A COMMUNITY PLAN FOR A SUSTAINABLE FUTURE
CITY OF VIRGINIA BEACH, VIRGINIA

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A Community Plan for A Sustainable Future would not have been possible without the commitment, input, and feedback received from the Sustainability Steering Committee:

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MESSAGE FROM THE MAYOR & CITY COUNCIL

IN PROGRESS
A Community Plan for a Sustainable Future (the Plan) is about the place we call Virginia Beach, and how this place - shaped by a rich past of individualism, personal reliability, personal accountability, and limited government – can have an equally rich future. The Plan acknowledges that government – at all levels - exists in large measure to help defend and guarantee individual liberties. Such liberties are well described in our nation’s founding principles and documents. Within the context of community as a whole, individual liberties are protected and enhanced by creating and refining a sense of community that respects individual liberties while at the same time striving to make progress which helps individuals live rewarding lives. Government thereby has a more refined role of helping to facilitate and create a sense of community while simultaneously helping defend and guarantee individual liberties.

The Plan is focused around the idea that there are very clear actions and attitudes that will determine how our community will look and function in the future - and most importantly - how we can live full, rewarding lives in our community. In short, the Plan suggests that the city - both its government (City) and the larger community - should be guided by principles that promote action and attitudes that will make Virginia Beach a stable, resilient, energetic, and attractive place to live, work, and play on an ongoing basis, well into the future, in a way that is prepared to deal with unforeseen changes. In other words, Virginia Beach can and will be “a community for a lifetime” - and for lifetimes to come.

This Plan began with extensive public involvement through public input meetings and stakeholder interviews. Out of this effort, the comments made during those sessions revealed a wide range of interests, concerns, and ideas about the future of Virginia Beach. Our community, like sustainability itself, is broad, diverse, and intricately connected. As a result, this Plan touches on all aspects of sustainability - economic, social, and environmental.
The Plan is organized around 10 major areas of community interest referred to as ELEMENTS. Included with each Element is a broad statement that captures the desired outcome or what the city hopes to become, the VISION STATEMENT. The Elements and their associated Vision Statements are summarized on the following pages. The Vision Statements are vivid, idealized descriptions of our future and were crafted to ensure that they are in alignment with both citizens’ sentiments as well as the broader vision established by the Envision Virginia Beach 2040 Committee Report (now known as 2040 Vision), completed in 2012.

Next, the Plan sets forth a series of broad GOALS within each Element and Vision Statement as a means of defining what we, both the City government and the community, should do to achieve the vision for each Element. Finally, a group of OBJECTIVES is identified that help frame the types of actions that should be developed to achieve the corresponding Goal.

In whole, this group of Elements, Vision Statements, Goals, and Objectives forms the framework for the Plan, ultimately providing the roadmap for the City and the community to a sustainable future.

“The future ain’t what it used to be.”

Yogi Berra
Summary of Elements and Vision Statements

PEOPLE
We are healthy, engaged, and active residents who feel a sense of well-being and harmony with our neighbors, whether they are next door, in Hampton Roads, across the country, or across the sea. Our lifestyle and activities are as diverse as our community, making Virginia Beach a jewel of the East Coast.

PLACES
We are a model community of great places, both man-made and natural, that are inherently beautiful and are accessible to all; rich in cultural, educational, and recreational opportunities; with ample choices regardless of age, physical limitations, or income; and recognizable with unique character.

LEARNING
From an early age, our children are taught principles and values embraced by all. Our public schools, vocational colleges, and higher learning institutions utilize the latest technologies to create a highly skilled, diverse workforce. Life-long learning is inherent in everyday life in a thriving Virginia Beach.

WORK
Virginia Beach has a strong and vibrant economy with a highly skilled workforce. The city capitalizes on its long-term traditional economic sectors, while fostering innovation and growth in new technologies, to ensure a continually expanding and adapting marketplace.

CONNECTIONS
Residents and visitors to Virginia Beach are well-connected within our city utilizing quality infrastructure, enjoying the benefits of an interconnected multi-modal transportation system, and communicating in person or via technology from anywhere in the city.
Summary of Elements and Vision Statements

**AIR**
Both as a key component of the high quality of life and as an attraction to visitors, the City of Virginia Beach continues to protect and maintain the highest level of air quality.

**WATER**
The City of Virginia Beach is set among scenic waterways that are greatly valued and respected by the community, and both the City and its residents are continually engaged in their preservation and enhancement.

**ENERGY**
The City of Virginia Beach leads the nation in energy stewardship through education and conservation and supports the development and production of clean energy sources.

**LAND**
Our urban and suburban communities feature a range of housing choices accommodating a diverse community, integrated with natural open space and places of historical and cultural significance. Farmland remains abundant in the southern part of the city and every resident has access to fresh, local foods.

**NEIGHBORS**
The City of Virginia Beach works closely with its neighboring cities, counties, and military installations to ensure Hampton Roads is a cohesive region with a common vision. This greatly assists in attracting new businesses, competing for funding, and coordinating regional services and infrastructure.
Actions and attitudes of today will undoubtedly shape our future as a city. Our elected officials are obligated to protect the individual liberties that are granted to all U.S. citizens in the Declaration of Independence, and in the Constitutions of the United States and the Commonwealth of Virginia. Our lives are optimized when one’s right to freely pursue economic opportunities, live in healthy surroundings, and experience social equity are in equilibrium. The three aspects of sustainability – economic, environmental, and social – when balanced, enhance and enrich our individual liberties. This Plan is not intended to infringe upon individual liberties, nor does it describe a uniform, “cookie cutter” approach to living, working, and playing in Virginia Beach. Rather, it offers choices and opportunities for individuals.

Sustainability - by definition - can apply to many aspects of our daily lives. The most accepted definition of sustainability is to meet our present needs without compromising the needs of future generations. This Plan, developed by the City government and community of Virginia Beach - its citizens, staff, special interest groups, stakeholders - all of us - serves as a communications tool and, with future iterations, a scorecard to report on City and community progress towards achieving economic, environmental, and social sustainability. City Council’s Envision 2040 Committee set the stage for our city’s direction, and this Plan is focused around the vision set forth in the Envision Virginia Beach 2040 Committee Report:

“Virginia Beach is the most livable coastal community in the world located within the southern Chesapeake Bay region, it is defined by its rich natural resources and exciting, diverse, and interconnected neighborhoods. We are united by our broad social, cultural, and recreational offerings, a thriving regional economy, and lifelong learning opportunities that create a synergy where all citizens can live healthy lives, grow daily, continually reinvent, and prosper.”

The Plan is also intended to help focus City and community efforts to achieve this vision in matters related to sustainability and to serve as a filter for City government to help decision-makers evaluate actions in order to better reflect what has been termed a “triple bottom line.” Actions that optimally reach a “triple bottom line” are fine tuned to balance economic, environmental, and social sustainability so that a desired outcome in one of these three areas of sustainability does not ignore the implications of the other two areas of sustainability. Optimum sustainability occurs when economic, environmental, and social perspectives not only reach but are designed around principles to maintain this kind of balance. In this way of making decisions, alternatives and options to better achieve the “triple bottom line” are vetted through a range
of actions that might include concepts such as weighing various options, trying to accomplish multiple outcomes, conserving natural resources, evaluating life cycle costs in purchasing and procurement decisions, improving public health, and the like.

When a community is focused around achieving a “triple bottom line,” decisions reflect adherence to community values and principles of economic accountability, environmental protection, and social responsibility. In other words, the community runs and operates like a fine-tuned machine, and its residents are best served for the long haul.

The *Envision Virginia Beach 2040 Committee Report* describes a compelling, challenging yet realistic vision of the future of Virginia Beach for the community and its citizens and visitors. The document includes six broad focus areas that further describe our desired future. These six Vision Elements: Connected Community, Learning Community, Diverse Community, Unique Environment, Active Lifestyle, and Thriving Economy, are listed on the next page. To illustrate how this Plan addresses these areas, the sustainability icons are identified below the 2040 Vision Element. Additional information on the relationship between the *Envision Virginia Beach 2040 Committee Report* and this Plan can be found in the Element Tables located in Appendix B.

*A sustainable community plans for future generations*
Connected Community

Virginia Beach is a well-planned community of exciting, diverse neighborhoods, each offering unique opportunities to live, work, play, and grow in a culturally rich and safe environment. Our neighborhoods and residents find interconnectivity through our award-winning multi-modal transportation system, the ubiquitous presence of broadband communication technologies, and most importantly by building a deep sense of community.

Learning Community

We have a comprehensive approach to formal education and broader learning opportunities for citizens at all stages of life that supports their ability to learn, grow, and prosper. We believe in and support an educational continuum that begins at birth and lasts a lifetime. Individuals, families, government, and businesses know and accept their roles preparing citizens to be successful throughout their lives.

Diverse Community

Our community-wide culture embraces and values all citizens and visitors with regard to ethnicity, national origin, gender, sexual orientation, age, socioeconomic standing, physical abilities, or religious beliefs. We address the processes and norms that ensure engagement, collaboration, fairness, respect, understanding, and trust exists between all populations within the community.

Unique Environment

We value and enhance our greatest natural assets: a broad array of coastal resources that include beaches, waterways, farmlands, and wetlands. We are a model community for clean air and water, and our commitment to environmental sustainability. Local foods, open space, and parks contribute to the overall quality of life and healthy living.

Active Lifestyle

Cultural and recreational opportunities enhance the regional economy and provide emotional and intellectual opportunities for expression, education, and entertainment. Citizens of all ages, individually and as families, experience the natural resources, restaurants, museums, aquarium, recreation centers, and entertainment venues in the region to stimulate, strengthen, and revive the mind, body, and spirit.

Thriving Economy

We have a thriving regional economy that leverages our assets with high employment and dynamic business growth. We educate, attract, and retain a talented and diverse workforce and provide a broad base of employment with an emphasis on high paying jobs.
HOW IT ALL BEGAN…

The genesis of the City of Virginia Beach - Community Plan for a Sustainable Future occurred in June 2010 when the American Institute of Architects (AIA) assembled the Sustainability Design Assessment Team (SDAT) at the request of the City. Based on the AIA document “Livability 101,” this effort identified elements of the city’s physical environment, community statistics, and City services that were supportive of, and in conflict with, the principles of “livability.” Later that year, following the completion of the report and briefings to the City leadership and the City Council, this initiative was acknowledged and reflected in the City Council’s 2010 - 2014 Strategic Plan.

Parallel strategic planning efforts within the City organization, separate from City Council’s work, have been an integral part of Virginia Beach City government since 1998. The City’s latest strategic plan entitled A Community for a Lifetime: A Strategic Plan to Achieve City Council’s Vision for the Future, 2013 – 2015 (Strategic Plan) describes what the City organization will do to move towards City Council’s vision and plan. The Strategic Plan serves as a guide to help the organization make consistent decisions that are aligned, purposeful, and measurable. Eight core strategies serve as filters for decision making as well as for developing and updating the Strategic Plan. Recognizing the City’s responsibility to the public as stewards of our city’s future, the eighth Core Strategy - Ensure Sustainability - was adopted in 2008.
City Council has identified seven business areas in City government to address the desired future as a Community for a Lifetime. For each area there is a corresponding Strategic Issue Team (SIT) tasked with developing a plan for the future. The seven SITs include:

- Cultural & Recreational Opportunities (CRO)
- Economic Vitality (EV)
- Family & Youth Opportunities (FYO)
- Quality Education & Lifetime Learning (QELL)
- Quality Organization (QO)
- Quality Physical Environment (QPE)
- Safe Community (SC)

In the 2012-2014 Strategic Plan, the QPE SIT, through their own strategic planning, created QPE Strategy 7 and three initiatives to achieve it.

**QPE Strategy 7:**

*Continue the City’s shift to a more sustainable, healthy, and resilient future for both current and future generations, allowing current generations to meet its needs without diminishing the ability of future generations to meet their needs.*

Initiatives:

- Develop a City Sustainability Plan to guide municipal and community initiatives relating to environmental, fiscal, and social sustainability.
- Modify existing City plans, policies, and strategies where necessary to achieve alignment with the City Sustainability Plan.
- Establish metrics for environmental, fiscal, and social sustainability as a means of tracking progress in achieving City Sustainability Plan recommendations.

In 2010, the Environment and Sustainability Office (ESO) was established within the City’s Department of Planning with the charge of developing a comprehensive sustainability plan.
PUBLIC PARTICIPATION AND PLANNING PROCESS

It was the desire that the Plan reflect the needs and priorities of the community, and that the Plan be driven and informed by a broad spectrum of residents, business leaders, and community organizations, along with input from City plans and policies that help guide City government decision-making. This blending of the City government’s and of the community’s perspectives has been central to the development of the Plan. In order to fulfill this goal, a 30-member Virginia Beach Sustainability Plan Steering Committee was formed and included leaders from business, non-profit organizations, City government, the military, and community organizations. Over the course of developing this Plan, the steering committee provided guidance, critiques, and perspectives unique to their spheres of influence and expertise.

The ESO researched adopted sustainability plans from across North America, solicited input from City departments, and inventoried current sustainability policies, programs, and initiatives either completed or in process in both City government and the community. The ESO also initiated a page within the City’s website dedicated to communication of the plan and the plan development process.

Having assembled information about the current state of the City’s government and community sustainable initiatives, and equipped with the knowledge of what other municipalities and organizations had accomplished, the ESO began an extensive series of public input meetings. Over the course of approximately seven months, eight public input meetings were conducted throughout the city. Initial public input sessions were held in each of the city’s seven voting districts (Bayside, Beach, Centerville, Kempsville, Lynnhaven, Princess Anne, and Rose Hall), with an additional meeting held in the southern part of the Princess Anne district.

The annual Neptune Festival Sandcastle Competition
After completion of the initial community input phase, the ESO, with guidance from the Steering Committee, developed a plan framework that integrated and organized key thoughts and ideas. The major areas of interest were used to help organize the Plan and assembled into 10 groups called ELEMENTS. A broad statement that captures the desired outcome or end state of each Element is stated as a VISION. This Vision Statement has been carefully crafted to ensure that it is in alignment with the broader vision set forth by the City Council’s Envision Virginia Beach 2040 Committee Report. Next, the Plan identifies a series of broad GOALS linked to each Element and Vision Statement as a means of defining what should be done to achieve the vision for each Element. Finally, a group of OBJECTIVES are identified which will help frame the action plan to achieve the corresponding Goal.

Following the release of the first draft of the Plan, a second round of community input meetings were held in each of the three main geographic areas of the city - north, central, and south. The ESO also solicited input from several Focus Groups based on the three “pillars” of sustainability - Economic, Environmental, and Social - as well as input from high school and college students. In addition, interviews with members of City government were conducted to ensure that the Plan also reflects the vision, goals, and priorities of City government. On the City government side, the Plan team interviewed the City’s Management Leadership Team, each of the City’s seven Strategic Issue Teams, individual departments, and various City boards and commissions.

During the course of the development of the Plan, the team repeatedly learned that much of what is embodied in the Plan is not new. Many of the ideas contained in the Vision Statements, Goals, and Objectives are already embedded in other City government and community plans, policies, and reports. Likewise, many of the City government’s and the community’s efforts to implement the ideas in this Plan are currently moving forward – and there are many actions and initiatives that have either already been accomplished, are underway, or are planned for action. What makes this Plan unique is that this is the first time the City has attempted to clearly communicate the linkages between all of these efforts. The resulting picture is an exciting glimpse into the work that is shaping the future of Virginia Beach, and the recognition that this transformation is well underway.
PLAN COORDINATION AND ALIGNMENT

Several major City government and community plans, policies, and studies were being completed or undertaken as this Plan was developed. These included the Envision Virginia Beach 2040 Committee Report, the City’s Strategic Plan update, several Strategic Growth Area (SGA) Plans, and the Reality Check Hampton Roads exercise, to name a few. The Plan team compared the results of the community input meetings with these new initiatives, as well as with other adopted and established City government and community plans, policies, and studies to help ensure alignment between the Community Plan for a Sustainable Future and the values and recommendations of these other plans. Not surprisingly, the issues that were reflected as being most important to the community were also reflected as being most important in City government plans. These common perspectives have been reflected in the Sustainability Plan to communicate this alignment and to help identify recurring themes phrased as goals and objectives that move the City of Virginia Beach toward a sustainable future.

City Council was briefed regularly throughout the Plan development process, giving the Council an opportunity to learn the results of the community input meetings, focus groups, and steering committee meetings and understand how the Plan was assembled. Comments from these briefings were incorporated into the Plan, resulting in a document that reflects community opinion, guided by local expertise and embraced by the citizens and their representative leadership.
Where we want to be...

VISION FOR 2040

EXTERNAL 2040 VISION PARTNERSHIPS & ALIGNMENT

Business Community
Educational Institutions
Military
Non-Profits
Faith-Based Communities & Organizations
Civic & Neighborhoods
Regional

INTERNAL PLANS

City Plans
City Department-Strategic Plans

EXTERNAL

Citizen Input
Community Initiatives

SUSTAINABILITY RELATED

Economic
Environmental
Social

How to achieve the Vision...

Plan & Coordination Diagram
The success of any plan is a direct result of the actions it inspires. This Plan is intended to be a roadmap and a guide to the future our community envisions - dynamic and engaged with the community, keeping pace with advancing technology, and accomplishing goals that are keenly reflective of community values.

As the Plan is not intended to nor does it supplant other City plans, policies, or initiatives, its true function is to serve as:

- a comprehensive and coordinated description of the many existing economic, environmental, and social activities underway by the City, our community, and our neighbors in the region;
- a reflection of the vision of Virginia Beach’s citizens of our city in 2040; and
- a means of fostering accountability for our actions and our decisions.

The “As of Today” discussion in each Element’s chapter serves as a snapshot, and is by no means inclusive of all efforts. As we move forward, this Plan will increasingly serve as a better means of documenting our efforts, both City government and the community, to become a sustainable city. In so doing, the Plan will help promote that Virginia Beach embraces sustainability as a core value.

This Plan does not identify specific actions and responsibilities for achieving the vision - this will ultimately be the function of both City government and community organizations. In City government, A Strategic Plan to Achieve City Council’s Vision for the Future details numerous actions and identifies how this work strategy is being implemented. Similar work is evidenced in many other places in the community and in their respective plans, ranging from efforts of the Hampton Roads Partnership to Lynnhaven River NOW to the United Way.

The ESO will highlight, on an annual basis, progress that both the City government and the community are making in achieving the Plan’s goals and objectives. This progress will be reported annually by the ESO to the City Council, the City government, and the community through a variety of means outlined below.
COMMUNICATIONS

Many plans establish a vision, goals, and objectives, but then neglect to outline a path to stakeholders for implementation. The efforts of City government and the community are collectively far too important to not communicate our progress on becoming a sustainable city. The Plan therefore outlines several means of communicating progress to the City government and community on plan implementation. The methods include:

The Sustainability Roadmap: A printed poster showing key accomplishments for each Element. The roadmap will be available at public locations throughout the city.

The Sustainability Social Media Strategy: An approach using social media to inform and interact with the community on issues and accomplishments related to sustainability. With the proliferation of mobile technology, a strategy that allows for immediate, proactive public outreach is now a reality. This strategy will utilize mobile technology and social media to reach the community – both to inform and to be informed.

The Sustainability Website: A website containing links to the Plan, annual progress updates, and the Roadmap, as well as a “Sustainability Dashboard” where activity for each Element in the Plan can be tracked online – and ultimately in some cases in real time. The website will also offer a page for public comment where citizens can provide suggestions for improvement, new ideas, or express concerns.

The Bi-Annual Update: A summary containing information gathered that is reflective of accomplishments and highlights of City government and community sustainable activities. The update will be presented to City Council and posted on the City’s website for community review.

Sustainability Website Dashboard
FIRST YEAR WORK PROGRAM

Each Goal and Objective outlined in this Plan is aligned with a specific City government plan or report (see Appendix B). In order to gauge the City’s progress as well as track success, Performance Measures, intended to reflect a relatively broad snapshot of progress toward each Goal, have been identified in Appendix C. At this point, not each Performance Measure has a baseline. As the ESO continues to work with stakeholder groups, both within the City government and the community, to implement the work program, these measures may be adjusted and missing baselines established as new and/or better data is provided or generated. In addition, targets will be developed and added to the table. The bi-annual report to City Council will reflect changes to the table and can be viewed at www.vbgov.com/sustainplan.

ACCOUNTABILITY

It is recommended that the existing Sustainability Plan’s Steering Committee be converted to a standing advisory body to be known as the Sustainability Advisory Committee. Membership of the Committee may be adjusted as deemed appropriate to include both City organization and community representation. It is envisioned that the Committee would meet on a quarterly basis to oversee plan implementation efforts and to make recommendations to the City government on refining implementation activities. The Committee would have the responsibility for Plan implementation oversight and serve as an advisory body to City Council on policies, issues, and actions related to sustainability.
The Plan is organized around a series of 10 Elements that, taken together, describe the totality of the components that relate to the sustainability of the City of Virginia Beach - government and community. Each Element is then focused around a Vision Statement, several Goals related to the Vision, and a series of Objectives that outline ways to achieve each Goal. This is organized as illustrated below.

Along with each Goal, several measures of success have been identified (Performance Measures). Each Performance Measure is intended to serve as a quick reference for tracking City government and community progress towards accomplishing or maintaining a Goal. Collectively, these measures of success and the data they contain comprise a “dashboard” or snapshot of tracking progress towards achieving sustainability in economic, environmental, or social areas. The “dashboard” can also help assess where additional effort, resources, or new Objectives may be needed over time to help accomplish a Goal and ultimately help fulfill the Vision for each Element.

**HOW DOES THE PLAN WORK?**

**ELEMENTS**

Definition: Key areas of interest that encompass and organize the total Plan.

**VISION**

Definition: A description of what it looks like when we “get it right,” achieved by the accomplishment of a series of Goals, and expressed in the present tense.

**GOALS**

Definition: The achievement of a desirable outcome toward which effort, in the form of Objectives, is directed.

