>1</sup> /GTA <sup>3</sup>	5,259	1,009,217	0.5%

References:

<sup>1</sup> US. Defense. *Base Closure and Realignment Closure Report May 2005*. 15 June 2009. <[http://www.defenselink.mil/brac/pdf/pt1\\_01\\_covero.pdf](http://www.defenselink.mil/brac/pdf/pt1_01_covero.pdf)>

<sup>2</sup> MGTf of NC's Eastern Region. *Growth Charts*. March 2009. 15 June 2009. <<http://nceastmgtf.org/documents/MCIEASTGrowthChartsMarch2009.pdf>>

<sup>3</sup> US. Army. *Grow the Army*. 19 Dec. 1007. 15 June 2009. <<http://www.army.mil/growthearmy/>>

Accronyms:

BRAC = Base Realignment and Closure Commission, Final decision 2005

GTF = US Marine Corps "Grow the Force" Initiative

GTA: US Army "Grow the Army" Initiative

MSA = Metropolitan Statistical Area

*Note: BRAC Commission uses "MSA" to measure economic impact, positive or negative, resuting from gain/loss of military jobs.*

As previously mentioned, this growth was scheduled to occur over a five-year period—from 2006 to 2011. Exacerbating the communities’ challenges to assimilate 40,000 new residents, the growth began long before the military’s formal announcement in October 2007. Furthermore, the direct impact growth will be in place two years before the date initially forecasted by the military. Among defense growth communities, it has become somewhat commonplace to receive growth as a result of decisions by the Base Realignment and Closure (BRAC) Commissions. The results of a Commission are released years before the new residents arrive at the “receiving” installation. During those years, communities and installations have time to construct new facilities, add classrooms, improve roads, etc. However, in the case of eastern North Carolina communities, they are in the words of one local Mayor “...building an airplane while we are flying it.” Indeed, by July 2009, all but 170 of the 11,477 new service members and civilian employees had arrived in the region.

**Public Support is Evident and Local Plans are Underway**

The MCB Camp Lejeune / MCAS New River TDM is not the Jacksonville area’s first attempt at balancing the transportation system and improving its efficiency. Several plans and programs have preceded the TDM, and the city, county, and MPO continue to develop plans with strategies consistent with the intent of the TDM. A common theme in previous plans is a frustration with congestion on the region’s major roadways, particularly NC 24 and other corridors near the military installations. The details of many of these plans are provided in **Chapters 2 and 3**. As an example, highlights of recent or soon to be completed plans include:

- **New River Regional Transit Master Plan** — Adopted in the Fall of 2009, the New River Regional Transit Master Plan outlines short- and long-term strategies to provide region-wide transit service to a growing population. The plan advocates cooperation and coordination with Jacksonville Transit, Onslow United Transit System, Camp Lejeune, Onslow County, NCDOT, and other

transportation interests in the region. The plan states the current state of transit and the potential for growth:

*The existing services have experienced solid growth in just less than 24 months of operation, which proves there is demand for transit services. Jacksonville Transit's growth is highly dependent on the ability of the City, and its partners such as OUTS, to coordinate with Camp Lejeune to provide services to employees of the Base, both those wishing to commute to on-base locales and those wishing to access other parts of the city from the base's residential areas.*



- **Transit System Development Plan and Travel Survey** — When completed, the ongoing Transit System Development Plan and Travel Survey will include a five-year operation and financial strategy and a series of service improvements based on the collection and analysis of ridership data, assessment of operator compliance with established policies, and identification of unmet transit needs. The resulting blueprint will assist Jacksonville Transit in developing a system that grows to meet the needs of residents and military personnel. The impetus behind the plan, in part, is the projected growth due to expanding military population.
- **NC 24 Corridor Study** — Soon to be initiated, NC 24 Corridor Study Phase II will represent the next step in realizing a vision for NC 24 that has emerged through numerous community planning and design initiatives. The plan will build on the public involvement and preliminary recommendations of the June 2010 study. The idea is to define a real world approach with coordinated solutions to the existing — and emerging — problems on NC 24. The land use and multimodal transportation countermeasures (access management, site design, signal improvements, etc.) will benefit the community at large, and as the front door to MCB Lejeune, improvements to the form and function of NC 24 will impact the intent and motives of the MCB Camp Lejeune / MCAS New River TDM.