**OBJECTIVE 1.1**

Definition: A measurable action required to achieve an over arching Goal. Element icons appear below to indicate other Elements this Objective relates to and may need coordination with.

Structure of the Plan
People are at the core of this plan. Our city has evolved around the diversity and rich history of the people who live, work, and play here. Our citizens deserve more than just access to life’s basic needs, but a sense of well-being from being part of a community, and the opportunities to experience cultural, educational, and recreational activities.
A Community Plan for a Sustainable Future

PEOPLE

VISION

We are healthy, engaged, and active residents who feel a sense of well-being and harmony with our neighbors, whether they are next door, in Hampton Roads, across the country, or across the sea. Our lifestyle and activities are as diverse as our community, making Virginia Beach a jewel of the East Coast.

We asked the community...
“What is your vision for our PEOPLE?”
The bigger the word the more we heard it!

GOALS

1. We will have a strong sense of community spirit and involvement.

2. All of our residents will have the opportunity to live healthy lives and meet their basic needs to survive and thrive.

community spirit
healthcare for all
emergency services
diverse population
encourage volunteering
affordable childcare
high quality life
quality healthcare
healthy communities

Community Comments...

“More citizen involvement and volunteering is needed - make the most of the retired baby boomers still wanting to make a contribution to the community.”
Public Input - Kempsville High School - November 2nd, 2011

“We need to strive for caring and compassionate communities.”
Social Responsibility Focus Group - January 31st, 2012

“The measurable median age will lower - more youth are immigrating and staying.”
Steering Committee - January 14th, 2012
WHY IS THIS IMPORTANT?

At its core, the entire Sustainability Plan is about people. As a municipal government and as a community, we pride ourselves on fulfilling our mission. By participating in community efforts we become more aware and gain exposure to what is going on in the world and in our city. Often the glue that holds a community together is its volunteers. When we are able to impact and bring to life those unfamiliar, underrepresented, and underfunded people who otherwise may be forgotten or left behind, we are fulfilled and provide a positive impact. In 2010, only 26.3% of the United States population participated in some form of volunteer work. Volunteering has three benefits: volunteering connects you to others, volunteering is good for our mind and body, and volunteering can advance your career.

As social beings, we desire a sense of belonging and purpose to thrive. As a community, we are diverse and culturally rich and can benefit from the opportunity to share and learn from each other’s unique and inspirational perspectives. According to the U.S. Census Bureau, in 2012, the sum of all minority racial groups in the United States likely exceeded whites as the nation’s new majority. Perhaps in the not-too-distant future, past racial tensions and cultural struggles will become a history lesson rather than a current reality.

Trends also point towards continued increases in both life expectancy and minority populations, as well as shifting household dynamics. These trends will create both new challenges and opportunities in Virginia Beach. According to the Boomer Project, in 2040, 22% of Virginia Beach residents will be 65 and older. Demands for services for aging citizens are already on the rise and will likely continue based on this trend. Depending on one’s circumstances, both financial and cultural, as people live longer, an increase in both senior care facilities and multi generational households will likely occur. As young adults are gravitating to more urban lifestyles, areas such as our Strategic Growth Areas (SGAs) – where opportunities to live, work, and play will be central and a greater concentration of multiple housing choices will exist – will assist in attracting and keeping young adults in Virginia Beach.

Our citizens deserve more than just access to life’s basic needs; they deserve a sense of well-being from being part of a community and the opportunities to experience cultural, educational, and recreational activities regardless of one’s status. To be a healthy community, we need to be healthy in more than just our physical state. Being healthy is more than just

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2 www.helpguide.com
eating better and exercising properly - it is also about being healthy emotionally. A healthy population is good for our economy. Healthy employees have less absenteeism, earn more, spend more time in the labor force, and are more productive at work, enabling businesses to grow and keep a competitive edge.

Sadly, approximately 65% of Americans do not live a healthy lifestyle - that is close to 200 million people. In a first-time, state-level, obesity-related health care study, Research Triangle Institute International (RTI) and the Centers for Disease Control and Prevention (CDC) estimated that Virginia’s direct obesity-attributable health care costs reached over $1.6 billion in 2003, approximately 5.7% of Virginia’s total medical expenditures. Virginia has the 14th-highest obesity-related health care costs in the 50 states. More recent studies from RTI and the CDC indicate that these costs have only continued to spiral upward nationwide.³

There are many reasons why people have poor health. They do not eat properly, exercise properly, or they are just uninformed as to how to stay healthy. With access and ample options to both healthy foods and recreation opportunities, a healthy lifestyle can become a way of life. All citizens deserve the same health care opportunities regardless of income status and all merit equal access to healthy choices to sustain a healthy lifestyle.

There are many things out of an individual’s control and beyond what even governments can do. The downturn in the economy is worldwide and it has had local impacts. Virginia Beach is

experiencing an increase in the number of residents who are on the brink of qualifying for government assistance of some kind. The most recent U.S. Census data reported that 15.1% of individuals and 22% of children in the U.S. are living in poverty. The Corporation for Enterprise Development (CFED), an organization working at the local, state, and federal levels to create economic opportunity that alleviates poverty and tracks the number of households that are on the brink of falling into poverty, reports that 27% of households in the U.S. are living in “asset poverty,” meaning they do not have adequate savings or assets to cover a three month period of basic expenses. In addition, 43% of households are living in “liquid asset poverty,” meaning that they do not own any assets that can be easily sold for cash—such as a car.

Having so little financial stability means that these families are not only unable to weather layoffs, medical emergencies, or other crises that might come their way, but they are also unable to plan and save for the future. Many jobs across the U.S. are simply so low-paying that workers need the assistance to feed themselves and their families, particularly during a prolonged economic downturn. Too many families are living on the edge of poverty. If these families are able to stay afloat, more children can have the chance for a happier childhood and hope for a brighter future.

15.1% of individuals and 22% of children in the U.S. are living in poverty.

*U.S. Census Data 2010*

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**USA AND CITY OF VIRGINIA BEACH - POVERTY RATE**

Source: *US Census Bureau - Historical Poverty Tables - People*
GOAL

1. We will have a strong sense of community spirit and involvement.

1.1 Continue the City government’s outreach to promote conversations with the community, promoting awareness on issues important to us all.

1.2 Support local civic leagues and neighborhood organizations to build strong community spirit.

1.3 Continue to build volunteer opportunities that are a way of life for our citizens.

1.4 Promote cultural, educational, and recreational events that reflect our diversity and are accessible to all by removing economic, physical, and other barriers to participation.

1.5 Build strong relationships with local organizations such as cultural, environmental, and historical groups, and support them in their efforts to connect with local communities.

AS OF TODAY...

Virginia Beach is the most populous city in Virginia and the 39th largest city in the United States, with approximately 438,000 residents. Our city is diverse with a variety of races and ethnic backgrounds. We have one of the highest concentrations of Filipino-Americans in the U.S., totaling 17,481 residents. Our median age is 37 years old, which is comparable to those cities on the U.S. Conference of Mayor’s 2012 listing of “most livable cities” - Louisville, Kentucky (35.8) and West Palm Beach, Florida (39.6).

- White (67.7%)
- Two or more races (4.0%)
- African - American (19.6%)
- Some other race (2.0%)
- Hispanic or Latino (6.6%)
- American Indian or Alaskan Native (0.4%)
- Asian / Pacific Islander (6.1%)

Source: Virginia Beach Community Profile 2011
The City of Virginia Beach and Virginia Beach City Public Schools have a highly knowledgeable and committed workforce (Staff). Staff, in many cases, are family members, friends, and neighbors of residents who call Virginia Beach home. In their role as residents, they too are taxpayers. Taxpayers function as the owners/stakeholders of our local government. Staff serve the vital role of delivering impartial, effective, and efficient services. Taxpayers and Staff share the common goal of appropriately prioritizing and managing revenues flowing to the City, resulting in effective and efficient delivery of government services and programs.

Volunteers have played a role in the delivery of City services since 1978. As a city, we value our volunteers and recognize that the answer for service does not always lie with our government. The Office of Volunteer Resources, originally the Volunteer Council and elevated to office status in 2004, reports that during fiscal year 2011-2012, Virginia Beach utilized over 18,900 volunteers, including unpaid staff to the largest volunteer emergency medical services program in the United States. We know this number to be even greater as volunteers within the school system have not been counted in this already impressive statistic. The value contributed by our 18,900 volunteers equates to annual savings to the City of almost $20 million.

Virginia Beach volunteers

Source: Virginia Beach Community Profile 2011
GOAL

All of our residents will have the opportunity to live healthy lives and meet their basic needs to survive and thrive.

OBJECTIVES

2.1 Continue to promote high-quality healthcare and to provide high-quality emergency services for all citizens.

2.2 Promote equitable access to affordable housing for all citizens.

2.3 Promote a healthy lifestyle for our citizens and provide active recreation opportunities that are accessible to all, regardless of age or ability.

2.4 Promote greater availability and equitable access to fresh, local foods for all citizens.

2.5 Provide senior support services and accommodation for our aging-in-place residents.

2.6 Promote affordable, high-quality out-of-school youth development opportunities for all of our citizens.

AS OF TODAY...

As a City, we are committed to supporting and empowering our citizens as they strive to be healthy, both physically and financially.

The term “food desert” refers to those geographic areas that have low access to healthy groceries within close proximity of home. The Healthy Food Financing Initiative Working Group considers a food desert as a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store.4 Some studies debate whether food deserts even exist, arguing that healthy food consumption is more associated with cultural and behavioral variables. Access to healthy food is a complex issue that involves many different factors.

Fresh produce at Cullipher Farm Market

In 2007, 31% of Virginia’s 10-to-17 year olds were overweight or obese.

2007 National Survey of Children’s Health

Players, but it is generally more of a concern for lower income groups who typically have limited resources and mobility. Studies have proven that people with lower incomes are more prone to be obese than those in the middle and upper income classes. Consistent with trends nationwide, obesity rates in Virginia have been steadily rising for the last decade. The state’s current (2010) 26.4% obesity rate is lower than the national average (27.6%) and lower than all our peer states - Tennessee (31.7%), North Carolina (28.6%), and Maryland (27.9%). Colorado led the nation with 21.4% obesity. The 2007 National Survey of Children’s Health found that 31% of Virginia’s 10-to-17 year olds were overweight or obese, an increase since 2003 of 1%. This figure puts Virginia just under the national average of 31.6% and ranks the state 23rd highest in the country for percentage of overweight or obese children. Ensuring equitable access to fresh and healthy food for all citizens is important to the total health of our city.

5 Using GIS Technology to Identify and Analyze ‘Food Deserts’ on the Southern Oregon Coast, June 2, 2010, Pamela R. Opfer

Virginia Beach Department of Parks and Recreation programs promote youth development and enhance community-wide efforts to improve the well-being of all residents. In 2010, WebMD Health News ranked Virginia Beach #10 among the fittest cities in America. Also in 2010, Gallup ranked Virginia Beach 8th in leading Metropolitan Statistical Areas (MSAs) for well-being. In 2010, Virginia Beach was recognized as one of the 100 Best Communities for Young People by America’s Promise Alliance. Collectively, Virginia Beach resident adults who exercised in parks and in our community recreation centers during 2010 paid $42 million less in medical care costs compared to those who did not. But fitness is not just for the “able bodied,” access is important to all individuals. Access to recreational amenities for individuals with disabilities was increased in 2010 by 25% from earlier levels.7 Virginia Beach has also been ranked as one of the nation’s healthiest and fittest cities by the Health Network, the Public Health Resource Group, and Walking magazine.

The conventional public policy indicator of housing affordability in the United States is the percent of income spent on housing. Housing expenditures that exceed 30% of household income have historically been viewed as an indicator of a housing affordability problem.8 Virginia Beach promotes equitable and fair housing for all citizens, provides housing assistance to eligible, very low- and extremely low-income persons/families, and is working to increase affordable housing opportunities for vital members of our community - our teachers, police officers, firefighters, nurses, medical technicians, military personnel, retail workers, recent college graduates, and young families. Salaries for our vital employees are not keeping up with housing costs. The 9th Annual Demographia International Housing Affordability Survey states that the average home price in Virginia Beach is 3.4 times our median income level of $58,300, making Virginia Beach moderately unaffordable for home buyers.9 This is a critical issue as our current median home price is $225,500 with a qualifying annual income of $73,000, yet many of these group’s annual salaries are below $50,000. Based on the 2012 Hampton Roads Housing Market Review, the City of Chesapeake is the only city in the region with a higher average rental rate ($1,020/month) than Virginia Beach, contributing to the issue of housing affordability for much of our vital workforce.

7 Virginia Beach Parks & Recreation Fiscal 2011 Annual Report
8 “Housing Affordability: Myth or Reality?” Wharton Real Estate Center Working Paper, Wharton Real Estate Center, University of Pennsylvania, 1992
9 9th Annual Demographia International Housing Affordability Survey, (www.demographia.com/dhi.pdf)
Over the next decade, there is a need for an additional 2,600 housing units that are affordable for households with incomes below $35,000. Continuing emphasis on de-institutionalization and aging-in-place increases the need for equitable access to housing with support services for those with mental illness, intellectual disabilities, and the elderly. Senior citizens and disabled individuals are often the most financially burdened group because of rising property values and limited incomes. To address this challenge, the City Council adopted a tax relief program for qualifying senior citizens and disabled individuals. Based on a combination of age, disability, income, and total assets, both seniors and the disabled can reduce their tax burden by taking advantage of two programs: a real estate tax exemption, deferral, or freeze and a personal property tax reduction on motor vehicles. The Commissioner of the Revenue reported that for fiscal year 2013, 1,060 individuals qualified for a personal property tax reduction and 7,063 individuals qualified for a real estate tax exemption, deferral, or freeze.

Through state- and federally-funded programs and services, the Virginia Beach Human Services Department aids citizens in meeting their fundamental needs during times of temporary economic and social crisis, and protects our more vulnerable citizens from abuse and neglect. Through these programs and coordinated services, citizens gain an opportunity to achieve the highest level of self-sufficiency, safety, and quality of life possible. Programs such as affordable childcare support the goal of economic self-sufficiency, and in Virginia Beach, the average wage for participants in the Virginia Initiative for Employment not Welfare program (VIEW) is now at $8.25, well above minimum wage.

Monthly, approximately 400,000 households in the Commonwealth participate in the Supplemental Nutrition Assistance Program or SNAP, formerly known as food stamps. This program, designed to reduce hunger and increase food security, is one of the gauges of economic well-being in the city.

Source: The Housing Roundtable (www.housingroundtable.org)
According to state data, in 2011, the average number of monthly households receiving SNAP benefits in South Hampton Roads was 66,450, a 14.8% increase from the previous year. When compared to the number of households who received SNAP benefits in Virginia Beach between 2002 and 2011, this number represents a staggering increase of 165.2%. Although the number of participants is increasing in Virginia Beach, regionally the city still has the lowest percentage of households receiving SNAP benefits in South Hampton Roads.
As a City, we are committed to helping the homeless and preventing families and individuals from becoming homeless. Our programs provide funding to organizations who serve the homeless population and we are partners with neighboring cities on regional housing projects. In 2011, Virginia Beach had 427 homeless people, or 12 homeless for every 10,000 of our population, comparing favorably with the national average of 22 homeless per 10,000. This number fell by 90 people from the year before.11

While many city residents have bank accounts, 18.8% of our households are “under-banked,” meaning these families continue to rely on alternative financial services, such as check cashing businesses, payday loans, rent-to-own agreements, and pawn shops, to at least temporarily improve their standard of living. Statewide, these services are used by 15.5% of all households and nationwide by 17.9% of all households.

The Human Services Department promotes financial empowerment as the cornerstone to improvement of a family’s standard of living. The City’s Financial Empowerment Program depends on community engagement of financial institutions, non-profit organizations, and, of course, volunteers to teach classes and provide one-on-one coaching. Bank On Virginia Beach, as part of the Mayor’s Action Challenge for 500 Families Fit for the Future, is an empowerment campaign to provide families with the resources, knowledge, and skills to change their financial behavior and build economic security. As of the drafting of this Plan, 200 individuals have completed the nine month curriculum of the Bank On Virginia Beach program.

From Eastern Virginia Medical School to Sentara Health to LifeNet Health, Virginia Beach has a dynamic core of healthcare and biomedical resources. Sentara Virginia Beach General Hospital is the region’s only Level III Trauma Center. The new Sentara Princess Anne Hospital serves Southern Virginia Beach, as well as neighboring Chesapeake and northeastern North Carolina communities. Indeed, Virginia Beach encompasses a plethora of trained medical professionals from virtually every aspect of the health industry. In 2008, Fit Pregnancy magazine ranked Virginia Beach among the top 10 cities in which to give birth. Regionally, Sentara Norfolk General, home to one of the best cardiac facilities in the world, has been ranked among “America's Best Hospitals” in U.S. News and World Report for the past 10 consecutive years. The Children’s Hospital of the King’s Daughters is a full-service pediatric hospital. Home to Eastern Virginia Medical School’s Pediatric Residency Training Program, dozens of medical pediatric specialists comprise its faculty.

“Develop methods to track and report contributions of non-City government volunteer hours for inclusion with City government volunteer hours reporting.”

“Develop e-government software capability to routinely gauge public input and feedback on Sustainability Plan implementation.”

11 City of Virginia Beach - Our City, Our Homeless, Our Shared Responsibility
We are a model community of great places, both man-made and natural, that are inherently beautiful and are accessible to all; rich in cultural, educational and recreational opportunities; with ample choices regardless of age, physical limitations or income; and, recognizable with unique character.

Great places have an emotional impact that make them special. Whether enjoying a night out on the town or shopping at the local farmers’ market, the design of our gathering places has the potential to make any outing an enjoyable experience. Our places need to reflect the diversity of our community and provide an abundance of cultural experiences both in our urban and natural landscapes.
PLACES

VISION

We are a model community of great places, both man-made and natural, that are inherently beautiful and are accessible to all; rich in cultural, educational, and recreational opportunities; with ample choices regardless of age, physical limitations, or income; and recognizable with unique character.

We asked the community...
“What is your vision for our PLACES?”
The bigger the word the more we heard it!

GOALS

3. We will have unique, vibrant, and attractive gathering places in our rural, suburban, and urban centers that are accessible to and treasured by residents, visitors, and guests.

4. We will have abundant cultural experiences present throughout our city and accessible to all, regardless of age or income.

5. We will become a top-quality, year-round destination for domestic and international visitors.

walkable streets
healthy communities
live, work, play
reduce vehicle dependence
neighborhood identity
help underserved communities
housing choices
sustainable buildings
revitalize our communities

Community Comments...
“Promote easily accessible entertainment.”
Public Input - Tallwood High School - October 26th, 2011
“Our local natural environment is a major asset and needs to be preserved and enhanced.”
Planning & Design Focus Group - February 9th, 2012
“More resources are needed for neighborhood preservation, especially for communities in need.”
Steering Committee - November 30th, 2011

Virginia Beach Town Center
WHY IS THIS IMPORTANT?

The term “Place” means different things to different people, but the overarching ideas are generally the same: distinct, identifiable, and perhaps culturally significant areas that serve to bring people together socially, culturally, and spiritually. Desirable places are those that possess distinct character, remarkable aesthetics, and memorable landmarks that collectively help provide an increased sense of ownership and stewardship. In simple terms, it is the characteristics of a place that distinguishes it as unique and special. While defining what it is might be difficult, the “what it is not” is relatively easy – areas of mundane design and unimaginative layout that lack activity and social interaction.

Virginia Beach residents love their community, but many residents report that their sense of place, identity, and community is weak in comparison to many other areas. Countless surveys have looked into what makes a city appealing to residents, visitors, and businesses. Cities are often ranked based on sustainability, innovation, and efficiency, but what Edward T. McMahon argues in his article “The Distinctive City,” is most important to economic sustainability is community distinctiveness - a city’s sense of place. Joseph Cortright, a leading economist in economic development states that “the unique characteristics of a place may be the only truly defensible source of competitive advantage for communities.”

Edward T. McMahon states that “A sense of place is a unique collection of qualities and characteristics - visual, cultural, social, and environmental – that provide meaning to a location. Sense of place is what makes one city or town different from another, but sense of place is also what makes our physical surroundings worth caring about.” He suggests that cities should focus less on facts and figures and more attention on defining and developing the distinct characteristics and quirks that make a city its own unique place.

As Virginia Beach is known as a major tourist destination, McMahon’s comment should be taken to heart: “The more one city comes to look and feel just like every other city, the less reason there is to visit. On the other hand, the more a city does to enhance its uniqueness, whether that is cultural, natural, or architectural, the more people will want to visit.” Paris is noted as a prime example of a distinctive city, receiving 27 million visitors per year, more than any city on the planet. In 2009, the American Planning Association (APA) named the Virginia Beach boardwalk as one of the Great Public Places in America.

1 The Distinctive City, Why Sense of Place is Worth Caring About, Edward T. McMahon, Urban Land, April 4, 2012, http://urbanland.uli.org/Articles/2012/April/McMahonDistinctive#  
2 Virginia Beach, VA SDAT: Envisioning a model community for our nation’s sustainable future. A SUSTAINABLE DESIGN ASSESSMENT TEAM FINAL REPORT. September 14 – 16, 2009
Cultural experiences and natural amenities can all have a positive and stimulating influence on the social, environmental, and economic models around us. Landmarks serve a role of being able to identify a given feature of a landscape, possibly with historical or natural significance. Without a landmark, a place is without an identity and has “placelessness.”

In addition to the idea of sense of place, safety is also very important for people and businesses considering Virginia Beach as a city to live, work, and do business. There are several preventive measures that can lead to the reduction of and decreased potential for criminal activity. The more effort and energy we put into defusing criminal activity today, the fewer dollars we will need to spend on enforcing laws and punishing criminals tomorrow.

Arts and culture are keys to making Virginia Beach an interesting and attractive place to live, work, and play. These amenities are critical to attract creative and entrepreneurial individuals. In addition to shaping the physical form of a place, arts and culture play an important role in creating a social connection between people and a place through interpretation of its natural features, history, and the meanings and telling of its stories.
Art, as well as music, cultural festivals, and sidewalk performances, binds people and communities together by creating shared experiences and common points of reference, and can appeal to prospective residents and new businesses.

Integrating the arts into the day-to-day life of a community feeds the spirit while creating more attractive places. Investing in cultural venues demonstrates the City’s commitment to provide the quality of life and entertainment opportunities desired by Virginia Beach residents and visitors. A healthy and stable arts and cultural sector is a cornerstone for the region’s continued economic and social vitality. Investing in the arts and culture yields real economic benefits as event spending pumps vital revenue into local restaurants, hotels, retail shops, parking garages, and other businesses.

Finally, during the initial public input process citizens expressed the desire for Virginia Beach to be recognized for its Centers of Interest. For example, the Rudee Inlet/Owls Creek corridor would be considered a Center of Interest in Marine Science with its natural amenities and the presence of the Virginia Aquarium and Marine Science Center.

“If you don’t know where you are, you don’t know who you are.”

Wallace Stegner
A Community Plan for a Sustainable Future

3.1 Design for and encourage a sense of place in our centers with unique features that distinguish one place from another.

3.2 Support and promote centers with multiple uses where appropriate.

3.3 Promote green certification (e.g., LEED) for the construction and retrofitting of our structures and centers.

3.4 Maximize walkability in our places and reduce the amount of surface parking by promoting alternative parking strategies.

3.5 Coordinate transportation, jobs, and housing to maximize accessibility for all citizens.

3.6 Provide safe, well-maintained public recreational space within a 10 minute walk of every residence to planning areas identified in the Outdoors Plan*.

3.7 Maintain the lowest crime rate in the nation for a city of this population and market this achievement.

GOAL

We will have unique, vibrant, and attractive gathering places in our rural, suburban, and urban centers that are accessible to and treasured by residents, visitors, and guests.

AS OF TODAY...

The City has identified eight Strategic Growth Areas (SGAs) along key transportation routes as suitable sites for multiple use redevelopment and expansion. These SGAs, as nodes of activity, can provide the opportunities to define central areas within Virginia Beach that are critical to sense of place. By mixing land uses and people (parks, shops, sidewalks, and streets), these places can assist with the sense of inclusion and community. Shared public spaces (parks, plazas, and open space) can act as meeting places, recreation areas, lunchtime locations, and leisure zones, and provide support to civic events and informal activities. The addition of public art and landmark features provide points of interest and identity and lead to the creation of lively public places. This idea of “placemaking” should not be limited to our SGAs, but rather be implemented throughout our suburban focus areas as well as our neighborhoods, where possible. These ideas are recommended in our SGA plans and can be implemented by building and site design and by retrofitting pathways and streets.

Virginia Beach possesses the lowest crime rate in the nation for a city of its size. Being the 39th largest city by population in the United States and the largest city in Virginia makes it a special place. In addition, annual crime rate trends within the city have been decreasing over the past decade. Design initiatives such

* With the exception of the Pungo/Blackwater planning area.
as Crime Prevention Through Environmental Design (CPTED) are being implemented to make common areas safer, continuing to ensure that a positively safe environment is a cornerstone of sustaining a thriving area for local residents and visitors alike.

Along with our natural resources that provide hiking, paddling, and surfing experiences, the Virginia Beach Department of Parks & Recreation offers six recreation centers throughout the city. Approximately 90% of the community resides within a 12 minute drive of a center. Our recreation centers provide residents a unique fitness opportunity, an affordable option to participate in indoor athletics, and physical fitness. A recreation center membership gives access to all centers, which feature an indoor swimming pool, weight room, cardiovascular equipment, and a gymnasium. Along with recreation activities, the centers host many community events and meetings and are a hub of out-of-school activities for children.

Public open spaces that are well maintained and safe for local citizens to use are an amenity that the City government strongly supports and encourages. Providing every citizen the ability to be within close proximity to recreational spaces is truly a cultural asset that needs to be continued for future generations. Currently, 62% of Virginia Beach residents live within a half mile (10 minute walk) of a park. The City’s Outdoors Plan, the City’s guidance document for open space acquisition and outdoor recreational planning, has helped set the framework for an outdoor recreational system of parks and athletic facilities; cultural and natural areas; public access and greenways, beaches, and scenic waterways; and trail linkages for all users.

![Neighborhood Park](image)

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3 Virginia Beach Parks & Recreation Fiscal 2012 Annual Report

![Violent Crime Rate Per 1,000 Residents](chart)

Source: Virginia Beach Police Department - Annual Report 2011
4.1 Use our centers and gathering places for cultural, recreational, and educational events and activities.

4.2 Incorporate and invest in public art throughout the city to foster community pride and create community identity.

4.3 Designate pedestrian-friendly Arts and Cultural Districts and encourage the establishment of art galleries, arts-related businesses, and creative industries within the districts.

4.4 Partner with the Arts & Humanities Commission, the Cultural Alliance, and non-profit organizations to expand the number and quality of our cultural experiences.

AS OF TODAY...

The Office of Cultural Affairs fosters an environment that encourages innovation and excellence within the Virginia Beach arts community. Along with the Virginia Beach Arts and Humanities Commission, the Office funds programs and provides services that build our community and transform lives by enhancing enjoyment, understanding, and participation in the visual and performing arts. Without its ongoing work, many areas where public art is present would lack an identity or be unable to feed the community’s creative spirit. Currently, 26 pieces of public art are on display throughout the city, and creative programs such as Art Under Glass, where Virginia Beach Town Center storefronts feature local artists on a variety of mediums, are only possible through their efforts.

Virginia Beach has five visual and performing arts venues along with permanent stages at the oceanfront and private visual arts galleries. Event-related spending by arts and cultural audiences is significant, and there is compelling evidence that the nonprofit arts and culture are a $58 million industry in the City of Virginia Beach - one that supports 1,411 full time equivalent jobs and generates $5.9 million in local and state government revenue. According to the Arts and Economic Prosperity III study performed in 2009 for the Virginia Beach Arts and Humanities Commission, almost 1.5 million participants at arts and cultural events spent just over $43.4 million.\(^4\)

\(^4\) Arts & Economic Prosperity III: The Economic Impact of Nonprofit Arts and Cultural Organizations and Their Audiences in the City of Virginia Beach, 2009, Americans for the Arts, City of Virginia Beach and the Arts and Humanities Commission.
The Office of Cultural Affairs, in coordination with the Planning Department and the City Attorney’s Office, has drafted Zoning Ordinance amendments that would permit the creation of an Art and Cultural District that, in short, is intended to increase awareness and recognition of arts and culture, and will include financial incentives to attract art-related businesses to Virginia Beach.

Nonprofit arts and culture are a $58 million industry in the City of Virginia Beach.
*Arts & Economic Prosperity III*

![Boardwalk Art Show and Festival at the oceanfront](attachment:image)

**VIRGINIA BEACH ARTS & HUMANITIES FUNDED PROGRAMS (# OF)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Programs</th>
</tr>
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<td>2008</td>
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<td>2009</td>
<td>376</td>
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<td>2010</td>
<td>434</td>
</tr>
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<td>432</td>
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</table>

*Source: Virginia Beach Arts & Humanities Commission*
GOAL

5 We will become a top-quality, year-round destination for domestic and international visitors.

OBJECTIVES

5.1 Grow our ecotourism potential by developing, marketing, and investing to enhance our existing natural resources.

5.2 Transform our hospitality and restaurant industry into a nationwide leader in sustainable practices.

5.3 Capitalize on our historic and cultural coastal Virginia heritage through tourism development.

5.4 Promote local and regional military tourism opportunities, both historic and contemporary.

5.5 Pursue public-private partnerships that can broaden the array of facilities and attractions.

AS OF TODAY...

Virginia Beach is a very popular destination for domestic and international travelers. In 2011, the city experienced a record year for overall lodging sales - $279 million dollars - a 1.7% increase over 2010. Virginia Beach was the only destination among our competition that saw positive increases in visitor spending in 2011. We have great federal, state, and City park and recreation resources with over 2.4 million visits alone to our City parks. First Landing State Park is the most visited park in Virginia with 1.7 million visits annually. The Virginia Aquarium and Marine Science Center is one of the top 10 visited aquariums in the nation. Residents and visitors have access to one of the highest ranked parks and trails systems, according to Prevention Magazine’s 2011 listing of Top 10 Best Walking Cities. In 2009, Forbes Magazine ranked Virginia Beach as the sixth Best Place in the U.S. for the Outdoors. Virginia Beach has also gained national recognition from the American
Planners Association (APA) by naming the Virginia Beach Boardwalk as one of the Top 25 Great Public Places in the United States.

Developing and marketing our natural resources as ecotourism opportunities can further expand the city’s designation as being a desirable place for vacationing. Expanding our opportunities can translate into paying major dividends for making tourism an even greater economic driver, as well as making the city more desirable for other kinds of economic development.

In 2009, Virginia Beach ranked sixth Best Place in the U.S. for the Outdoors. *Forbes Magazine*

“Create a Housing and Neighborhood Preservation Trust Fund to provide assistance and resources to areas in and around the city.”
The greatest communities are characterized by life-long knowledge seekers. Learning starts at an early age before children can even read and continues as we transition between jobs and new chapters in our lives. The city's strong foundation of life-long educational opportunities supports our diverse and talented citizenry.
LEARNING

VISION

From an early age, our children are taught principles and values embraced by all. Our public schools, vocational colleges, and higher learning institutions utilize the latest technologies to create a highly skilled, diverse workforce. Life-long learning is inherent in everyday life in a thriving Virginia Beach.

We asked the community...
“What is your vision for our LEARNING?”
The bigger the word the more we heard it!

GOALS

6 We will ensure all of our citizens have access to quality life-long learning and educational opportunities.

7 Our schools and higher learning institutions will prepare a skilled and educated workforce.

quality education for all
promote higher learning
partnerships
adapt for technology
support job growth
tech & vocational training
teach sustainability K-12

Community Comments...

“Public libraries have important opportunities to provide all children with essential access to technology.”
Public Input - Kempsville High School - November 2nd, 2011

“Strong education foundation in both vocational and college education is important to maintain and grow our population”
College Focus Group - February 24th, 2012

“Educate the public on sustainability.”
Steering Committee - February 13th, 2012
WHY IS THIS IMPORTANT?

We live and work in a changing world; therefore, a community with a knowledge-seeking citizenry is a great asset. If we are not constantly learning, we are falling out of touch with the requirements a world economy demands. A highly educated and skilled populous creates a strong competitive edge that attracts high quality businesses to the region. Learning is an important factor of the overall health of a city, its people, and culture. Cities that provide excellent education options are often those that can better weather economic downturns and are poised to take advantage of the boom a new business sector affords.

“A child who can read by third grade has a much higher likelihood of graduating from high school.”
Annie E. Casey Foundation

An educational continuum that begins at birth is critical in sustaining our vibrancy and resiliency as a city. Virginia Beach’s excellent public school system, higher education institutions, and our workplace training opportunities provide our community with excellent life-long learning opportunities to grow as a whole. Schools play a critical role in promoting the health and safety of young people and helping them establish lifelong healthy behaviors. From early childhood, the greatest thing you can do for a child is read to them and help them understand the importance of learning. A child who can read by third grade has a much higher likelihood of graduating from high school; a high school graduate will on average earn more in his or her lifetime than a high school dropout; a college graduate, twice as much as someone who has only finished high school; and an individual with post-graduate education, even more.¹

Indeed, with the growing awareness that we now live in a knowledge- and information-based economy, this will be truer than ever before. Learning has been found to be important to intrinsic motivation, stimulation, and job satisfaction. The most innovative business ideas in the world are worthless without people with the skills to implement them.

“Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young. The greatest thing in life is to keep your mind young.”
Henry Ford

Encouraging a culture of lifelong learning provides opportunities for social inclusion, active citizenship, personal development, greater health and wellness, and competitiveness and employability. Lifelong learning can be formal (training, counseling, tutoring, mentorship, apprenticeship, higher education, etc.), or informal (experiences, situations, recreational, entertainment, etc.) and both are equally important.

**Rush Memory and Aging Project, Chicago**

As part of the study of more than 1,200 elders - participants underwent cognitive testing for up to 5 years. The study revealed that cognitively active elders, whose average age was 80, were 2.6 times less likely to develop dementia and Alzheimer’s disease than those who were cognitively inactive. Published in 2010 in the online edition of Neurology, the study also showed that frequent cognitive activity during old age was associated with a decreased risk of mild cognitive impairment, a transitional stage between normal aging and dementia, as well as a slowed decline in cognitive function.²

Stimulating the brain by visiting a museum or attending a concert, for example, can increase the number of brain cells and connections between brain cells. Physical exercise improves blood flow to the brain, encouraging development of new brain cells. Lifelong learning can be socially invigorating while aiding with memory improvement and cognitive abilities. Activities such as volunteering can be a learning experience while making the life of the volunteer more meaningful, and at the same time offering benefits to society. Lifelong learning allows us to continue to use our minds, one of our most important “muscles” that we often forget to exercise as we age.

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Kids Cove Playground at Mount Trashmore
GOAL

We will ensure all of our citizens have access to quality life-long learning and educational opportunities.

OBJECTIVES

6.1 Increase the level of commitment and investment in early childhood education, beginning at birth, to offer the best start in life.

6.2 Expand opportunities for all individuals and families to pursue education.

6.3 Collaborate with Virginia Beach Public Schools to promote diverse informal educational and cultural opportunities to ensure arts and culture remains part of the school district’s curriculum.

6.4 Utilize the most up-to-date communication methods to maximize access to education for all residents, including those with limited mobility and/or learning disabilities.

6.5 Promote learning opportunities for our aging residents, including the development of Lifelong Learning Centers, and increase awareness of those opportunities.

6.6 Support environmental, public health, and disease prevention education.

AS OF TODAY...

In Virginia Beach, education starts at birth with the GrowSmart program and continues through our public primary and secondary schools. This program requires active involvement and participation of civic, government, business, and other stakeholders. Ensuring equal opportunity to learning opportunities throughout the city, whether it is geographically, economically, or demographically, is a principle that is essential in a culture that values lifelong learning from birth onward.

Education opportunity is only half the key to progress, however; the other is access. The Virginia Tech Hampton Roads Center, through Virginia Tech
Outreach and International Affairs, offers an array of educational services to meet the needs of working professionals in the Hampton Roads region of the Commonwealth. Along with graduate programs, lifelong learning opportunities include a variety of workshops and customized certificate programs to serve the needs of organizations in the private sector, as well as those of state and local governments.

While not located in Virginia Beach, Christopher Newport University offers a lifelong learning program dedicated to retirees who desire to enrich their lives through learning. The LifeLong Learning Society has grown to nearly 600 members since its inception in 1987. Also in 1991, the Christopher Wren Association for LifeLong Learning was established. Working in conjunction with the College of William & Mary, this group has a membership of 600. These LifeLong Learning Societies attract new members mainly by word of mouth - friends inviting friends. The result is a sociable atmosphere that hosts group lectures and meals. Students now come from as far as York County and south Hampton Roads. The Institute for Learning In Retirement program, offered through the Old Dominion University Higher Education Center in Virginia Beach, is the city’s example of providing seniors, regardless of educational background, opportunities for intellectual and social interaction.

Access to learning opportunities is essential in order to prepare all students to be successful as workers, citizens, and lifelong learners in this challenging and rapidly changing global economy. The City’s public school system includes 56 elementary schools, 14 middle schools, 11 high schools, and a number of secondary specialty centers. This public system is complemented with numerous private schools, as well as home school initiatives.
GOAL

Our schools and higher learning institutions will prepare a skilled and educated workforce.

OBJECTIVES

7.1 Close the achievement gap and increase high school graduation rates for all students.

7.2 Expand the partnering of our public schools with technical/vocational training, higher learning institutions, and local businesses to coordinate our workforce skills with current and projected future job base.

7.3 Ensure our schools are utilizing the most up to date technologies and equipment possible, and provide education and training for jobs of the future.

7.4 Further develop the Virginia Beach K-12 sustainability curriculum and expand it to include partnerships with libraries, non-profits, and businesses.

7.5 Encourage work experience and research opportunities for high school students to connect with potential employers.

7.6 Increase access to higher learning opportunities.

AS OF TODAY...

National trends suggest that unskilled jobs of the future will require a high school diploma. The current generation cannot afford to waste their educational opportunities. Earning a high school diploma for future success has never been more important. Virginia Beach's 2011 high school graduation rate was 86.6%, well above the national average of 75.5%. Continuing to improve graduation rates will only strengthen the highly skilled employment base that the city currently possesses. Virginia Beach's public school system is widely acknowledged as one of the nation's best, with eight of Virginia Beach’s eleven public high schools ranked in the top 6% nationwide by Newsweek magazine. Six schools earned the prestigious 2010 Governor’s Award for Educational Excellence.

For over a decade, the Virginia Beach City Public Schools (VBCPS) has pursued initiatives to become a leader in sustainability education. In 2012, the U.S. Green Building Council selected VBCPS as the Best Green School District in the United States based on initiatives such as developing a sustainable building infrastructure, integrating sustainable practices throughout the school division, and educating the public about sustainability. In addition to a public school system that is educating students in 21st Century learning environments, there are a wide range of education partners who enhance the learning experience in Virginia Beach.
Virginia Beach's 2011 high school graduation rate was 86.6%, well above the national average of 75.5%.

Virginia Beach City Public Schools

The Virginia Tech Agricultural Research and Extension Center is one of 13 research centers within the state working with local 4-H chapters on agricultural education. In 2011, the Virginia Dare Soil and Water Conservation District delivered programs to over 3,000 students in 34 classrooms - focusing on watershed awareness, natural resource conservation, water cycle, habitats, recycling, and nonpoint source pollution.

Virginia’s Workplace Readiness Skills program teaches high school students the critical skills they need for the workplace, whether they get a job right out of high school, or continue on to college or other advanced training. Reading, writing, and arithmetic top the list, of course, but the curriculum also includes character-building skills that are fundamental to career success, such as listening, teamwork, work ethic, problem-solving, communication skills, and positive attitude. In school year 2010-2011, more than 1,500 students earned the Virginia Workplace Readiness Skills Certification.

Old Dominion University Virginia Beach Higher Education Center. Photo credit: Glen McClure

Source: The Virginia Department of Education Annual Superintendent’s Report
In addition to the Workplace Readiness Skills program, students who successfully complete courses at the Technical and Career Education Center are prepared to enter the workforce directly upon high school graduation. In school year 2010-11, more than 4,500 students earned industry credentials through their courses. These courses provide skills and knowledge for all students, whether they are considering careers after graduation from high school, pursuing higher education, or seeking a combination of both. Among the many academic choices provided to students are school-within-a-school Academy and Advanced Academic programs. Beyond high school, the city is fortunate to have six post-secondary institutions offering curriculum within its boundaries: Norfolk State University, Old Dominion University, Regent University, Hampton University, Tidewater Community College, and Virginia Wesleyan College. Additionally, there are several for-profit learning institutions including Strayer University, University of Phoenix, Bryant & Stratton College, and South University. Having an ever-increasing caliber of higher educational institutions within one city continues to demonstrate that investment in higher learning is a strong value to those doing business in Virginia Beach.

Virginai Beach was named among the top 20 mid-sized cities for college students in 2010-2011. 
American Institute for Economic Research (AIER)
“Develop an ‘alternative energy technical training program’ to capitalize on the potential connections between offshore wind and existing maritime industry support infrastructure in Hampton Roads.”
While supporting our existing business sectors, we will attract new businesses and entrepreneurs through innovation, technology, and workforce advancement. Maintaining and growing a vibrant, resilient workforce is critical to every large business sector. A workforce that is educated and flexible is one that can respond quickly to changing economic conditions. A strong and diverse economic foundation is essential for any community to adapt to changing economic times.
A Community Plan for a Sustainable Future

WORK

VISION

Virginia Beach has a strong and vibrant economy with a highly skilled workforce. The city capitalizes on its long-term traditional economic sectors, while fostering innovation and growth in new technologies, to ensure a continually expanding and adapting marketplace.

We asked the community...
“What is your vision for WORK?”
The bigger the word the more we heard it!

GOALS

8 We will support and value the traditional sectors as the foundation of our economy.

9 We will attract new businesses, entrepreneurs, and startups with our culture of innovation and sustainability to build a marketplace of the future.

economic diversity
year-round tourism
grow agriculture
grow aquaculture
center of excellence
support local business

Community Comments...

“Encourage innovation and entrepreneurs.”
Public Input - Kempsville High School - November 2nd, 2011

“Youth are now “hyper connected” and will be looking for employers who value sustainability and technology.”
Economic Focus Group - February 6th, 2012

“With a large veteran population provide opportunities for green job technical training.”
Steering Committee - November 30th, 2011

Healthcare Center of Excellence
Our traditional sectors, such as tourism, provide a strong foundation for our economy

WHY IS THIS IMPORTANT?

While becoming recognized as a center of excellence to promote economic opportunities and synergy among technologies is an important local and regional objective, Virginia Beach and the Hampton Roads region as a whole should strive for greater economic diversity to avoid what other regions have experienced over the last few decades. In other words, we should strive to avoid pitfalls that “put all of our eggs in one basket.” Another way to illustrate this is to consider Seattle, San Francisco, Boston, Raleigh-Durham, or Austin - communities with a strong innovation-based economy and workers who are among the best educated, most creative, and best paid, and contrast them with Detroit, Flint, and Cleveland - communities that are at the other extreme as former manufacturing centers where jobs and salaries are plummeting. Much of the U.S. is stuck somewhere in the middle of these two extremes - apparently undecided on which direction to take. Virginia Beach and the region can learn much from these two extremes as it plots its path.