As the public outreach process for the TDM unfolded, many comments supported the efforts to improve mobility on- and off-base. Other comments indicated that military and civilian employees as well as residents impacted by base operations have grown tired of participating in plans that never are implemented. Comments such as “Stop planning and start doing” express the common sentiment that a plan without progress is wasteful. The planning process for the MCB Camp Lejeune / MCAS New River TDM was designed to gather feedback from the outset not only to assess existing conditions but also to gauge interest and willingness to adjust commuting preferences based on particular recommendations or implementation strategies. Still, the common theme was something must be done to improve the traffic situation on-base and near the gates. And the time for change is now.



## Planning Process

At its best, a transportation plan evolves from a collaborative process led by local staff and citizens invested in their community. The plan involves key stakeholders and the general public through an engaging process with multiple channels of communication and numerous feedback loops. The planning process for such plans should be rooted in a public involvement platform that gathers, processes, and applies a diversity of

opinions from residents and employees, the business community, and civic groups. The data collection and analysis process builds on the public outreach and culminates in the logical presentation of recommendations and a step-by-step approach to implementation.

### Public Outreach

On-base personnel and the general public interact with the transportation system in different ways but encounter similar issues. Given these experiences, both groups understand the strengths and weaknesses of the transportation system (particularly gate access) and feel the impact of transportation decisions on a daily basis. Public outreach allows local and regional officials and the project team to tap into this special knowledge. Public outreach for the MCB Camp Lejeune / MCAS New River TDM Plan occurred through small- and large-group meetings and an assortment of media. Two principles of public outreach were adhered to:

1. Citizens and employees have a personal understanding of the transportation network and planning decisions have a direct impact on their daily lives.
2. Groups can share in the collective vision for a project even as they hold differing opinions on how this vision should be fulfilled.

Respecting these principles, the planning process for the TDM Plan allowed open dialogue about the issues affecting employees of the military installations as well as the general public. The following sections provide an overview of the public outreach methods and structure. More detail on the collective outcome of the public outreach efforts is provided in the next chapter.

### Project Advisory Committee

At the outset of the project, a group of local staff and community representatives was selected to act as a sounding board throughout the planning process. The Project Advisory Committee (PAC) formed to ensure the plan recognized previous planning efforts and incorporated the assorted perspectives found throughout the planning area. The PAC was instrumental in providing initial direction for the plan and ensuring the final product respected the guiding principles. Members of the PAC represented:

- Military Growth Task Force of North Carolina's Eastern Region
- City of Jacksonville
- Onslow County
- MCB Camp Lejeune / MCAS New River
- Jacksonville Metropolitan Planning Organization (MPO)
- Eastern Carolina Council of Governments
- Down East Rural Planning Organization (RPO)
- Onslow United Transit System (OUTS)
- Jacksonville Transit
- Jacksonville/Onslow Chamber of Commerce
- North Carolina Department of Transportation



The PAC met numerous times during the planning process, concluding their project role with a review of the final plan. However, the PAC also is charged with championing the plans recommendations through to implementation.

### Stakeholder Interviews & Focus Group Sessions

While the PAC and general public can provide good insight into the issues facing commuters onto and near the military installations, more specialized attention to specific matters affecting the development and implementation of the TDM required the input of key stakeholders. The consultant team conducted a series of stakeholder interviews and focus group sessions. Many of these sessions occurred the same day as the first round of public workshops. These sessions provided insight into the operational, political, and social context of the area. Participants in these sessions included:

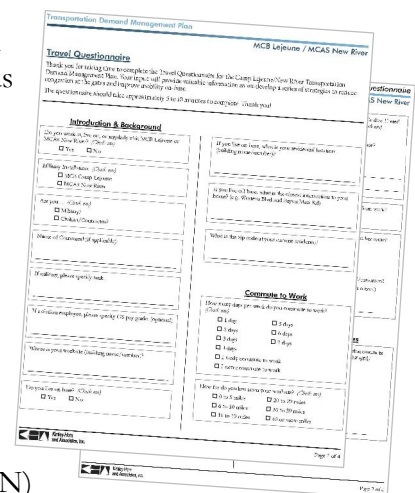
- Project Advisory Committee Members
- Jacksonville City Council
- Onslow County Board of Commissioners
- Jacksonville MPO Transportation Advisory Committee
- Private transportation providers
- MCB Camp Lejeune Provost Marshal Office
- MCB Camp Lejeune Department of Public Safety
- MCB Camp Lejeune Traffic Safety
- MCAS Anti-Terrorism/Force Protection Office



Feedback gathered through these conversations helped validate background information collected from the PAC, other public outreach efforts, previous plans, and analysis specific to the TDM. The information also helped the project team prepare a list of initial options (presented as the TDM Options Matrix).