What happened to Austin and Flint is not an accident, but it is representative of a long-running trend that makes the choice for the community where you live more and more important. Forty years ago, America’s rich areas were manufacturing centers with an abundance of physical capital. Workers were well-paid because they had access to the best machines and physical infrastructure. Today, human capital is the best predictor of a city’s success, and to be employed a person must possess the primary skills associated with the nature of the production. A large number of highly-educated workers in a city is associated with more creativity and a better ability to invent new ways of working. As specified skills are important in any employment type, cities with many college-educated workers tend to develop an innovation-based economy, which attracts even more well-educated workers, further reinforcing their edge. In contrast, cities with few well-educated workers miss out on the growth of high tech businesses, further reducing their appeal. These self-reinforcing dynamics magnify the differences between winners and losers. A city that has the ability to move through any widespread economic recession without issue can be put on the map very quickly in a positive light. The answer to the question as to whether Virginia Beach strives to be considered an “Austin” or a “Flint” is obvious. However, while the cost of living in Virginia Beach (99) remains close to the national average (100), the U.S. Department of Labor, Bureau of Labor Statistics reported in 2012 that the average weekly wage earned in Virginia Beach ranked in the bottom fifth in the nation. As consumers experience rising prices for many retail items, a mismatch between increased costs and stagnation of workers’ wages puts a squeeze on consumers. Stagnant wages are particularly difficult on low income households who use a greater proportion of their income on food and gas than wealthier households.

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1 http://newscenter.berkeley.edu/2012/08/30/where-are-the-job-creators-a-labor-day-qa/, Where are the 'job creators'? A Labor Day conversation, By Kathleen Maclay, Media Relations | August 30, 2012
3 http://www.leftfootforward.org/2012/06/living-wage-minimal-cost/
In Virginia Beach and the Hampton Roads region, we are ahead of the curve in that we are blessed with several economic engines: our robust tourism sector and the strong military presence, as well as the significant commercial and agricultural sectors, are all central forces in our economy. As tourism is an important employer, especially for youth, it is extremely important that we continue to cultivate year-round tourism opportunities to reduce seasonal unemployment fluctuations.

Providing a strong economy for individuals and businesses to thrive is essential to making our city sustainable. While it is essential to attract new business to Virginia Beach, we recognize that the successes of our business retention and expansion program and services are extremely important to the overall economic health of the city. Much of the total business growth in Virginia Beach comes directly from existing businesses. Business expansion stimulates the local economy by increasing the number of jobs, payroll, production, and new capital investment. The economic health of our strong business community stabilizes and expands the local economy during downturns in the economic cycle. The strongest leads and

<table>
<thead>
<tr>
<th>GOAL</th>
<th>We will support and value the traditional sectors as the foundation of our economy.</th>
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<tbody>
<tr>
<td>8.1</td>
<td>Continue to grow and diversify our tourism sector into a year-round economic driver by marketing our unique environment and history.</td>
</tr>
<tr>
<td>8.2</td>
<td>Promote the sustainable growth of our agriculture, fishing, and aquaculture sectors.</td>
</tr>
<tr>
<td>8.3</td>
<td>Coordinate and balance the needs of our Department of Defense partners with the civilian community.</td>
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<tr>
<td>8.4</td>
<td>Support our business community with favorable local government policies.</td>
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<tr>
<td>8.5</td>
<td>Promote existing businesses with the mission of expanding as a world-leading economic marketplace</td>
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<tr>
<td>8.6</td>
<td>Expand beyond traditional business sectors by fostering opportunities for investment in alternative energy, marine sciences, and environmental research.</td>
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</tbody>
</table>

AS OF TODAY...

In Virginia Beach and the Hampton Roads region, we are ahead of the curve in that we are blessed with several economic engines: our robust tourism sector and the strong military presence, as well as the significant commercial and agricultural sectors, are all central forces in our economy. As tourism is an important employer, especially for youth, it is extremely important that we continue to cultivate year-round tourism opportunities to reduce seasonal unemployment fluctuations.

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referrals for our economic development prospects and projects come from our existing corporate citizens. After all, they know Virginia Beach is a great place to live, work, and do business. With that, we also realize that we must pursue cutting edge technology companies, such as renewable energy and marine science research, to help establish and cultivate centers of excellence and to pique the interest of companies looking to take advantage of our assets.

Virginia Beach offers employers access to a highly skilled regional workforce, direct connections to the world’s business centers, and an unsurpassed telecommunications network. Seven of the world’s top 10 defense-related firms have a major presence in the Virginia Beach Metropolitan Statistical Area (MSA), supporting the largest active duty military population in the United States. The Virginia Beach MSA is home to 11 major military installations representing all branches of the U.S. Armed Forces, including the world’s largest naval base and the home of the Atlantic Fleet. Bases located in Virginia Beach are Naval Air Station (NAS) Oceana, NAS Oceana Dam Neck Annex, and the Joint Expeditionary Base, comprised of Naval Amphibious Base Little Creek and Fort Story. In 2011, these bases collectively employed more than 122,360 military and civilian employees with a combined annual payroll of more than $8.2 billion. The direct economic impact of goods and services for these facilities totaled $13.5 billion. The relationship between the city and the military continues to be one of mutual benefit. The presence of the military in Virginia Beach, among other things, benefits the local economy. The business community in Virginia Beach is a highly diverse collection of industries and companies. Tasked with implementing the community’s goals set forth by the City Council, City employees strive to ensure that all individuals, families, neighborhoods, community groups, and commercial interests have an opportunity to prosper. As the City’s workforce ages and retires, their institutional knowledge – important information gained through years of experience - goes with them. The need for succession planning is becoming increasingly apparent as the number of City employees eligible for retirement continues to increase.

Following the City of Virginia Beach (including Virginia Beach City Public Schools) in number of employees, the five major employers in Virginia Beach include: Naval Air Station Oceana/Dam Neck and Joint Expeditionary Base Little Creek-Fort Story, 12,000 civilians; Sentara Healthcare, 5,100 employees; Farm Fresh, 4,000 employees; Lynnhaven Mall, 2,600 employees; and Navy Exchange Service Command, 2,450 employees.4

In 2005, due to decisions of the Base Realignment and Closure Commission (BRAC) hearings and as a reflection of the City’s commitment to safeguard the future of NAS Oceana as the Navy’s East Coast Master Jet Base, City Council adopted development policies and regulations to limit incompatible uses on properties located around NAS Oceana within Air Department of the Navy

In 2011, Hampton Roads military bases employed more than 122,360 military and civilian employees with a combined annual payroll of $8.2 billion plus.

4 www.yesvirginiabeach.com, Hoovers.com, Company Websites and Press Releases

F/A-18 at NAS Oceana

City of Virginia Beach
Installation Compatible Use Zones (AICUZ) greater than 65 dB DNL. Three predominately non-residential areas located adjacent to NAS Oceana have been defined as Special Economic Growth Areas, areas targeted for land uses compatible with military uses. The Oceana Land Use Conformity Program offers economic incentives to foster the conversion of nonconforming businesses in the Accident Potential Zone 1 (APZ-1) into conforming ones. Or if businesses cannot be converted, the program will help with relocation to another part of Virginia Beach. Also, the City and the United States Navy began a program of purchasing property voluntarily offered to the City. The local BRAC Response Program is now considered a national model for other localities working with encroachment issues.

The $206 million, 515,000-square-foot Virginia Beach Convention Center includes a 150,000-square-foot Exhibition Hall, 31,000-square-foot ballroom, 29,000 square feet of meeting space, and 2,230 parking spaces, creating a focal point for further conference-oriented development in the resort area. During the past two fiscal years (2009-2011), the Convention Center hosted 677 events, welcomed nearly 1,085,000 people, and generated more than 245,000 room nights citywide, far exceeding projections. This award-winning facility is also the first Virginia and United States certified Green convention facility, as well as the first convention center in the nation and the largest building in Virginia to achieve LEED Gold certification for Existing Buildings. From 2012 through 2015, more than 100 additional conventions and meetings are scheduled citywide, which are expected to generate $62 million in direct spending.

In calendar year 2010, there were 5.5 million overnight visitors citywide, of whom 2.9 million stayed in local hotels or motels, and total citywide lodging sales were more than $274 million, a 6% increase over 2009. An additional 6.2 million visitors traveled to Virginia Beach for day trips. Visitors spent $1.130 billion, helping generate 11,560 jobs and nearly $95 million in City and state tax direct revenue. 2011 was a record year and the continuing strong performance of the tourism sector created $1.26 billion in travel-related expenditures.

Source: Virginia Beach Key Tourism Indicators 2007 - 2010 (U.S. Travel Association)
The economic impact of the agricultural community is more than $120 million per year. It includes production farming, fruit and vegetable farming, livestock programs, agritourism, wineries, and equestrian activities. There are currently 172 farms in the city encompassing more than 28,000 acres.

Virginia Beach is a huge economic driver in Hampton Roads. The city possesses a 5.3% unemployment rate, the lowest in Hampton Roads, by place of residence. In comparison, the rest of the nation in most recent findings has an 8.7% unemployment rate. Virginia Beach is home to more than 30% of all women and minority-owned companies in our area. Retail sales in 2011 for the city totaled $4.7 billion, representing 27% of regional retail sales. About 16% of the Virginia Beach labor force is employed in retail and wholesale.

A recent government study from the U.S. Department of Labor, Bureau of Labor Statistics found that 3.1 million U.S. jobs are “in businesses that produce goods and provide services that benefit the environment or conserve natural resources.” The study showed that most of these 3.1 million jobs are found in manufacturing.

![High performance manufacturing](image_url)

**VIRGINIA BEACH**

**TOTAL # OF TOURISM RELATED JOBS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>11,915</td>
</tr>
<tr>
<td>2008</td>
<td>11,918</td>
</tr>
<tr>
<td>2009</td>
<td>11,596</td>
</tr>
<tr>
<td>2010</td>
<td>11,560</td>
</tr>
</tbody>
</table>

*Source: Virginia Beach Key Tourism Indicators 2007 - 2010 (U.S. Travel Association)*

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5 Bureau of Labor Statistics, Unemployment Rates by County in Virginia, October 2012
7 Virginia Beach Key Tourism Indicators 2007 - 2010 (U.S. Travel Association)
GOAL

We will attract new businesses, entrepreneurs, and startups with our culture of innovation and sustainability to build a marketplace of the future.

OBJECTIVES

9.1 Ensure the workforce has the skill set necessary for jobs of the future.

9.2 Attract and partner with higher education to promote research and development and the emergence of the city as a center of excellence in marine science and new technologies.

9.3 Ensure the physical space and facilities exist within the city to accommodate new business opportunities.

9.4 Attract quality employers, offering well-paid jobs, good health benefits, and following sustainable business practices, with favorable local government policies.

9.5 Attract green industry and jobs that benefit the environment or conserve natural resources.

9.6 Continue to grow Virginia Beach into the most livable city in America to attract the best and brightest workforce.

9.7 Attract entrepreneurs and support the successful development of business start-ups.

AS OF TODAY...

Strategically located at the midpoint of the United States East Coast and just three hours from Washington, D.C., Virginia Beach - as part of the Hampton Roads region - truly is an international gateway to the nation. Nearly two-thirds of the U.S. marketplace and manufacturing base are within 1,200 kilometers of Virginia Beach. Located in the southeastern corner of Virginia, the Virginia Beach-Norfolk-Newport News MSA is the 34th largest in the United States, with a population of more than 1,650,000 as of 2010. Due to its strategic mid-Atlantic location, both global and U.S. markets are readily accessed through a superior multi-modal transportation network, which includes an extensive

Old Dominion University Virginia Beach Higher Education Center. Photo credit: Glen McClure
Virginia Beach was ranked the “6th Best City to Ride Out the Recession” in 2008. *Forbes Magazine*

railway system, two international airports, vast shipping terminals, the East Coast’s largest ice-free deep port, and an efficient and well-maintained highway system. Virginia Beach offers a world-class telecommunications system for easy and reliable global communicating.

Virginia Beach has used its strategic location and pro-business philosophy to create a destination where companies can succeed globally. More than 180 foreign-based companies are located in the MSA, in addition to the many local companies who operate around the globe. With the region hosting 13 foreign consular offices, and direct shipping to all of the world’s major ports, the Virginia Beach-Norfolk-Newport News MSA is truly an international business gateway.

There are many favorable reasons to do business in Virginia Beach. Virginia Beach has been ranked by major business publications as one of the best U.S. cities for business, one of the best cities in which to live, and one of the safest cities. A diversified economy based on a blend of professional office, manufacturers, and advanced technologies helps keep Virginia Beach a recognized international business location. In addition to the lifestyle attributes of the city as one of America’s favorite destinations, Virginia Beach also boasts a skilled, educated workforce, strategic business location, low tax rates, and a diverse economy.

Together, the Commonwealth of Virginia and the City of Virginia Beach have one of the fairest tax structures of the 50 states. Both businesses and individuals carry their share of the tax load; the Commonwealth has not raised its corporate income tax rate of 6% since 1972, and Virginia’s unemployment insurance rates and workers’ compensation costs are among the lowest in the nation. To encourage Advanced/High Performance Manufacturing, Virginia Beach is the only City in the Commonwealth of Virginia to eliminate the Machinery and Tools Tax.

A primary reason Virginia Beach has been recognized as one of America’s top business locations is its highly affordable cost of business operations. With almost 35 million square feet of enclosed office, industrial, and commercial space, Virginia Beach is currently home to 19 international companies and many more growing small businesses. Our commercial real estate costs are extremely competitive - as are employee salaries. In October 2008, Forbes Magazine named Virginia Beach the 6th Best City to Ride Out the Recession, and in December 2010, Metropolitan Policy Program rated Virginia Beach 36th in the world for the City’s ability to perform and recover from the Great Recession. Virginia Beach was ranked as the 3rd least expensive market for regional headquarters out of 50 by Site Selection magazine. Almost $175 million in new capital investment was recorded in fiscal year 2010/2011, a 258% increase from fiscal year 2009/2010. During the past year, the efforts of the City’s Department of Economic Development have paid off handsomely with 2,106 new jobs - a 54% increase over the previous year. While the majority of these new jobs are from existing businesses, 671 jobs (32%) were created by companies that are new to the city.
Virginia Beach is striving to become a competitive world market moving into the 21st Century. Strategically investing in our workforce can ensure that local residents have the skills necessary for the future. Our schools are poised to graduate students who are ready to enter the workforce directly, or continue their education at quality institutions located in Hampton Roads. Our Workplace Readiness Skills Program teaches high school students the critical skills they need for the workplace and the Virginia Beach City Public Schools’ Career and Technical education courses provide skills and knowledge for all students. With over 16 technical colleges within our boundaries and 11 college campuses or satellite campuses within the Virginia Beach-Norfolk-Newport News MSA, post-secondary education options abound that provide access to more than 191,000 existing or graduated students for part-time and full-time employment. There are more than 57,000 baccalaureate graduates and a post-graduate population of nearly 30,000 in Virginia Beach. In addition, Veterans exiting military service are a valuable source of skilled labor. The Military Economic Development Advisory Committee (MEDAC) coordinates with the local military and the various installation tenant commands to ensure veterans are well-trained and highly motivated potential employees.

The economic impact of marine science and technology in the city is increasingly important. The Virginia Aquarium and Marine Science Center is recognized as a national leader in marine education, conservation, and research. The recently completed Virginia Aquarium and Owls Creek Area Master Plan defines a 20 year plan around six major focus areas: recreation, research and technology, education, entertainment, economic development, and exhibits. In conjunction with these local efforts, the region’s oceanographic and marine technology expertise at Old Dominion University, and the U.S. Department of Commerce National Oceanic and Atmospheric Administration’s (NOAA) Norfolk Maritime Research Center, coupled with the College of William and Mary’s Virginia Institute of Marine Science, help cement Hampton Roads’ position among the largest marine research and education centers in the United States.

Information Services: Cybersecurity, web development, data management, and bio-information are all growing sectors in the Virginia Beach business community, fueled by both the government and private sectors.
Virginia Beach offers assistance to businesses expanding or locating to Virginia Beach. Three principal ways it offers assistance include the City’s Economic Development Investment Program (EDIP), Industrial Revenue Bonds, and the Fast-Track Construction Program. The Virginia Beach Development Authority can provide EDIP funds to qualifying businesses that are locating to or expanding in the city. The EDIP was established to support projects that create new jobs and capital investment in Virginia Beach. EDIP monies may be used for allowable infrastructure improvements and certain other project purposes, which will help to reduce the costs of relocating and expanding in our community.

The Virginia Beach Development Authority issues Industrial Revenue Bonds to provide financial assistance to private sector entities for the acquisition and construction of industrial and commercial facilities. Upon repayment of the bonds, ownership of the facilities transfers to the private-sector entity served by the bond issuance. Since these bonds are tax-exempt, the interest rates offered are significantly lower than traditional forms of financing.

Fast-tracking of construction can streamline plan review, approval, and permitting requirements so that construction of custom office buildings and industrial facilities can be completed and made operational in as little as six months. This is at least 50% less time than the typical non-fast-track construction time of 12 to 18 months or more. The Department of Economic Development will also assist fast-track companies in locating and setting up temporary training facilities at our Advanced Technology Center during construction so business operations can begin simultaneously with the move-in date.
The infrastructure that connects us has the potential to bring us closer together as a community. The accessibility and mobility of our citizens depends on efficient transportation systems; reliable and timely communications; and current, leading-edge technology. These connective systems can also bring value as places of recreation & community interaction and as contributors to a higher quality of life.
CONNECTIONS

VISION

Residents and visitors to Virginia Beach are well-connected within our city utilizing quality infrastructure, enjoying the benefits of an interconnected multi-modal transportation system, and communicating in person or via technology from anywhere in the city.

GOALS

10 We will ensure our infrastructure is high-performance and utilize the latest technologies, providing the highest level of service to our community.

11 We will have an inter-connected, multi-modal transportation system providing efficient, safe, and affordable movement city-wide and linking to regional systems.

12 We are a technologically connected community where all people have internet and telecommunications access.

We asked the community...
“What is your vision for our CONNECTIONS?”
The bigger the word the more we heard it!

efficient transportation system
upgrade old infrastructure
adapt for technology

Community Comments...

“Residents need better transportation options, including quality bus shelters and easily accessible schedules.”
Public Input - Cox High School - November 7th, 2011

“Sustainability may be measured as how enduring is our built infrastructure.”
Planning & Design Focus Group - February 9th, 2012

“Bike and pedestrian improvements proposed for the SGAs need to be continued throughout the remainder of the City.”
Steering Committee - November 30th, 2011
WHY IS THIS IMPORTANT?

The American Institute of Architects 2009 Virginia Beach, VA Sustainable Design Assessment Team Report stated that as long as the current automobile orientated development patterns continue in the city, it will be necessary to continually add capacity to the road network to maintain a functional system. Even without further development, the existing road system is strained and needs capacity improvements to alleviate congestion. Expanding roads forever to meet the needs of sprawl is extremely expensive and unsustainable.

There is no single alternative that will eliminate the need to drive, but by developing a transportation system that provides viable choices, it becomes possible to reduce the proportion of single occupancy vehicle trips. Giving people the option of walking, biking, and public transit - in addition to driving - reduces traffic congestion, protects the environment, and encourages physical activity. At several of the citizen input meetings on the Plan it was stated that many of the younger generation gravitate to communities where choices of transit, bicycling, and walking are readily available, rather than to communities that principally rely on the private automobile for transportation.

Other modes of travel must be considered and studied to reverse the disproportionate reliance on the single occupant vehicle for travel within and beyond the city, which creates negative impacts to the environment, inefficient use of energy resources, economic strain, productive time lost to congestion, and an overall reduction in quality of life. Future transit linkages must consider opportunities for light rail and other transit to serve the identified growth areas as part of a larger transportation system that connects these areas to the lower density suburban area throughout the city and to the region. A well-planned feeder bus system is essential to the success of the larger transit system. All public transportation systems, be it roads or subways, receive significant subsidies and are generally not able nor expected to “pay their way” solely by user fees. The public investment in a variety of modes of transportation can be justified due to the widely shared public benefits, the complex collection of transportation revenue, and the desire to achieve more efficient and less polluting forms of transportation. ¹

“Transportation infrastructure” is a term architects, engineers, and urban planners use to describe essential facilities, services, and organizational structure for mobility in cities and communities, such as roads, bridges, rail lines, transit systems, etc. Other conventional types of infrastructure include air control towers, telephone lines and cell phone towers, electrical lines and equipment, water and sanitary sewer lines, postal facilities, law enforcement, hospital and ancillary medical facilities, and emergency response systems. Many communities now classify their infrastructure as grey infrastructure (man built and maintained systems), and as blue (water) or green (environmental or resource-based) infrastructure. Transportation systems and public utilities are essential in all communities to provide for the comfort and safety of the people. Similarly, waterways, floodplains, wetlands, and other natural systems perform valuable functions to a community for free and will continue to function indefinitely as long as their essential elements are protected in perpetuity. Poorly maintained grey, blue, or green infrastructure can lead to devastating loss of life and property.

Cities still exist primarily for economic and social exchange, and the technology that supports such interaction clearly reflects urban form and function. Although mechanical technologies still dominate in large measure, electrical pulses also now force the pace of change via new ways of exchanging and processing information that shape the nature of trade, migration, and communication. Within the last couple of decades, computers and telecommunication have converged, and the digital revolution has changed the basis of interaction and exchange of information - essentially changing the form and function of cities in ways that are difficult to measure in traditional physical terms. ²

GOAL

10 We will ensure our infrastructure is high-performance and utilize the latest technologies, providing the highest level of service to our community.

OBJECTIVES

10.1 Maintain high performance infrastructure systems city-wide by retrofitting, designing for adaptability, and investing in new technologies.

10.2 Act as a responsible steward of public funds and take a long-term life-cycle approach to new construction, upgrades, and maintenance of infrastructure.

AS OF TODAY...

The City understands the value of high performing utility infrastructure to meet customer expectations, maximize utility revenue, and to serve as a defense against unnecessary capital and operational costs. Water, sewer, electric, and gas utilities are expensive operations that require continual reinvestment in order to maintain high performance of the system. New technologies and clearly defined operational procedures create efficiencies within the utility, which likewise creates a true return on investment that sustains a beneficial rate structure for customers.

As defined by the Environmental Protection Agency (EPA), in utility systems, an “asset” is a component of a system that functions independent of the system, e.g., a pump, motor, catch basin, etc. The renewal and replacement of the assets that make up the utility systems is a constant and ongoing task. Asset management has become an effective way to manage this part of the utility’s business and has gained recognition worldwide. Asset management guarantees the greatest return on investment and ensures that all assets operate at levels necessary to ensure the lowest life-cycle cost.

Each utility is responsible for ensuring that its system stays in good working order, regardless of the age of components or the availability of additional funds. Asset management programs with good data, including asset attributes (e.g., age, condition, and criticality), life-cycle costing, proactive operations and maintenance (O&M), and capital replacement plans based on cost-benefit analyses can be the most efficient method of meeting this challenge.

Virginia Beach’s urban core at Town Center
Direct and measurable benefits realized from asset management include:

- **Prolonging asset life and aiding in rehabilitation, repair, and replacement decisions through efficient and focused operations and maintenance;**
- **Meeting consumer demands with a focus on system sustainability;**
- **Setting rates based on sound operational and financial planning;**
- **Budgeting focused on activities critical to sustained performance;**
- **Meeting service expectations and regulatory requirements;**
- **Improving responses to emergencies;**
- **Improving the security and safety of assets; and**
- **Reducing overall costs for both operations and capital expenditures.**

The Hampton Roads Metropolitan Statistical Area (MSA) ranks among the top MSAs in the nation for quality public and private utilities. Virginia Beach’s capital infrastructure provides unparalleled support to all types of business and industry operating in our city.

As the city has matured, greater emphasis and concentration have been placed on the equally growing needs for a sustainable and reliable public drinking water system and wastewater collection system. Maintaining and operating these systems in conjunction with the Lake Gaston Pipeline, which traverses five communities, or Norfolk’s Moores Bridges Water Treatment Plant, and the Hampton Roads Sanitation District’s Chesapeake/Elizabeth and Atlantic Treatment plants have resulted in a demonstrated need for regional cooperation. Currently, these services are provided to over 130,000 customer accounts, comprising residences and businesses located in the city.

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3 US Environmental Protection Agency, Sustainable Water Infrastructure, Asset Management, September 2012
4 Virginia Beach Department of Public Utilities, 2012

**Virginia Beach’s suburban street patterns**

The Hampton Roads Metropolitan Statistical Area (MSA) ranks among the top MSAs in the nation for quality public and private utilities.
GOAL

11 We will have an inter-connected, multi-modal transportation system providing efficient, safe, and affordable movement city-wide and linking to regional systems.

1.1 Develop an efficient and convenient public transit system, connecting major centers and gathering places, and offering residents and visitors with comparative alternatives to the automobile.

1.2 Educate both residents and visitors about the benefits of public transit and the importance of such choices.

1.3 Create active transportation routes, such as bikeways and trails, that are safe, connect our centers, and are widely used by our citizens and visitors.

1.4 Ensure funding is available to support quality roadway infrastructure that maximizes connectivity and traffic flow, while not impairing pedestrian and bike access.

AS OF TODAY...

The primary component of the city’s transportation system at present and for much of the foreseeable future is our road and highway network. While the City’s Master Transportation Plan, a component of the City’s Comprehensive Plan, tries to address our transportation needs through several different options, the road and highway network will continue to lead the overall transportation system. Therefore, it is imperative that our roads are adequately planned, designed, maintained, and funded to accommodate all vehicles that move people and goods throughout the community and beyond.

As a result of decreased state funding allocated to the City for road projects in recent years, the proportion of the street system meeting the minimum physical condition rating has increased. The minimum physical condition rating scale ranges from Grade “A” to Grade “F.” Grade “A” represents excellent - no distress of any type is present. Grade “F” is very poor - imminent pavement failure or pavement is severely distressed with large quantities of distortion, rutting, cracks, and numerous potholes with patching in fair to poor condition. Acceptable road conditions are one
of the largest responsibilities of the City. As road conditions deteriorate they become less safe and more expensive to repair. The City’s culture promotes the concept of responsible stewardship of public funds and in taking a long-term life cycle approach to new construction, upgrades, and maintenance of infrastructure. This approach is increasingly important as state and federal dollars for infrastructure improvements and maintenance continue to dwindle.

![VIRGINIA BEACH](Image)

**PERCENT OF ROADS IN THE 2 LOWEST GRADES FOR TRANSPORTATION EFFICIENCY**

Contrary to the reality of reduced state funding to the City for needed road improvement projects, the City was successful in securing Federal Stimulus Funding prior to 2009 to complete several major collector road projects in the city between 2009 and 2011. Other city-wide transportation successes in recent years include: the continuous provision of well-designed, built, and maintained streetscapes, medians, and traffic signal systems; acquisition of the Norfolk Southern Railroad Right-of-Way for the future potential extension of Light Rail; initiation of the Transportation and Light Rail Environmental Impact Study Strategy; designation of Transit-Oriented Development (TOD) overlays at the transit station proposed in the Strategic Growth Area Master Plans; completion of the City’s Traffic Intelligent Transportation System (ITS) Project; secured capital funding for the Lesner Bridge Replacement; greater procurement of hybrid vehicles into the City’s fleet; and adoption of the Virginia Beach Bikeways and Trails Plan to provide additional pedestrian access and connections around the city, as funding becomes available.

In December 2011, the City of Virginia Beach became the first locality in Virginia certified to deliver its own road construction program. The certification program is the first of its kind in the state and one of only a handful of similar efforts nationwide. This program demonstrates the commitment the Commonwealth and localities have in partnering for efficient transportation program delivery.
Although the mean travel time to work has increased in the last two years to 23.6 minutes, since 2002 it has remained relatively consistent.\(^5\) This consistency could be attributed to either one or two positive factors: a reflection of the City’s road building program over the years or a shift in commuting patterns from residents commuting to work in a neighboring city to residents living and working in Virginia Beach.

\[\text{Average Commute Time (Minutes)}\]

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<tr>
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<td>2008</td>
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<tr>
<td>2009</td>
<td>22.9</td>
</tr>
<tr>
<td>2010</td>
<td>23.4</td>
</tr>
</tbody>
</table>

Source: City of Virginia Beach Community Indicators, Quality Physical Environment, Citizen Survey, September 2011.

In 2010, commuters in Virginia Beach had the fourth shortest commute time when compared to residents of seven other Hampton Roads cities.

\textit{Virginia Beach Community Indicators - 2011}

The Virginia Department of Rail and Public Transportation (DRPT) is working to increase access to passenger rail transportation to Virginia’s major population centers. Projections show that Hampton Roads will be one of the Commonwealth’s most populated regions by 2035.\(^6\)

\textit{Multi-modal means alternatives to the automobile}

\(\text{City of Virginia Beach Community Indicators, Quality Physical Environment, Citizen Survey, September 2011}\)

\(\text{Virginia Department of Rail and Public Transportation, Amtrak Virginia Extension to Norfolk, September 2012}\)
Using state Rail Enhancement funds, DRPT worked with Norfolk Southern, CSX, and Amtrak to extend Amtrak’s Virginia regional service, which began in July 2010, to Norfolk. Now complete, residents in and around Norfolk have a one-seat ride from Norfolk, Virginia to as far north as Boston, Massachusetts.

Governor McDonnell stated that “the partnership between the Commonwealth and Amtrak to bring an Amtrak Virginia station to the City of Norfolk reflects my administration’s commitment to continue to make progress in improving our transportation networks for the state.” Further, he said “by providing the citizens of Virginia an alternative way to get to and from Southside Hampton Roads, it takes cars off the highways, helping ease congestion on already highly-traveled roads. The new station provides a one-seat ride to Richmond, Washington, D.C., and major cities along the northeast corridor, offering an economical and environmentally-friendly way to travel.” The new Norfolk passenger rail service is an excellent example of expanding transportation options for Virginians.

Amtrak’s regional service now extends to Norfolk
GOAL

We are a technologically connected community where all people have internet and telecommunications access.

OBJECTIVES

12.1 Maximize Wi-Fi availability throughout the city.

12.2 Partner with communications providers to ensure all citizens have optimum communication access as technology changes.

AS OF TODAY...

Many people today are embracing a digital lifestyle and want to be able use this technology in all aspects of their busy lives. For example, approximately 48% of the U.S. population now uses Smartphones, with the use of this technology being significantly higher in the “under 44” age groups. The use of this, and other technologies, is only expected to increase in the coming years. Connecting communities through technology has become a rapidly growing phenomenon in recent years, allowing people to access information and resources easily and efficiently. It allows individuals to have better control over how they work, recreate, engage government, make economic and social choices, and interact with their fellow citizens. Connected communities have responded and opened up an array of new choices for increased communication and interaction between government and citizens.

Research indicates that a low rate of community participation at City Council meetings and other public forums is not due to apathy, but rather inconvenience and, in some cases, fear of public speaking. Other citizens face certain barriers to participation - among them, transportation, work conflicts, childcare - making public meeting attendance difficult.

The Virginia Beach Department of Communication and Information Technology (ComIT) keeps up with advances in technology and demonstrates its commitment to providing excellent service through the dedication of funding and staffing, and through city-wide communication improvements. For example, the City recently launched a new web-based citizen engagement tool called “Virtual Town Hall.” This program will help the City gather

residents’ opinions about projects and initiatives, with the goal of incorporating this feedback in the decision-making process. This program also allows citizens to indicate budgetary priorities, share opinions, and review what fellow residents are saying about current issues.

As we rely more and more on technology for interaction and communication, our expectations for infrastructure have changed. Due to the popularity of Smartphones, there is an insatiable demand today for access to Wi-Fi technology. Other wireless communication devices such as tablets, gaming consoles, laptops and netbooks, machine-to-machine communications, and basic (i.e., “non-smart”) wireless phones only add to the demand for Wi-Fi hotspots. The Wi-Fi Alliance estimates that in 2012, almost 200 million households will connect to Wi-Fi networks and that there are approximately 750,000 Wi-Fi hotspots worldwide. Wi-Fi is used by over 700 million people and there are about 800 million new Wi-Fi devices purchased every year. Many in the Millennial Generation have come to expect Wi-Fi access as a basic service - having grown up with its availability both at home and on campus.

Along with the growing popularity of hotspots, however, it must be noted that there are downsides that can frustrate users and compromise security, such as hi-jacking mobile signals, eavesdropping, etc. Governments have the difficult task of protecting the public’s interest while meeting the diverse needs of their citizens.

Information Technology (IT) has become a powerful tool to enable enhanced service delivery in both the public and private sectors. Getting IT right and keeping up with the rapid changes being introduced into the marketplace is more critical than ever for government and private service providers to meet the demands of citizens, businesses, and employees. IT’s utility and how it is managed now and into the future can, and will, dramatically impact the efficiency, effectiveness, and citizens’ focus on government services and programs.

Technology can not only enable the creation of better, faster services to citizens, but can also facilitate better cooperation and communication between public and private entities. Public-Private Partnerships (PPPs) are increasingly a more common delivery method for providing infrastructure and services traditionally provided by governments. Local examples include the potential Hampton Roads Third Crossing project and the Midtown Tunnel expansion project. These partnerships can actually facilitate cooperation, improve communication, and provide methods for meeting impending technology challenges - from improved infrastructure maintenance to broader availability of communication technologies such as Wi-Fi.


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Connections

Suggestion

Box...

“Partner with private utility companies to study the opportunities to make Wi-Fi available to a larger number of users.”

“Aim for a reduced payback period on green infrastructure. Virginia Beach City Public Schools requires a 10-12 year payback for green building initiatives.”
The air we breathe is not defined by city boundaries and is affected from sources beyond the region. It is the most vital need of all things living; depending upon the quality, it can either energize us or weaken us. It is the perfect illustration of the connectivity throughout nature and how our impact upon the environment directly affects our health.
AIR

VISION

Both as a key component of the high quality of life and as an attraction to visitors, the City of Virginia Beach continues to protect and maintain the highest level of air quality.

GOAL

We will do our part as a community to continually improve the region’s air quality and reduce harmful greenhouse gas emissions and air pollutants.

Why is this important?

Community Comments...

“The tax structure on vehicles should be updated to reward lower impact vehicles.”

Public Input - Independence Middle School - November 14th, 2011

“Historical information, using environmental mapping, could tell the story of our changing environment.”

Environmental Stewardship Focus Group - February 7th, 2012

“City buildings should be LEED with maximum efficiency”

Steering Committee - November 30th, 2011

Obviously, air is essential to the survival of humans, land animals, and plants. No matter who you are, where you live, or how healthy you are, the quality of the air you breathe each day can affect you. On average, each of us breathes over 3,000 gallons of air each day. When our air becomes heavily polluted, it not only causes harm to the living but also damages our built environment and reduces visibility in our cities and skies.

Fine particle air pollution may be the cause of more than 500,000 deaths in the U.S. each year.

The American Chemical Society

1 U.S. Environmental Protection Agency
Air is also critical to the sustainable functioning of our atmospheric system and is the vehicle for delivering stable climate, season, and weather patterns, affecting ecosystem integrity and viability, as well as global and local food production, migration patterns, and quality of life. Accordingly, the temperature of our air is the critical driver for maintaining the climactic cycles that have supported stable ecosystems on earth for millennia.

Breathing polluted air can make your eyes and nose burn and can increase the risk of respiratory and heart disease. Poor air quality primarily affects the sick, children, and the elderly. Those suffering from asthma are especially vulnerable, and today, nearly 30 million adults and children in the United States have been diagnosed with asthma. Based on preliminary studies, fine particle air pollution may be the cause of more than 500,000 deaths in the United States each year due to cardiopulmonary disease.

Air pollutants can occur naturally or may be man-made. Sources can be either stationary or mobile. The most common sources of air pollution are the burning of fossil fuels in our motor vehicles and homes and the emissions into the air from industrial facilities. By reducing our use of energy in our homes and vehicles, it is possible to reduce the amount of air pollution being created, so reducing energy use can lead to better human health. The most damaging pollutants that affect human health are particulate matter, sulphur dioxide, carbon monoxide, ozone, and nitrogen dioxide.

Pollution prevention best begins at the source, and there are many small actions we can take to reduce our emissions at the local and regional level that can have cumulative benefits. The City government can lead by example through improving the energy efficiency of our own facilities, transition our motor vehicle fleet to alternative fuels, and continue to improve our transportation infrastructure by providing alternatives to the single occupancy vehicle and reducing traffic congestion.
As a community, we can be more efficient users of energy in our homes and businesses and consider cleaner sources of energy that reduce emissions of harmful pollutants. We can drive our cars less, walk more, and use alternative modes of transportation. We can take advantage of recycling programs to reduce waste, and our businesses can change or modify their production processes.

Increasing opportunities for greening the urban landscape can also dramatically improve local air quality. A healthy tree canopy can help reduce outdoor temperatures and the energy required to heat or cool buildings, while also helping absorb pollutants once they have entered the atmosphere.

The best way to keep track of our local air quality and to measure our performance is through a coordinated system of air quality monitoring. While the Hampton Roads region currently has, and is only required to maintain, three air quality monitoring stations, additional local monitoring stations may help identify localized air quality problem areas and enable the community to consider localized air quality improvement strategies. The federal Air Quality Index (AQI) provides a ranking system for our region.  

<table>
<thead>
<tr>
<th>Air Quality Index (AQI) Values</th>
<th>Levels of Health Concern</th>
<th>Colors</th>
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<tr>
<td>When the AQI is in this range:</td>
<td>...air quality conditions are:</td>
<td>...as symbolized by this color:</td>
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<tr>
<td>0-50</td>
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<td>Hazardous</td>
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</tr>
</tbody>
</table>

Air Quality Index - EPA

4 Local Air Quality Conditions and Forecasts (www.airnow.gov)
GOAL

We will do our part as a community to continually improve the region’s air quality and reduce harmful greenhouse gas emissions and air pollutants.

OBJECTIVES

13.1 Track greenhouse gas emissions from City government operations and establish goals for the future.

13.2 Improve monitoring systems to better track air pollutants.

13.3 Partner with the State and energy providers to increase power generation from renewable energy sources and reduce harmful emissions.

13.4 Expand and encourage the use of alternative modes of transportation to reduce vehicular emissions.

13.5 Improve traffic flow and encourage better driving habits to reduce vehicular emissions.

13.6 Preserve and expand our urban tree canopy (UTC).

AS OF TODAY...

Virginia Beach, along with the Hampton Roads region, enjoys healthy air all year round and typically rates as “Good - Moderate” on the AQI. Today, air quality measurements, initiatives, and policies for localities in Hampton Roads are typically considered at the regional level. However, in 2008, the City - recognizing the link between idling vehicles and the creation of unnecessary pollution that contributes to climate changes, smog, and health problems - adopted a “no idle” policy that most licensed/unlicensed motor vehicles or equipment owned, leased, or fueled by the City of Virginia Beach will not be left idling. The Virginia Beach City Public Schools (VBCPS) implemented a school bus “no idle” policy that resulted in an estimated $50,000 in fuel savings in 2010 and was awarded an Environmental Achievement Award by the U.S. Environmental Protection Agency’s...
Additionally, the U.S. EPA funded a local pilot project that showed a 28.2% decrease in emissions and an increase in fuel savings by using fuel-operated heaters instead of idling school bus engines until warmed.

In 2011, VBCPS became one of the first K-12 public school districts in the country to conduct a district-wide green house gas emissions inventory, in the spirit of President Obama’s Executive Order Federal Leadership in Environmental, Energy, and Economic Performance; Governor McDonnell’s Executive Order 19(2010), Conservation and Efficiency in the Operation of State Government and the Virginia Energy Plan (2007); and the U.S. Conference of Mayors Climate Protection Agreement (signed by City of Virginia Beach Mayors Oberndorf and Sessoms). Spanning calendar years 2006-2010, this inventory calculated the school district’s emissions. The results of this inventory indicate that the largest emission source associated with the school district is purchased electricity, followed by both student transportation to and from school and faculty/staff commuting. In total, 65% of the emissions coming from VBCPS are building related and 35% are transportation related. All other emissions sources amount to less than 1%

Virginia Beach’s 36% urban tree canopy (UTC) has a value of $11 million in annual pollutant removal.

Source: “A Report on Virginia Beach’s Existing and Possible Urban Tree Canopy” - Virginia Department of Forestry
Virginia Beach’s urban tree canopy (UTC) removes 4.4 million pounds of pollutants from the city’s air every year.  

Virginia Beach UTC Study

In 2010, The City of Virginia Beach completed its first urban tree canopy (UTC) study. UTC percentage can be defined as the area of the city covered by trees when viewed from the air. The benefits of trees have long been recognized from increased property values to stormwater runoff and erosion control to removal of air pollutants that contribute to human health problems. The UTC goal recommended by the nonprofit American Forests, the nation’s oldest nonprofit citizens’ conservation organization, for metropolitan areas east of the Mississippi River, is 40% while the national average is 23%. The Virginia Beach study revealed that 28,987 acres of Virginia Beach is covered by tree canopy, equating to a 36% urban tree canopy, most of which is on privately-owned properties.

According to the study, a 36% tree canopy translates annually into $11 million of pollutant removal benefits and the yearly removal of 4.4 million pounds of ozone, particulate matter, nitrogen dioxide, sulfur dioxide, and other pollutants.

Virginia Clean Cities (VCC) Program

At the state level, the Virginia Clean Cities (VCC) program was developed to assist in the improvement of the Commonwealth of Virginia’s air quality, increase U.S. national energy security, and promote economic opportunity in Virginia, primarily by promoting and facilitating increased use of alternative fuels and vehicles. One of the aims of the VCC program is to improve the Commonwealth’s air quality, primarily focusing on increasing the use of alternative fuels and vehicles.

Local interstate commuter congestion

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5 American Forests - Protecting & Restoring Forests (www.americanforests.org)
6 Virginia Beach City Public Schools, Green House Gas Inventory, 2010. Moseley Architects
   http://www.vbschools.com/GreenSchools/content/pdfs/VBCPSGreenhouseGasInventory.pdf
and carbon monoxide from the city's air. A 4% increase in Virginia Beach's UTC could result in an additional $1.2 million in benefits for air pollutant removal annually.

In response to the UTC study, the City’s 2010 State of the Urban Forest Report was developed. As urban forests across the country are in decline due to construction practices, inadequate tree care, and replacement, the report serves as an important benchmark from which critical next steps must be taken including the development of an Urban Forest Management Plan. As many of the city's trees are on public properties, public involvement, education, and communication will be essential components of this plan.

On a nationwide scale, Congress passed the Clean Air Act in 1970, giving the federal government authority to clean up air pollution nationwide, although the states are responsible for much of the implementation. In 2005, President Bush signed the Safe, Accountable, Flexible, Efficient, Transportation Equity Act, which requires the metropolitan planning process be closely coordinated with the mandates of the Clean Air Act in the development of transportation plans and programs. The Virginia Department of Transportation (VDOT) is responsible for conducting air quality conformity analysis for regional transportation plans and programs. The Hampton Roads Transportation Planning Organization (HRTPO) assists VDOT in the development of transportation control strategies that will help Hampton Roads attain established air quality standards. The HRTPO also assists in evaluating how regional transportation plans and programs will impact air quality. The HRTPO performs technical analyses of air quality emissions for all projects requesting federal Congestion Mitigation and Air Quality (CMAQ) funds. Projects only qualify if they will reduce emissions and demonstrate air quality improvements.

In July of 1997, the EPA promulgated a new eight-hour national Ambient Air Quality Standard that set the maximum ozone concentration at 0.08 parts per million. In 2004, based on the new standard, the EPA designated Hampton Roads as a marginal non-attainment area for ozone. On June 1, 2007, the EPA re-designated Hampton Roads as an attainment area for ozone. Technically, the region is considered a maintenance area - a designation given to an area that was originally designated a non-attainment area for a pollutant that later met the federal standard for the pollutant, and for which the EPA has approved an air quality maintenance plan that shows how the area will remain in attainment through 2018.
Water is one of the essential natural resources on which modern life depends. Conserving and protecting it with the most efficient and sustainable practices is paramount to preventing future shortages and ensuring the continuation of our high quality of life.
We will preserve and protect our water resources to ensure a continued potable drinking supply.