### Questionnaire

While the PAC, Stakeholder Interviews, and Focus Group Sessions revealed a variety of issues and potential solutions, the need to gather input from a larger swath of the military and civilian population was accomplished via a web-based questionnaire. The online questionnaire was distributed to on-base personnel (military and civilian) at both MCB Camp Lejeune and MCAS New River through a Wide Area Network (WAN) email message. This email and the questionnaire itself also served to advertise the first public workshop to on-base personnel. The link to the questionnaire also was distributed through the Military Growth Task Force newsletter, *Inside the MGTF*, and made available on the city and MGTF websites. A hard copy of the questionnaire was distributed at the first public workshop. The questionnaire assessed both existing uses and stated preferences, focusing on the range of TDM options available and desired travel behaviors. Results from this survey have been tabulated (see **Chapter 2**) for consideration in the needs assessment and formulation of recommendations.



### Public Workshop

The first public workshop, held August 31, 2010 at the Onslow County Multi Purpose Complex, was designed to develop project goals, identify issues and concerns, and generate ideas and potential solutions. The evening began with an overview presentation during which the project team outlined the purpose of the project and the planning process, introduced background information, and set the stage for the interactive sessions that formed the core of the workshop. Following the presentation, those in attendance expressed concerns and needs in a large group setting. Comments from this part of the evening were transcribed on large easel boards. Attendees then gathered in small groups around maps to discuss the opportunities and needs of the area. The comments addressed both operational and design concerns. A summary of the workshop results are provided in **Chapter 2**. These comments were used while evaluating existing conditions and during the development of preliminary options. Prior to finalizing the plan, the project team will conduct another round of public outreach events.



### Scope of Study

The MCB Camp Lejeune/MCAS New River TDM plan summarizes the planning process, existing conditions, options for consideration, recommended strategies, and a process for implementation. This Technical Memorandum provides an interim deliverable for review by the project directors and the PAC. The creation of a planning process with an interim deliverable allows a more efficient review of the final document. Likewise, the process allows a consistent planning process and understanding of the content within the final document. The findings, analysis, and recommendations for reducing SOVs in Jacksonville near the military installations have been created in tandem to produce a series of actions to improve mobility for employees and residents of the area. The recommendations represent the collective vision to reduce SOVs and enhance mobility options for residents and employees. The final deliverable will be presented to key stakeholders as well as other planning committees. The MCB Camp Lejeune/MCAS New River TDM includes the following chapters (organized by their initial deliverable):

- **Chapter 1 – Background & Overview:** Opens with a background on the TDM plan and describes the public outreach efforts that formed the basis for the planning process.
- **Chapter 2 – Guiding Principles:** Describes the collective outcome of the public outreach efforts, discusses the results of the web-based questionnaire. Reviews existing services and plans, policies, and initiatives to supplement the public outreach, data collection, and additional analysis. Introduces the guiding principles and assumptions.
- **Chapter 3 – Transportation Assessment:** Establishes the military installation’s role in the context of a regional transportation system, evaluates the external and internal multimodal transportation network, discusses the operation of each military gate, and describes planned transportation improvements.
- **Chapter 4 – TDM Options:** Evaluates the tradeoffs of preliminary options by presenting the relative cost, ease of implementation, time required to implement, and expected level of positive impact (on the goal of reducing SOVs and improving transportation choice for military employees).

- **Chapter 5 – Action Plan:** Prioritizes opportunities for partners throughout the region and the military installations and presents project priorities through an action plan that summarizes various strategies, lists specific projects, describes the phasing plan, introduces potential funding sources, and assigns agencies responsible for implementing the vision.