We will achieve and maintain high water quality to ensure public health, protection and propagation of aquatic life, and recreation in and on the water.

We will promote the city’s valuable water resources for tourism, aquaculture, and as a center of excellence in marine and water quality research.

We will be engaged in ocean assessment, monitoring, and planning efforts related to potential development of the state’s offshore resources.

We will preserve and protect our groundwater aquifers from depletion and contamination.

We asked the community...
“What is your vision for our WATER?”
The bigger the word the more we heard it!

improve water quality
prepare for climate change
preserve water quality

Community Comments...
“Celebrate our water and the communities it supports. These are all branding opportunities.”
Public Input - Virginia Beach Middle School - November 21st, 2011

“High water quality is essential to the health of our community. Goal: See the bottom of the Lynnhaven.”
Social Responsibility Focus Group - January 31st, 2012

“The clean up initiative of the Lynnhaven River is a good success story.”
Steering Committee - November 30th, 2011
One of Virginia Beach’s most valuable natural resources is undoubtedly our water. As our name suggests, we are a city identified by our water, and treasure the historic significance and aesthetic beauty of our waterways. The Atlantic Ocean, the Chesapeake Bay and its tributaries, Back Bay, the North Landing River, and all of our water resources are highly valued not only for the beauty and varied recreational opportunities they offer, but also for the economic benefits generated by the use and enjoyment of these resources.

The ocean waters off of Virginia Beach provide a wealth of economic and environmental services not only to our residents and visitors but also to those in the mid-Atlantic and throughout the nation. We harvest the ocean’s resources through increasingly efficient means, and we rely on offshore waters to support diverse activities such as maritime commerce and recreation. As the intensity of these human influences has increased, they have at times led to use conflicts as well as significant threats to the health of our marine ecosystems. Now our ocean and coastal resources face a new generation of challenges, and these challenges are only growing in their urgency as we look to develop ocean areas for mineral and energy development, among other uses.

The geography of the city comprises three major watershed areas: the Chesapeake Bay, the Southern Rivers, and the Atlantic Coastal. The components that make up these watershed areas require protection and management and consist of wetlands, shorelines, riparian buffers, natural and man-made storm drainage systems, and the land areas which they drain. These components collectively determine the environmental health, quality, and sustainability of all of the city’s water resources.

Certain lands that are near shorelines have an effect on water quality due to the ecological and biological processes performed on these properties. With proper management, these lands can offer significant ecological benefits by providing water quality maintenance and pollution control, as well as flood and shoreline erosion control. In the Chesapeake Bay watershed, these lands must be developed in such manner as to protect the quality of water in the Bay. The Chesapeake Bay and its tributaries constitute one of the most important and productive estuarine systems in the world, providing economic and social benefits to the citizens of the City of Virginia Beach and the Commonwealth of Virginia.

The annual economic value of the Bay watershed is in excess of $1 trillion per year.

*Chesapeake Bay Watershed Blue Ribbon Finance Panel*
Even after decades of Bay degradation and pollution, the Chesapeake Bay Watershed Blue Ribbon Finance Panel in 2004 estimated the annual economic value of the entire Bay watershed - including tourism, agriculture, forestry, and fisheries - to be in excess of $1 trillion per year.¹ The 2009 Fisheries Economics of the U.S. Report by the National Oceanic and Atmospheric Administration (NOAA) indicates that the total sales of the U.S. seafood industry in Virginia generated $1.7 billion in total sales, $167 million in income, and more than 19,000 Virginia jobs supported by the seafood industry. Based on these figures alone, it is important to see why protecting water quality is so important to Virginia Beach. However, aesthetics and economics are not the only reasons to monitor water quality, as water is not only essential to our quality of life and livelihood, but also directly to our lives.

We need clean drinking water to survive, and water is used for irrigation and industrial uses. Careful water supply planning enables the City to anticipate future growth needs, establish adequate reserve supplies, protect its existing surface and groundwater supplies, and establish educational and conservation programs. This planning is critical to the city’s environment, its economy, and the health of its inhabitants.

1 Harvey B. Morgan, Richmond Times-Dispatch, September 25, 2011, Bay’s Restoration Makes Environmental, Economic Sense
Nonpoint source pollution is comprised primarily of excessive concentrations of nutrients, sediments, microorganisms, and toxic substances. Stormwater runoff from lawns, fields, roads, or other non-porous surfaces that enter our waterways untreated is difficult to treat and expensive to retrofit. Point source pollution, or direct discharge contamination, is easier to pinpoint but also costly to retrofit, such as an industrial or waste treatment facility that discharges into a waterway. Accordingly, working to treat runoff as close to its source as possible, through measures such as promoting green spaces within our suburban and urban landscapes, infiltrating stormwater into the ground where the rainfall occurs, and capturing and treating all other point or nonpoint source runoff before it flows off a site during a storm is essential to continue improving surface water quality in all of Virginia Beach’s waterways.

Stumpy Lake Natural Area

2 Land Use and Water Quality - river, effects, important, salt, types, system, plants, source, effect, oxygen, human http://www.waterencyclopedia.com/La-Mi/Land-Use-and-Water-Quality.html#ixzz265zCaDgB
3 Meredith Pavlick Warren, Tamim Younos, John Randolph, Implementing Watershed-Based Green Infrastructure for Stormwater Management: Case Study in Blacksburg, Virginia, July 2009
GOAL

We will preserve and protect our water resources to ensure a continued potable drinking supply.

14.1 Maintain a sufficient quantity of high quality potable water.

14.2 Promote potable water conservation and the use of non-potable water, such as rainwater capture and ground water wells, for non-potable activities.

14.3 Explore other drinking water supply sources, including brackish water.

AS OF TODAY...

The Safe Drinking Water Act of 1974 (SDWA) set the universal standards governing drinking water quality and distribution, and mandated that all states and localities comply. The U.S. Environmental Protection Agency (EPA) became the regulating agency to ensure that all public drinking water and wastewater systems met the standards of the Safe Drinking Water Act. Nonetheless, drinking water safety cannot be taken for granted. The SDWA applies to every public water system in the United States. There are currently more than 160,000 public water systems providing water to almost all Americans.4

In early 1998, the Lake Gaston Water Supply Pipeline came on-line, capable of carrying up to 45 million gallons per day (mgd) of water from Lake Gaston to Virginia Beach. By pumping water through a 76-mile long pipeline from Brunswick County, Virginia to Lake Prince, a reservoir located in the City of Suffolk owned and operated by the City of Norfolk, the Lake Gaston Water Supply Pipeline fulfills the City’s mission of providing a safe and sufficient public water supply for the foreseeable future. Our public water is of a higher quality than that required by all state and federal health and safety standards for drinking water. As a result of this project, most of Virginia Beach’s drinking water comes from Lake Gaston. Specifically, the pipeline supplies water for the northern urbanized area of Virginia Beach and has alleviated concerns about our water supply for many years to come for most residents living north of the “Green Line” urban service boundary in the city. With an average daily demand of 36 mgd, the Lake Gaston pipeline has a current capacity of 60 mgd.5

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5 Virginia Beach Department of Public Utilities, 2012

Rain barrel for rainwater harvesting
As stated in the City’s Department of Public Utilities Strategic Plan, Virginia Beach is poised to address our public water supply issues based on: our AAA bond rating; a dependable and reliable water supply to meet the city’s demand to the year 2020 and beyond; a Water Services Contract that ensures the conveyance and treatment of Lake Gaston water to the year 2030; full compliance with all state and federal regulatory requirements; acquisition of all privately owned utilities operating in the city completed; extension of water utilities to existing neighborhoods; a well-trained and motivated work force; and new programs implemented and planned to embrace the use of technology to enhance customer service and improve efficiency.

Residents and businesses located south of the “Green Line” and in the urban to rural Transition Area, however, continue to rely on groundwater to meet most of their needs for potable and non-potable water. Those in the southern rural area of Virginia Beach use groundwater for their primary drinking water supply. Groundwater resources consist of two principle sources: a shallow surface water aquifer and a deeper aquifer known as the Yorktown formation, which is at least 100 feet deep in Virginia Beach. Regulatory agencies set withdrawal limits to prevent groundwater supplies from being depleted faster than they can be replenished.

Source: Virginia Beach Public Utilities Department
GOAL

15 We will achieve and maintain high water quality to ensure public health, protection and propagation of aquatic life, and recreation in and on the water.

OBJECTIVES

15.1 Increase the proportion of our water bodies that meet the swimmable/fishable water quality standards.

15.2 Increase biofiltration habitat (oysters, wetlands, submerged aquatic vegetation, living shorelines).

15.3 Eliminate human-caused debris in all of our waterways.

15.4 Maintain high-quality sanitary sewer service.

15.5 Increase stormwater quality upstream of beach outfalls.

AS OF TODAY...

Environmental health personnel from our local health department regularly sample water for specific bacteria at public beaches between May and September. If bacteria levels exceed the state water quality standard, a swimming advisory sign is posted at that beach, closing the beach for public use until sampling reveals water quality has returned to safe readings. Bacteria levels in beach water are monitored at 46 public beaches on the Chesapeake Bay and Atlantic Ocean during the swimming season. Storm drains carry rainwater, often untreated, that falls on our streets, parking areas, rooftops, lawns, and other developed land. The rain picks up and mixes with what is intercepted on the ground or other impervious surfaces - often oil, grease, fertilizers, bacteria from pet wastes, soil, etc. - carries these collected substances into gutters and storm drains and then into our ponds, rivers, streams, bays, and the ocean. In many areas, stormwater runoff enters these waters without being cleaned of pollutants, because they were designed and built before newer water quality measures were required for development activities.

Historic stormwater control practices were designed solely for flood control and had minimal effect on protecting water quality, stream channel stability, or aquatic species habitat. In response to the findings of early studies and the scale of the problem, the
EPA promulgated federal stormwater management regulations under the National Pollution Discharge Elimination System (NPDES) as part of the federal Clean Water Act (U.S. EPA, 2000). Today, urban stormwater control measures (SCMs) are required to meet or exceed these federal regulations, as well as address public safety issues, minimize water resource impacts, and meet the public’s desire to protect environmental quality.

The Virginia Beach Department of Public Works Strategic Plan addresses a range of measures that will help to protect the quality of all of the city’s waterways: minimize flooding and improve water quality through the construction, maintenance, and monitoring of systems that improve stormwater drainage; and construct and implement projects and programs to maintain and enhance the city’s beaches and waterways. The City provides full life cycle management of its public stormwater assets including effective stormwater drainage from developed areas, required water quality improvements from stormwater discharge into U.S. waters, education of residents on stormwater issues, State Stormwater Management Standards implemented by the City Public Works Department, implementation of the Chesapeake Bay Total Maximum Daily Load (TMDL) requirements for certain water constituents, and Watershed Implementation Planning (currently underway). Likewise, the City’s Water Resource Division provides quality management and engineering services to enhance the City’s quality physical environment with a concentrated focus on flood protection, shore protection, stormwater quality, navigation, and the marine environment.

The Neighborhood Navigation Dredging Program, also operated by Public Works, provides initial resources for neighborhood navigation dredging programs in the Lynnhaven and Elizabeth Rivers, Rudee Inlet, Broad Bay, and Linkhorn Bay. Special Service Districts may be established by requesting neighborhoods to fund the dredging of their channels. The City will be responsible for main and spur channels.

Regular street sweeping is an effective method to remove pollutants before they are washed into waterways by rainfall. In fiscal year 2011, 8,600 curb miles of street sweeping occurred and over 8,000 cubic yards of debris and contaminants were collected that would otherwise remain in the street and eventually end up polluting our waterbodies.

In addition, the Southern Watersheds Management Area Ordinance, adopted in 1989, addresses properties within the North Landing River, the Northwest River, and Back Bay watersheds and is intended to protect, enhance, and restore the quality of waters within the southern part of the city and to protect, maintain, and enhance both the immediate and the long-term health, safety, and general welfare of the citizens of the City of Virginia Beach.
Chesapeake Bay Preservation Act

In 1988, the Virginia General Assembly enacted the Chesapeake Bay Preservation Act. The Act requires local governments to include water quality protection measures in their development ordinances and comprehensive plans. On January 1, 1991, the City of Virginia Beach adopted the Chesapeake Bay Preservation Area Ordinance (CBPAO). This ordinance affects all properties in Virginia Beach that drain to the Chesapeake Bay watershed. This is roughly the northern one-third of Virginia Beach. The CBPAO provides a framework of development requirements designed to improve water quality by protecting environmentally sensitive areas, such as buffers adjacent to waterways, tidal shores, wetlands, and highly erodible soils.

The work done by volunteers and non-profit organizations cannot be overstated for improving the health of our waterways. The Elizabeth River Project has been a catalyst for restoring the environmental health of this great harbor river while affirming her value to our port economy. Their mission is “To restore the Elizabeth River to the highest practical level of environmental quality through government, business, and community partnerships.” Lynnhaven River NOW, a grassroots environmental organization dedicated to restoring and protecting all of the branches of the Lynnhaven River, has been another example of a dedicated community coming together to clean up a once very productive river. This organization’s primary objectives are to: Identify and reduce sources of contamination in the river, to educate and engage the community and partner organizations in this effort, and to restore lost habitats such as oyster reefs, salt marshes, and other buffers.

The Green Ribbon Committee, appointed by City Council in 2006, developed recommendations for regulatory, procedural, and operational changes for the City to consider to improve water quality. Other community watershed organizations, such as the newly founded Rudee Inlet Foundation, work to accomplish similar objectives with broad community support for other city watersheds.

Kayaking on West Neck Creek
GOAL

16. We will promote the city’s valuable water resources for tourism, aquaculture, and as a center of excellence in marine and water quality research.

OBJECTIVES

16.1 Increase access for responsible use of our waterways.

16.2 Partner with local colleges and higher learning institutions to encourage marine research.

16.3 Promote opportunities for aquaculture.

16.4 Support our local fishing community and promote the sale and consumption of locally harvested sustainable seafood.

AS OF TODAY...

Virginia Beach is blessed with a rich array of water resources for all who enjoy the outdoors. Our shoreline along the Atlantic Ocean, Chesapeake Bay, and the Elizabeth and Lynnhaven Rivers provide a full range of seaside pursuits, including scenic biking and hiking trails. The Virginia Beach boardwalk was named a 2009 “Great Public Place” by the American Planning Association.

Our Atlantic Ocean shoreline, including the Resort Area, the Chesapeake Bay, and Sandbridge Beach, make up roughly 35 miles of Virginia Beach’s coastline, each comprising its own distinct character and culture. Along with our beaches and dunes, Virginia Beach offers boating facilities, natural areas, greenways, and scenic waterways. Comprised of 19 waterway access sites, the Virginia Beach Scenic Waterway network is one of the first locally developed comprehensive water trail networks in Virginia. Encompassing a unique and varied environment, this network of both freshwater and saltwater marshland is the product of citizen input in cooperation with local, regional, and state agencies and provides a unique recreational opportunity for residents and visitors. Formal put-in and take-out points are located throughout the network. Major parks along the waterway include Great Neck, Little

Interpretive signage at Owls Creek
Island, and Munden Point City Parks; First Landing and False Cape State Parks; and several National Wildlife refuges.

Numerous opportunities exist for interested students and adults who share an interest in marine sciences. Also located within the Hampton Roads area is the Virginia Institute of Marine Sciences (VIMS), which is currently among the largest marine research and education centers in the United States. VIMS provides research, education, and advisory services to government, citizens, and industry in marine science to Virginia, the nation, and the world. The Virginia Aquarium & Marine Science Center, one of the city’s crown jewels, is at the forefront in marine environment education, research, and conservation efforts. With over 11 million visitors since its doors opened in 1986, it is the Commonwealth’s most popular non-historical, nonprofit tourist attraction. The Aquarium provides exceptional and innovative exhibit, program, and service experiences for a diverse audience. It inspires conservation of the marine environment through education, research, and sustainable practices. Over 14,2 employees and over 1,000 volunteers and student interns greeted 647,000 visitors in fiscal year 2010, and 700,000 in fiscal year 2011.

The Aquarium’s Research & Conservation Division leads the Stranding Response Program. Since 1989, the Stranding Team has studied bottlenose dolphins as well as responded to stranded marine mammals and sea turtles along the Virginia coastline and beyond. The Team works out of the Aquarium’s Stranding Center to rescue and rehabilitate live animals, collect data from dead specimens, and support research on stranded marine animals found in Virginia. Since the program’s inception more than 17 years ago, the Stranding Team has responded to more than 1,500 marine mammals and over 2,200 sea turtles. Averaging more than 200 per year, stranded animals have included harbor and harp seals, harbor porpoises, bottlenose dolphins, humpback whales, and loggerhead and Kemp’s ridley sea turtles.

Funded by a $16,000 grant from the National Marine Sanctuaries Foundation, in 2009 the Virginia Aquarium & Marine Science Center kicked off a series of exhibits entitled Brainwaves at the Beach. The exhibits located on the boardwalk feature interpretive panels that explain the wildlife off the coast and how human interaction may affect it. A telescope encourages beachgoers to look for dolphins, whales, and any other wildlife they might find along the beach.

Clam and oyster farming, also known as aquaculture, is a booming, multi-million dollar industry in Virginia. Oyster gardening under private piers and along the shoreline of privately owned waterfront property is becoming increasingly popular among environmentally concerned citizens. Permits or licenses are generally required to set up shellfish
gardens or farms. This helps to ensure fair use of the public water bottoms, reduce potential user conflicts, head off navigation issues, limit the chance contaminated shellfish are mistakenly taken from condemned waterways, and preserve underwater grasses that shelter juvenile fish and crabs from predators. The Virginia Marine Resources Commission strongly encourages gardening and farming of oysters and clams. These shellfish provide important economic and environmental benefits. A single adult oyster can filter 60 gallons of water a day. Shellfish gardening and farming reduce harvest pressure on wild stocks, while increasing the overall number of shellfish that help clean the water and serve as habitat for fish and crabs.7

The Sensible Seafood program helps consumers make sustainable seafood choices in stores and restaurants. Sustainable seafood comes from sources, either fished or farmed, that can continue to produce into the future without negatively affecting their populations or natural ecosystems. As consumers, we can be good stewards of the environment by making the right choices when we purchase our seafood. Sustainable seafood is Sensible Seafood, and that makes sense for a healthy marine environment. Every May, the Aquarium hosts a one-evening festival, the Sensible Seafood Fest, where people come to sample foods from its Sensible Seafood restaurant partners, attend cooking demonstrations by award-winning chefs, and learn about regional efforts focused on restoration, sustainability, and environmental stewardship. Much of this seafood is caught or farmed locally. Not only does buying local help ensure the freshest seafood, it also helps support an important segment of the local economy. Virginia’s seafood industry is the third-largest in the country, producing vast amounts of blue crabs, scallops, clams, croaker, spot, striped bass, and oysters that are shipped all over the world.8

8 Virginia Beach Aquarium & Marine Science Center, http://www.virginiaaquarium.com/research-conservation/pages/sensible-seafood.aspx#whatis
GOAL

17. We will be engaged in ocean assessment, monitoring, and planning efforts related to potential development of the state’s offshore resources.

OBJECTIVES

17.1 Promote efforts to engage citizens and elected representatives on ocean issues and legislation that supports responsible development.

17.2 Promote sound science and research efforts in support of ocean planning.

AS OF TODAY...

Pressure to search for additional mineral and energy sources, as well as impacts from maritime commerce and recreation, potentially impact the health of the Atlantic Ocean. Recognizing the significance of these issues, the Governors of New York, New Jersey, Maryland, Delaware, and Virginia committed to a comprehensive, regional approach, creating the Mid-Atlantic Regional Council on the Ocean, also known as MARCO. In 2009, all five governors signed the Mid-Atlantic Governors’ Agreement on Ocean Conservation. This agreement created a structure for states to address regional ocean management challenges and to collaborate on ocean issues. At the regional level, five issue Action Teams are working to address the following goals:

- Coordinate protection of important habitats and sensitive unique offshore areas on a regional scale,
- Collaborate on a regional approach to support the sustainable development of renewable energy in offshore areas,
- Prepare the region’s coastal communities for the impacts of climate change on ocean and coastal resources,
- Promote improvement in the region’s coastal water quality, and
- Build capacity for coastal and marine spatial planning including enhancement of the MARCO Mapping and Planning Portal.

It is important for Virginia Beach to be engaged and involved as these issues may have local implications and impacts for Virginia Beach.

9 Mid-Atlantic Regional Council on the Ocean, Mid-Atlantic Governors’ Agreement on Ocean Conservation, Actions, Timelines and Leadership to Advance the Mid-Atlantic Governors’ Agreement on Ocean Conservation, August 2009.

Little Island Park
GOAL

18 We will preserve and protect our groundwater aquifers from depletion and contamination.

OBJECTIVE

18.1 Implement continuous groundwater monitoring and educational programs to promote conservation and protection against aquifer depletion.

AS OF TODAY...

As population and tourism continues to grow in Virginia Beach the supply of freshwater becomes even more limited. Although the Lake Gaston pipeline supplies water for the northern portions of the city, most southern areas of the city rely solely on groundwater supplies. Water from depths greater than 60 meters generally is too saline to drink. Concentrations of chloride, iron, and manganese exceed drinking-water standards in some areas. Groundwater flow patterns in shallow aquifers of Virginia Beach reflect the topography. Groundwater recharge is limited in much of the southern watersheds because the land surface generally is low and flat, whereas bays, wetlands, tidal rivers, and tidal streams where fresh groundwater discharges extend throughout the watershed area.

At least 380,000 gallons per day are withdrawn from the shallow aquifer system in southern rural Virginia Beach. This is a conservative estimate, accounting only for water withdrawn for domestic supply and assuming each person uses approximately 75 gallons per day. Domestic supply accounts for most of the groundwater use in southern Virginia Beach. The only crops that are irrigated extensively from groundwater sources are strawberries, tomatoes, and, occasionally, sweet corn. Farmers rely on precipitation and a system of runoff collection and retention ditches to provide sufficient water for the other major crops.
Anytime farmland in the rural south is converted to a low-density residential area or when farmers shift from growing grains and soybeans to growing fruits and vegetables, groundwater withdrawals increase. An increase in irrigation will likely accompany the shift in crops as fruit and vegetable growers attempt to ensure the quality of their products to maximize their market value.¹⁰

“Develop a tracking system for cumulative groundwater withdrawals in the Hampton Roads region.”

“Create a litter reduction campaign to reduce trash from entering our waterways.”

“Coordinate our pedestrian and waterways access to increase opportunities for the public to interact.”

¹⁰ The Virginia Beach Shallow Ground-Water Study, USGS Fact Sheet 173–99, Henry M. Johnson, IV
Energy is an essential resource that supports our way of life and powers our homes, our businesses, our infrastructure, and our transportation. The more efficient we are the more energy we have to go around. How we source our energy can have a significant impact upon our natural environment, whether we extract it from below ground or harness from above.
ENERGY

VISION

The City of Virginia Beach leads the nation in energy stewardship through education and conservation and supports the development and production of clean energy sources.

We asked the community...
“What is your vision for our ENERGY?”
The bigger the word the more we heard it!

GOALS

19. We will use energy efficiently, both the City government and the community.

20. We will support the research and production of clean energy and products.

promote alternative energy

increase energy efficiency

support conventional energy

Community Comments...

“The City should encourage, and possibly incentivize Energy Star compliance for all buildings.”
Environmental Stewardship Focus Group - February 7th, 2012

“Reward residential home efficiency with tax incentives.”
Steering Committee - January 14th, 2012

Offshore wind turbines
**WHY IS THIS IMPORTANT?**

We depend on energy for virtually every facet of our life. We use it to power our homes and vehicles, the buildings and infrastructure that make up our cities, and the manufacturing and transportation of goods that drive our economy.

Primary energy sources include traditional energy (fossil fuels - petroleum, natural gas, and coal - and nuclear power), and renewable energy (solar, wind, water, geothermal, and biomass). From all of these, as well as alternative energy sources such as waste-to-energy (landfill-gas), we produce secondary energy sources for consumption, such as electricity and gasoline.

**Traditional Energy**

Fossil fuels provide much of Virginia’s energy as they do nationwide. In Virginia, 57% of our electricity (generated in-state) is provided by coal (44%) and natural gas (13%). Petroleum is the primary energy source for transportation, providing 97% of transportation energy in Virginia.¹ There are challenges associated with fossil fuels, and as finite resources, once used they cannot be replaced. We import 45% of our petroleum from foreign countries, and the majority of foreign oil reserves are in conflict areas, making us vulnerable to market volatility and supply shortages.² Fossil fuels can have adverse effects on our environment. The burning of coal for electrical production and petroleum used for transportation are the primary sources of carbon dioxide emissions, a greenhouse gas that contributes to climate change, and other air pollutants that effect air quality.

¹ The Virginia Energy Plan - Department of Mines, Minerals and Energy (July, 2010)
² U.S. Energy Information Administration (2011)
Fossil Fuels:

Coal is a major economic driver in our state, and while it has been a primary contributor of carbon dioxide, “clean coal” technology, once perfected and made commercially available, has the potential to significantly reduce these emissions.

Natural gas is a cleaner burning fuel than coal and an efficient energy source capable of providing a significant portion of our heating and transportation fuel needs.

Nuclear power accounts for only 9% of energy consumption in the United States, yet in Virginia it provides 38% of total in-state electricity generation. Although free from greenhouse gas emissions, it requires vast quantities of water for generation and the safe, long-term disposal of radioactive wastes poses significant challenges.

Renewable Energy

Renewable energy comes from natural resources, including solar, wind, water, geothermal, and biomass. All renewables account for 8% of energy generation in the United States and significantly less in Virginia at 2.8% - mainly from water and biomass, and a minimal amount of solar and wind. These clean sources of power are emissions free and are naturally replenishing.
Renewable Energy:

Wind-power is a growing source of clean electricity, and the Department of Energy predicts wind power will supply 20% of the nation’s electricity by 2030.5

Solar power has the potential to save homeowners up to 80% of their electrical bills by installing passive hot water heating systems. Active solar systems generate electricity from solar cells.

Biomass power, primarily from ethanol, accounted for 53% of all renewable energy consumed in the U.S. in 2007.6

Geothermal energy uses heat from the Earth. It can either provide direct heat, for uses such as heating buildings and industrial processes, or produce electricity on a large scale.

Hydropower derived from water represents approximately 7% of all U.S. electricity generation, making it the single largest renewable electricity source today.7

Energy Efficiency

Energy efficiency refers to the amount of energy required to accomplish a task - the more efficient we are, the more productivity we get out of every unit of energy. When we are wasteful in our energy use, our reliance on fossil fuels generates unnecessary harmful emissions, costs us money that could be better spent elsewhere, and depletes our non-renewable resources causing price volatility. By using energy efficiently, we can save money and help reduce our carbon footprint. Consumers expect energy prices to increase by 30% over the next decade.8 Energy efficiency is essential to meeting our future energy demands and is the quickest and least expensive way to increase the amount of energy available for use.
In Virginia, energy to heat and cool structures accounts for over 90% of all energy used, residential structures account for 24%, commercial structures account for 23%, and industrial structures account for 22% of total energy use.\(^9\) The transportation sector accounts for 31% of total energy use. While overall electricity use has grown by approximately 3% per year over the last decade, and is expected to continue, household energy consumption has dropped by 21% over the last three decades.\(^10\) This decrease is primarily due to increased efficiencies in space heating, air conditioning, major appliances, and new “green” or energy efficient home construction. Energy efficiency measures add up to real dollars saved and can reduce the typical family’s utility bills by up to 25%.\(^11\)

ENERGY STAR products save the equivalent of 15% of total U.S. residential electricity use annually.

The environmental benefits of energy efficiency are significant. The EPA estimates that ENERGY STAR products associated with its energy saving program prevent 150 million metric tons of greenhouse gas emissions annually, and every year save the equivalent of 15% of total U.S. residential electricity use. Since the program’s inception 20 years ago, energy efficient products have offset the need for the additional construction of more than 185 power plants.\(^12\)

We can also reduce our consumption of petroleum by driving more efficiently and in more fuel efficient vehicles; using biofuels or electric cell batteries; lowering our Vehicle Miles Traveled (VMT) through increased carpooling, ride-sharing, and use of mass transit; and living and working in transit-oriented developments (TOD).

The City government recognizes the importance of developing partnerships with the Community and supporting regional initiatives, and supports the Commonwealth’s voluntary goal of reducing electric use by 10% (based on 2006 usage) by the year 2020. Virginia Energy Sense is the Commonwealth’s statewide consumer energy education and outreach program under the guidance of the State Corporation Commission. It was created by the General Assembly to help Virginians understand how to save energy in support of the Commonwealth’s goal, which will offset a portion of future electric load growth.

Local initiatives focused on energy efficiency can save our citizens money, create local jobs, invest taxpayer dollars wisely, and help protect the environment.

\(^{9}\) The Virginia Energy Plan - Department of Mines, Minerals and Energy (July, 2010)  
\(^{10}\) U.S. Energy Information Administration – Residential Energy Consumption Survey (RECS)  
\(^{12}\) Energy Star – Energy Star Products – 20 years of helping America save energy, save money and protect the environment.
GOAL

19 We will use energy efficiently, both the City government and the community.

OBJECTIVES

19.1 Reduce energy consumption in City government operations and facilities.

19.2 Expand residential/business energy education and incentives to overcome barriers to implementing energy-efficiency and conservation actions.

AS OF TODAY...

The City government has taken a “three-legged stool approach” to energy, to be pursued simultaneously:

1. Aggressive support for energy conservation and retrofits to optimize efficiency (Goal 19);
2. Transitional development and prudent use of traditional energy resources (Goal 19); and
3. Sustainable development and use of renewable energy sources (Goal 20).

For the first leg of the stool, the City recognizes that there will continue to be a near term requirement for fossil fuels, and while Federal and Commonwealth policies must ensure reliable and affordable sources of such fuels, they should be viewed as a bridge to a renewable and sustainable energy future.

Leg two of the City’s energy strategy calls for both the City government and the community to focus on energy efficiency and conservation.

The City is leading by example by improving the energy efficiency of its own facilities, vehicle fleet, and operations. Already, voluntary steps have been taken towards reducing energy consumption. For example, the City of Virginia Beach and Virginia Beach City Public Schools have committed that all new and

In 2009, upgrades to Providence Elementary School resulted in an 80% overall energy usage reduction for the building.

Virginia Beach City Public Schools

Renaissance Academy - LEED Gold
renovated buildings, above certain thresholds, will be Leadership in Energy and Environmental Design (LEED) certified in compliance with the U.S. Green Building Council’s (USGBC) standards. This is further supported by a special property tax rate program, adopted by City Council, for qualified residential and commercial energy-efficient buildings that meet or exceed LEED and other standards recognized in State law.

Virginia Beach City Public Schools has actively promoted the use of energy efficient technologies, including the retrofitting of the heating and cooling systems for existing schools. Hermitage Elementary School became the first LEED certified elementary

The City government and the Virginia Beach City Public School System have successfully partnered with local businesses to earn countless green distinctions, including:

- The Virginia Beach Convention Center became the first Convention Center in the country and the largest building in Virginia to achieve the LEED Gold Certification for existing buildings.
- The Virginia Beach Convention and Visitors Bureau became the first Platinum member of the International Green Meeting Industry Council.
- Virginia Beach City Public Schools have over 1.5 million square feet of LEED building space. Hermitage Elementary School is the first LEED Certified elementary school in Virginia. The Pupil Transportation and Maintenance Facility is the first LEED Platinum K-12 transportation facility in the country.
- Virginia Beach City Public Schools took top honors for Best Green Organization and Best Green Institutional Project during the Virginia Sustainable Building Network’s 15th Anniversary Celebration and Annual Meeting during June 2010, in Richmond, VA.
- In 2012, the U.S. Green Building Council selected the Virginia Beach City Public Schools as the “Best Green School District” in the United States.
- Virginia Beach has a total of 51 ENERGY STAR buildings - K-12 Schools (23), Office (6), Retail (22).
- The Virginia Aquarium & Marine Science Center was the first state attraction certified as Virginia Green by the Virginia Tourism Corporation.
- A Real Estate Tax Reduction for green building initiatives was adopted in 2011.
- The Virginia Beach City Council amended the Zoning Ordinance to allow wind turbines in residential, industrial, preservation, and commercial areas, under certain conditions.
school in Virginia. Its sustainable features include a rainwater harvesting system to flush toilets and a solar-heated hot water system for the cafeteria. Renaissance Academy is an environmentally sustainable school that harvests rainwater for toilet flushing, houses solar panels to heat water, and is fully equipped with green lighting. In 2009, upgrades to Providence Elementary School achieved an 80% overall energy usage reduction.

Partnerships with our utility providers are essential for the City to become a more efficient energy user. In 2007, the City of Virginia Beach established a Joint Energy Committee (JEC). The JEC, in partnership with Dominion Resources (our provider of electricity), comprises members of various City departments and Virginia Beach City Public Schools to identify, assess, and implement energy-related activities. In 2008, the JEC set a goal to reduce the City’s overall annual electric consumption by 10% in five years from our baseline year (Fiscal Year 2007-2008). The City is on track to meet that target and it is time to establish new goals to strive for in the future.

In 2011, the City government became a partner of the EPA’s ENERGY STAR program to solidify its commitment to energy conservation efforts. This included education and the implementation of technology for measuring and tracking energy performance that helped achieve significant energy savings for the Virginia Beach City Public Schools and City government. In 2012, both the Virginia Beach Visitor Information Center and the Human Services building earned ENERGY STAR certification. This signifies that they perform in the top 25% of similar facilities nationwide for energy efficiency and meet

Energy Star products save the equivalent of 15% of total U.S. residential electricity use annually.

*Department of the Environment*
strict energy efficiency performance levels. Throughout the city, there are 51 ENERGY STAR buildings and over 3,600,000 square feet of conditioned space that is ENERGY STAR certified.

The City and the Virginia Beach City Public Schools are engaged in proactive education initiatives to inform the community about the benefits of energy efficiency, water conservation, and sustainable practices in general. Participation by the City in public awareness programs, such as HRGreen.org, is designed to raise awareness and encourage environmental stewardship of not only our energy supply but also of all our resources. The Virginia Beach City Public Schools has a goal to “educate the public about the importance of sustainability.” Each public school has a Sustainable School Liaison who is charged with increasing awareness of sustainability. Over 60 programs and clubs within the public schools have been formed that focus on the importance of energy efficiency, resource conservation, recycling, and other sustainable practices.
GOAL

20 We will support the research and production of clean energy and products.

OBJECTIVES

20.1 Partner with the State and energy providers to increase clean energy’s share of total power supply to the city and transition to clean fuel technologies.

20.2 Capitalize on economic development opportunities through business expansion and increased research and development in alternate energy development.

20.3 Promote Virginia Beach as a center of excellence for clean energy.

AS OF TODAY...

Virginia Beach is uniquely situated to become a major player in alternative energy resources research and development. As the third leg of the energy stool, Virginia Beach’s strategy is to encourage opportunities for research and development of renewable and alternative energy sources within the city, including but not limited to solar, wind, landfill gas, geothermal, algae/biomass/biodiesel, and wave/tidal/current sources. The approach calls for aggressively pursuing economic development and research opportunities related to alternative energy sources, resulting in the creation of green jobs. Workforce training and development, including K-12 and college education, training support, and program development, is an essential component of leg three.

Virginia Beach has good solar resources, certainly among the best in the Commonwealth. The city averages over 4.5 hours of sun per day. Solar system owners can take advantage of Virginia’s net metering laws to sell excess power back to the electric utility, or alternatively utilize passive solar for heating water for residential and commercial uses.

Virginia Beach is well positioned to take advantage of wind power with strong, consistent winds along the Atlantic coastline. Additional factors, such as relatively shallow water, relatively low occurrence of hurricanes, and close proximity to electric power infrastructure also contribute to the city’s advantage to both offshore and onshore wind opportunities. A large-scale wind facility off the coast of Virginia Beach could be economically beneficial not only to individual citizens but also to the city by creating jobs and attracting businesses and manufacturers to the area.

Landfill gas is a mix of gases (mostly methane and carbon dioxide) created by the microorganisms found in decomposing waste within a landfill. Landfill gases can be collected to produce heat, electricity, or even upgraded to pipeline-grade gas. Currently, the City utilizes a vendor to collect a mixture of methane and recycled mineral oil and uses it to create electricity at the landfill. This electricity, in turn, is sold on the power grid.
While Virginia may not have high-temperature geothermal resources suitable for electric generation, geothermal heat is being used extensively for direct heat in buildings and individual homes. The City of Virginia Beach is using geothermal heat pumps that can reduce cooling and heating costs by up to 40% compared with high-efficiency standard equipment, and the extra cost of installation can be made up in seven to 10 years.\(^{33}\)

The benefits of biomass are numerous, especially to the local community. Algal biomass removes pollutants from the Chesapeake Bay, represents an innovative win-win wastewater remediation-biofuel production technology, and avoids utilizing food crops, trees, and other valuable natural resources to produce fuel.

Here in Virginia, there is limited potential for further expansion of hydropower due to lack of suitable sites without environmental impacts. The potential for wave, tidal, and in-stream technology for Virginia is not as great as the west-coast of the U.S., and will depend on the development of new technology to better tap our resources.

Over time, alternative energy sources have the potential to replace fossil fuels for power generation, heating, and transportation fuels. On a large scale, these sources are still considered new technologies and require their own infrastructure for distribution, which is limited in comparison to our traditional infrastructure. In order to increase access to clean energy for both the City government and the community, the City will need to partner with the Commonwealth and energy providers to support and encourage the development of local renewable energy projects. As technology advances and prices drop, the proportion of clean energy in our energy provider’s portfolios should increase, making it more accessible and affordable for the City.

It is broadly recognized that alternative energy is in its infancy, and incorporating those technologies into mainstream energy consumption in a meaningful way will take 15 to 20 years. It is therefore important to maintain milestones to achieve the City’s long-term goals, focusing on reducing the overall energy requirements of both City government and the community while increasing the use of renewable energy resources.

More traditional energy development opportunities may also exist offshore. As these resources are further evaluated, special precautions need to be taken to ensure that energy resources are developed in a manner that protects natural resources and fosters sustainable energy management - considering the economic, environmental, and social implications of our actions.

Land refers to both the stewardship of our land and to Virginia Beach’s land management programs. How we use and reuse our land and how we design our communities has a powerful impact on clean air and water, on our aesthetics and natural beauty, and on our rural heritage. Wise land use ensures a balance between the built environment and the natural surroundings.
LAND

VISION

Our urban and suburban communities feature a range of housing choices accommodating a diverse community, integrated with natural open space and places of historical and cultural significance. Farmland remains abundant in the southern part of the city and every resident has access to fresh, local foods.

We asked the community…
“What is your vision for our LAND?”
The bigger the word the more we heard it!

GOALS

21 We will have balanced land uses to allow the city’s growth while preserving our agricultural land and open space for future generations.

22 We will support and promote a culture of waste avoidance to maximize the lifespan of our landfills.

23 We will work proactively to address the impacts of sea level rise, land subsidence, and recurrent coastal flooding.

preserve natural resources
preserve agriculture
sustainable tourism
prepare for sea level rise
reduce waste
prepare for climate change
enhance open space

Community Comments...

“Densities should reflect Virginia Beach’s unique character and not try to copy larger cities.”
Public Input - Tallwood High School - October 26th, 2011

“Our communities need to be considered in their relationship to the surrounding environment rather than applying broad brush policies.”
Planning & Design Focus Group - February 9th, 2012

“Set high standards for new developments.”
Steering Committee - November 30th, 2011

Suburban land use pattern
WHY IS THIS IMPORTANT?

Land refers to both the stewardship of our land and to Virginia Beach’s land management programs. How we use and reuse our land and how we design our communities has a powerful impact on both clean air and water, on our aesthetics and natural beauty, and on our rural heritage. Wise land use ensures a balance between both the built and natural environment. To remain a dynamic and attractive city for businesses and residents, we need to accommodate growth in a responsible manner. Our traditional suburban model of single family homes on large lots is unsustainable if we are to accommodate projected population growth and protect our valuable farmland in the south. The auto dependent development pattern that dominates Virginia Beach threatens farmland. The demand for raw land and the shortage of such property influences housing affordability and creates pressures on agricultural areas. In fact, similar pressure has led nationwide to the loss of more than one acre of farmland per minute. We need to ensure that as a city we can support a growing population and desired uses of land within the confines of our finite land area.

The vast majority of our neighborhoods are located outside of comfortable walking or biking distances from shopping centers, schools, and places of work, creating an over-reliance on the private automobile for transportation. These sprawling communities consume more land and create miles of expensive roads and utilities, while increased drive times mean more traffic congestion and pollution. The presence of impervious surfaces, such as concrete or asphalt, coupled with pollutants from lawns and automobiles, can change the composition and volume of stormwater runoff and pollute the waterbodies we use for drinking, recreating, and fishing. Responsible stewardship of our land supports a vibrant city with a growing population and ensures that future generations have access to clean water, abundant food from the land and the sea, and visual and usable open spaces while protecting our natural, historical, and cultural resources.

Agricultural activity generates $120 million annually

American Farmland Trust: Farmland Information Center
Sea levels around the world are rising and will have an impact on the future of Virginia Beach. From 1950 to 2009, global average sea levels rose an average of 1.7 mm per year. Interestingly, the rate accelerated almost twofold from 1993 to 2009 although it is not known if this increased rate is a long term trend. Obviously those living in coastal regions and on islands, as well as coastal natural environments, are the most affected. Hampton Roads is the second-most-vulnerable region in the United States to sea level rise, behind only New Orleans. The Chesapeake Bay Program’s Scientific and Technical Committee projects that sea levels in the Chesapeake Bay region will rise by 2.3-2.5 feet by 2100. Wetlands Watch reported in 2007 that 2.5 feet of sea level rise equates to a loss of at least 250 feet of beach, and with just a two inch sea level rise over 100 years, Virginia stands to lose between 50% and 80% of its tidal wetlands.\(^2\) Our low lying coastal areas are affected by the cumulative impact of both sea level rise and land subsidence. These impacts are manifested in recurrent flooding, property damage and losses, and increases in storm severity, as minor events are exacerbated by sea level rise. While many cannot agree on the reasons for sea level rise, the science is convincing that this is a valid and real issue that Virginia Beach must take steps to address.

\(^2\) Wetlands Watch 2007 Presentation
GOAL

We will have balanced land uses to allow the city’s growth while preserving our agricultural land and open space for future generations.

OBJECTIVES

21.1 Preserve existing neighborhoods and direct and accommodate growth, at a range of neighborhood types, where facilities and infrastructure exists or is planned.

21.2 Promote the long-term preservation and conservation of our open spaces and natural areas throughout the city.

21.3 Support our local farmers to ensure the preservation of our precious agricultural land and to increase demand for our locally grown crops.

21.4 Connect our agricultural heritage with our suburban and urban communities through farmers’ markets.

AS OF TODAY...

Virginia Beach has many plans, policies, and programs related to land, land use, and planning, the most notable of which is the land use plan in the Comprehensive Plan. This guides discretionary land use decisions as well as daily planning assessments and efforts such as redevelopment opportunities within our Strategic Growth Areas, open space acquisition, trail and bikeways installation, and other activities. The Historical Review Board and the Historic Preservation Commission are responsible for the review of requests related to historical buildings, structures, and sites in the city.

In 2008, following extensive public input, the City government adopted a new growth strategy to address the unsustainable pattern of suburban growth. Rather than relying on the remaining inventory of undeveloped land to absorb growth, the City carefully defined areas to accommodate and direct urban growth called Strategic Growth Areas (SGAs). All SGAs are located along existing transportation corridors and are targeted to attract economic development growth and to accommodate projected population growth through clustering of attractive, more compact but compatible uses of land including office, retail, service, educational, cultural, open space, and, where appropriate, residential and hospitality. Concentrating growth in appropriate areas takes the pressure off the rural south and thereby creates a more sustainable way to grow.
It is important to note that our existing suburban areas are proposed to remain as such, providing choices for those who wish to live outside of SGAs and who enjoy traditional suburban living. Virginia Beach is comprised of 248 square miles of land, of which 44 square miles is farmland and forestland.\(^3\)

The economic impact of the agricultural community is more than $120 million per year. It includes production farming, fruit and vegetable farming, livestock programs, agritourism, wineries, and equestrian activities. There are 172 operating farms in the city encompassing more than 28,000 acres. Virginia Beach has a year-round farmers’ market and three seasonal farmers’ markets, as well as numerous farm stands and programs supported by groups such as the Hampton Roads Buy Fresh Buy Local chapter. As the city’s population has grown, our farmland has been consumed by the expanding suburban fringe and we have lost 39 square miles since 1969. Today, our farmland area has stabilized due to programs such as the Agricultural Reserve Program (ARP), which has purchased development rights from landowners for a total of 8,832 acres or 13% of our total agricultural land.\(^4\) This, along with educational programs such as 4H, Farm Days, and the Agricultural Research and Extension Center, helps to ensure our farmland will be there for future generations to enjoy.

Open space, parklands, and waterways are beneficial to neighborhoods as they greatly enhance quality of life and are the keys to the city’s character and unique identity within the region. Open space is generally described as a wide range of outdoor areas and activities that are valued for their natural or nature-based setting. Virginia Beach has strong initiatives to protect and maintain high quality open spaces. The city is home to 272 park sites encompassing more than 7,300 acres.\(^5\) Our Open Space Acquisition program has preserved more than 2,700 acres, valued at more than $40 million, for the public to enjoy in perpetuity.

\[^{3}\text{Virginia Beach Department of Agriculture - 2009 data}\]
\[^{4}\text{Virginia Beach Department of Agriculture - 2011 data}\]
\[^{5}\text{Virginia Beach Parks & Recreation Fiscal 2012 Annual Report}\]
GOAL

22. We will support and promote a culture of waste avoidance to maximize the lifespan of our landfills.

OBJECTIVES

22.1 Provide environmentally responsible waste management services and operations for all of the community that are reliable and cost-effective.

22.2 Conduct a progressive educational program to reduce waste and promote reuse and recycling by both residents and businesses.

AS OF TODAY...

The Virginia Beach Landfill provides a valuable disposal service for residents and ensures that for today and into the future Virginia Beach residents have reliable and cost effective waste disposal. The Regional Landfill, located in Suffolk and owned and operated by the Southeastern Public Service Authority (SPSA), is also an important disposal asset for the region. SPSA provides transfer, transportation, and disposal service for Virginia Beach and seven other Hampton Roads communities. In fiscal year 2011-2012, a Solid Waste Collection Fee was initiated, charging each city residence a monthly fee of $10.

The Waste to Energy Facility, located in Portsmouth and owned and operated by Wheelabrator, converts processible waste into steam and electricity and results in approximately a 10:1 volume reduction for disposal. Non-processible regional waste is currently landfilled, typically in private landfills under contract with Wheelabrator. Approximately half of the waste generated in the region is processible. Disposal methods vary depending on type of material and collection practice, but generally follow the Virginia Department of Environmental Quality (DEQ) waste hierarchy, with landfilling being an environmentally acceptable alternative but least overall desired alternative, followed in ascending order by waste to energy, resource recovery, reuse, and reduction. Waste reduction is the most desirable strategy as it avoids the full range of environmental impacts such as mining/harvesting, processing, transportation, distribution, recovery, and disposal.

Virginia Beach’s curbside “blue cart” recycling program
Each year, Virginia Beach waste collection crews collect approximately 150,000 tons of municipal solid waste and are also responsible for approximately 40,000 tons of yard waste collected annually. Yard waste is diverted from the landfill and is collected weekly and mostly recycled into compost, with woody debris ground into mulch for use in landscaping City facilities and rights-of-way. In addition to the recycling of yard waste, in 2012 under City contract, approximately 34,000 tons of recyclable material was also diverted from the landfill through the curbside recycling service and at drop-off recycling centers. The City’s curbside “blue cart” recycling program utilizes 95 gallon carts for single family residences with every other week collection. Multifamily, commercial, and industrial properties secure private sector waste and recycling collection services, which generate a similar overall volume of waste.

Other recycling opportunities include various metals and batteries at the Household Hazardous Waste (HHW) facility located at the Virginia Beach Landfill. The HHW facility provides environmentally responsible disposal of automotive fluids, cleaners, pesticides, and other household chemicals. Reuse opportunities are plentiful as Virginia Beach residents can donate to local organizations items such as furniture and clothing that they no longer need or want, but that someone else would find useful. Donation centers are numerous, spread around the city, and some even provide pick-up service. Examples of waste reduction can be seen on grocery shelves in the reduction of packaging materials, as water bottles have gotten lighter and cardboard is minimized or eliminated. Consumers also have opportunities to practice waste reduction in their purchasing decisions. Although waste reduction is the most beneficial strategy, it is the most difficult to achieve as it involves making disposal decisions at the point of manufacture or distribution, as opposed to the point of purchase or disposal.

![Graph of Virginia Beach's Curbside Recycle Collection Program History](image)

In 2012, approximately 34,000 tons of recyclable material from both curbside collection and drop-off at recycling centers was diverted from the Virginia Beach landfill.

*Virginia Beach Division of Waste Management*

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6 Virginia Beach Division of Waste Management
GOAL

23 We will work proactively to address the impacts of sea level rise, land subsidence, and recurrent coastal flooding.

OBJECTIVE

23.1 Investigate the extent of impacts and develop strategies to address sea level rise and land subsidence and educate the community regarding these issues.

AS OF TODAY...

Due to our coastal location, Virginia Beach is vulnerable to hurricanes and nor’easters. Recognizing this risk, the City of Virginia Beach participates in the National Flood Insurance Program (NFIP), which is offered through the Federal Emergency Management Agency, allowing residents to qualify for federal flood insurance protection. Currently, Virginia Beach leads all Virginia localities in the number of flood insurance policies with over 25,000. Of these policies, 47% are for properties located outside the 100-year floodplain, perhaps indicating the increased awareness Virginia Beach residents have of the risk of flooding associated with living near the coast and inland waterways.7

To help protect citizens from property losses associated with storms, the City is examining ways to enhance the floodplain management program. Currently, the City requires new construction and substantial improvements to existing construction (expansion by more than 50%) to be elevated one foot above base

Beach recreation

7 National Flood Insurance Program, Region 3/Federal Emergency Management Agency
flood elevation to minimize property losses from flood waters. In addition, the City received federal grant funding through the Severe Repetitive Loss (SRL) grant program to elevate flood prone properties. Currently, nine homeowners are participating to elevate their dwellings out of harm’s way. As the City moves forward in looking at additional properties that may benefit from elevation, the SRL and Repetitive Loss (RL) lists will be used to provide direction. Currently, the SRL list contains 42 properties and the RL list contains 537 properties. Because these lists do not include claims submitted from Hurricane Sandy, the number of properties on both lists is expected to increase.

Sea level rise in coastal Virginia is exacerbated by the fact that the mid-Atlantic region of North America has also been documented as being the most vulnerable coastline to land subsidence. This phenomenon is not well understood, but is believed to be a combination of issues as diverse as groundwater depletion, unconsolidated coastal sediments comprising the majority of the geological landscape, and impacts associated with the Chesapeake Bay impact crater.8 The cumulative effect of sea level rise and coastal subsidence exacerbates implications of sea level rise on both natural resources and development patterns. The Virginia Institute of Marine Science, along with the University of Virginia and Old Dominion University, have recently completed a study exploring how sea level rise will affect the region and provided examples of mitigation and adaptation strategies used by other communities around the world. Their findings will be critical in helping to identify acceptable response measures.

The 2009 Virginia Beach Comprehensive Plan recognizes sea level rise as a major concern for not only Virginia Beach but also for the entire Hampton Roads region and outlines several recommendations that will assist us for the short term. In addition, discussions have begun in Virginia Beach - with Community Listening Sessions held in March 2011 and Focus Group Sessions held in May 2012 - to identify citizen perspectives on sea level rise impacts and evaluate alternative strategies and incentives for minimizing these impacts.

8 Nicholls, Robert J.; Cazenave, Anny (18 June 2010). “Sea level rise and its impact on coastal zones.” Science Magazine 328 http://sciencemag.org/content/328/5985/1547.full.
The concept of regionalism is one that encourages municipalities to look beyond their boundaries and recognize that working together for the good of the region will ultimately prove beneficial to each locality within it. By embracing this forward-thinking way in conducting business, the region is better equipped to strengthen our economy and enhance our quality of life.
NEIGHBORS

VISION

The City of Virginia Beach works closely with its neighboring cities, counties, and military installations to ensure Hampton Roads is a cohesive region with a common vision. This greatly assists in attracting new businesses, competing for funding, and coordinating regional services and infrastructure.

GOALS

24 We will work together with our regional partners to promote our community resources that make Hampton Roads a great place to live and locate a business.

25 We will work together with our regional partners to ensure the preservation and enhancement of our shared cultural and natural resources to support a high quality of life for our citizens.

26 We will work together with our regional partners to streamline our services, realizing cost savings through shared, efficient public services.

We asked the community...
“What is your vision for our NEIGHBORS?”
The bigger the word the more we heard it!

regional coordination
promote regional assets
connect peninsula
regional competition

Community Comments...

“Think “regionally” for opportunities & competitiveness.”
Public Input - Tallwood High School - October 26th, 2011

“Develop standardized regional processes, regulations, permitting and services.”
Fiscal Responsibility Focus Group - February 1st, 2012

“Hampton Roads needs to work together as good neighbors and realize the potential savings in partnerships.”
Steering Committee - November 30th, 2011

The regional community needs to commit to protecting our shared environment
WHY IS THIS IMPORTANT?

Our city’s success is greatly dependent on our ability to work with our regional partners. Issues such as transportation, commerce, economic development, and environmental concerns are not limited to city boundaries. The Neighbors element focuses on the challenges we face as a region and the opportunities we can take advantage of collectively. To thrive as a city, we also need to thrive as a region - there is no way to accomplish one without the other. In an increasingly connected and interdependent world, nation, state, and region, in order to attract significant economic development, large-scale infrastructure projects, and higher educational opportunities, a coordinated, regional approach is required. Virginia Beach, its neighboring Hampton Roads communities, and other regional organizations and agencies have recognized this, and as a result have formed entities to promote the region and tackle the region’s infrastructure challenges, but more work is needed. Governments are increasingly recognizing the importance of quality education, access to housing, access to healthcare, public safety, accessible and efficient transportation, a healthy environment, and sound governance in achieving a high quality of life. The availability of high quality employment opportunities plays a significant role in the success of communities being able to offer their residents the high quality of life they desire.

The Vision Hampton Roads 2010 Comprehensive Economic Development Strategy Report states that “...with proper foresight, continuous planning, and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure, and a Sense of Place.” With the growing percentage of limited and reduced Federal funding being allocated to the state and localities, inadequate regional transportation infrastructure has a rippling impact throughout the Hampton Roads economy. As greater demands are placed on public services, the time is ripe for focused dialogue with our neighbors to strategize how best we can consolidate and pool our talents and knowledge to capitalize on the region’s great assets. A shift away from the conventionally-held practice of working independently in providing services to a shared services approach where economies of scale in efficiency and cost can be achieved for our citizens must occur. The region can become more successful when its local communities align to achieve shared goals rather than focusing on competing with each other.

“...with proper foresight, continuous planning, and dynamic economic development, Hampton Roads will be recognized internationally as a region fueled by Innovation, Intellectual and Human Capital, Infrastructure, and a Sense of Place.”

GOAL

24 We will work together with our regional partners to promote our community resources that make Hampton Roads a great place to live and locate a business.

OBJECTIVES

24.1 Build on existing relationships to further promote tourist opportunities in Hampton Roads.

24.2 Work with our regional partners to promote Hampton Roads as a center of excellence in healthcare, technology, marine science, maritime industry, and agriculture/aquaculture.

24.3 Utilize our resources to further develop our natural amenities, such as the ports, for multiple options for receiving and moving goods and to attract new business investment in the region.

24.4 Promote the development of renewable energy alternatives such as wind, solar, biomass, geothermal, and tidal/wave energy, to attract research and development and investment in the region.

24.5 Coordinate a progressive education program that builds learning as a cornerstone in the region.

24.6 Work with our regional partners to enhance the transportation linkages between the Peninsula and Southside areas of Hampton Roads and provide transit options.

24.7 Coordinate our transportation systems with our regional partners and provide linkages to key destinations including regional military institutions, airports, ports, educational institutions, and employment centers.

AS OF TODAY...

The Hampton Roads localities are continuously exploring ways to increase regional cooperation and potential, working through organizations such as the Hampton Roads Planning District Commission, the Hampton Roads Transportation Planning Organization, the Hampton Roads Economic Development Alliance, the Hampton Roads Military and Federal Facilities Alliance, and the Hampton Roads Partnership. Localities also rely on Memoranda of Understanding (MOU) to collaborate on areas where specific cooperative action is required.
One of the many significant objectives cited in The Vision Hampton Roads 2010 Report states that “Hampton Roads will be recognized internationally as a region for centers of excellence fueled by a culture of innovation and economic opportunity.” Strategies identified to achieve this objective include:

- **Hampton Roads will be a region of excellence for environmental distinction;**
- **Hampton Roads will be a region of excellence for cutting edge technology-based business innovation and education;**
- **Hampton Roads will be a region of excellence for developing and implementing offshore wind energy and other coastal energy solutions; and**
- **Hampton Roads will be a region of excellence for healthcare and life sciences.**

The recommendations of the Envision Virginia Beach 2040 report reflect these regional recommendations, as well.

Hampton Roads is blessed with an abundance of community resources - natural, man-made, and human capital. The juxtaposition of our geographic location at the mouth of the Chesapeake Bay and Atlantic Ocean has created an unsurpassed opportunity for tourism. Tourism opportunities are further enhanced by our historical setting as the birthplace of the nation - Jamestown, Yorktown, and Williamsburg give testimony to this fact.

Our geographic location in the mid-Atlantic region sets us apart as the primary port of entry with unmatched potential for port expansion as we are the deepest natural harbor that can take advantage of increased shipping opportunities created by the expansion of the Panama Canal. Our heritage as a port and shipbuilding location provides a unique opportunity to the region to become the leader in promoting development of offshore wind energy, along with opportunities in local educational and research institutions for further alternative energy research and development. We are uniquely positioned to further capitalize on this opportunity to become the technical training and support center for offshore energy development and operations as we couple our geographic location, maritime industrial experience, and educational institutions to meet this emerging demand.

These same resources, however, have historically and still do pose enormous challenges to transportation in the region. Efforts to improve access between South Hampton Roads and the Peninsula need to continue to be a priority to help ensure both continued port development and military readiness. Likewise, in the future, expansion or new development of regional transportation corridor linkages to the rest of the Virginia Urban Crescent (Hampton Roads-Richmond-Northern Virginia urban...
region), southwest to the Research Triangle Area (Raleigh-Durham-Chapel Hill), the I-85 corridor to Charlotte and Atlanta, and northeast by way of the Eastern Shore to the Wilmington-Philadelphia area will serve to erase the long-standing position of Hampton Roads and Virginia Beach being at the “cul-de-sac” of I-64. Greater development of multimodal transportation options, such as mass transit, light rail, high speed rail, and exploration of water taxis, could complement needed road system improvements at the regional level. Work between the Hampton Roads communities, business community, military community and others, individually and as coordinated through the Hampton Roads Transportation Planning Organization, needs to continue and intensify a strategic and focused effort towards accomplishing these and related long-term goals.

The Hampton Roads region holds higher education in high regards. The most recent rankings say that the College of William & Mary is one of the most elite public universities in the nation. Joining this prestigious institution are seven other outstanding colleges and universities throughout Hampton Roads, plus four more community colleges. Together, these schools provide a variety of courses, locations, and traditions to suit a wide range of people - 96,000 in all. Not surprisingly, many of these students are eager to enter the workforce after graduation and remain right here in Hampton Roads.

Source: Virginia Department of Transportation, Federal Highway Administration

**Downtown Tunnel - Norfolk to Portsmouth**
Education does not begin in college, but many years earlier. Fortunately, Hampton Roads offers many options for primary and secondary education, as well. Several of our localities offer excellent public school systems with the test scores to prove it. Likewise, many of our private schools are among the very best. Lifelong learning is a hallmark of the region, and helps distinguish Hampton roads from other areas.

The Hampton Roads region attracts and retains many of the world’s most recognizable brands. Companies like Northrop Grumman, STIHL Inc., GEICO, and Canon Virginia, Inc. all chose Hampton Roads as a strategic base for their operation for a variety of factors, including geographic location, educated workforce, and quality of life. So have the region’s Fortune 500 firms - Norfolk Southern, Dollar Tree, Amerigroup, and Smithfield Foods.

**Businesses and Institutions that have chosen to make Hampton Roads their home...**

*Companies and Corporations: Four Fortune 500 companies are headquartered in the Virginia Beach-Norfolk-Newport News MSA, including Amerigroup, Norfolk-Southern, Dollar Tree Stores, and Smithfield Foods.*

*Healthcare and Biomedical: With more than 56,000 healthcare professionals and more than 5,000 life science workers, the Hampton Roads region is home to some of the world’s most innovative medical research including bio-implants, diabetes, and regenerative medicine.*

*Science and Engineering: More than 45,000 engineers, scientists, and technicians are employed in the Virginia Beach-Norfolk-Newport News MSA. The MSA is home to NASA’s Langley Research Center, Thomas Jefferson Lab, and Old Dominion University’s Modeling and Simulation Center.*

![BUSINESS START-UPS PER 10,000 POPULATION](source: Vision Hampton Roads - Economic Performance Measures: 2011 Dashboard)
The international profile throughout Hampton Roads is strong and continues to grow. This strong international presence, with nearly 180 international firms representing 27 countries, provides a support network and services for the employees and families who arrive in Hampton Roads from abroad. As an Employment at Will and Right to Work state, Virginia has labor laws that appeal to employers and employees alike. With only one local taxing authority in each community, Hampton Roads boasts some of the lowest combined state and local tax rates in the nation. Organizations as diverse as manufacturers, retailers, healthcare firms, business service providers, educational institutions, and telecommunications providers take advantage of our incentive programs, including financial assistance, infrastructure development, workforce training, and tax credits.

Hampton Roads has long been recognized as a “Center of Commerce.” For many businesses it is critical that they be conveniently located near customers, suppliers, distributors, employees, and vendors. Fortunately for the businesses located here, very few regions are as strategically located to as many major metropolitan areas as we are. Over 60% of the population of the United States is located within 750 miles of Hampton Roads. The region’s convenient and accessible transportation infrastructure provides multiple options for moving goods between national and international markets. Hampton Roads is linked to the U.S. and the world by an advanced and mature multi-layered transportation infrastructure. Our roads, rails, ports, and air services provide vital links to and from the interior of our country and with the world at large.

Even data travels quickly in and through Hampton Roads. Our telecommunication infrastructure supports the communications needs of much of the East Coast, including 11 independent networks supported by over 650,000 miles of fiber optics.
Other significant amenities in this region include an exceptionally diverse and skilled workforce. An 830,000-person-strong labor force is replenished annually by 13,000 highly trained, disciplined, exiting military personnel.

The Port of Virginia features the best natural deepwater harbor on the East Coast, with its unobstructed, ice-free harbor, 50-feet-deep channels, and a location 18 miles from the open ocean. In addition, the Port features 20 shipping lines offering weekly service to Europe and Asia and has the lowest pilferage rate on the East Coast. With its four marine terminals, the Port of Virginia is the third-largest volume port on the East Coast in terms of general cargo (breakbulk and containerized cargo). The Port is home to the largest and fastest container cranes in the world. With a 26 container outreach, the cranes can handle any ship in existence today in addition to those on the drawing board for the future.

Marine cargo facilities operating at the Port of Virginia Marine Terminal Complex include:

- Newport News Marine Terminal
- APM Terminals
- Norfolk International Terminals
- Portsmouth Marine Terminal Site

Through the consistent achievement in protecting and enhancing the supply chains and movement of ocean freight of some of the world’s leading employers in an efficient and cost-effective manner, “the Port of Virginia has been recognized as one of the world’s leading maritime gateways for more than 400 years.” The Port of Virginia is a critical component in the economic engine that drives the Commonwealth in job creation, tax revenue, and corporate investment.

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1 The Virginia Port Authority, 2012; Hampton Roads Economic Development Alliance, 2012.
The region is rich with an array of cultural treasures, reflecting the artistic diversity of its communities. Throughout the year, festivals celebrate the heritage of the region. History, music, drama, and art are abundant in the theatres and museums of Hampton Roads. Our area is home to the Virginia Symphony, the Virginia Opera, the Virginia Stage Company, and numerous other performing artists. Touring shows have their pick of many new and modern halls, including the Sandler Center for the Performing Arts, the Ferguson Center for the Arts, the Roper Performing Arts Center, Chrysler Hall, the Wells Theater, the Harrison Opera House, the Hampton Coliseum, the Virginia Beach Amphitheater, the nTelos Pavilion, and dozens of other venues large and small.

Regional culture and supporting amenities are used to promote regional economic opportunities, specifically local and longer distance visitation and tourism. Cultural resource planning and policy can be powerful instruments for improving the quality of urban life across the city, region, state, and nation. Our regional leaders realize the competitive advantages derived from culturally rich areas.

In addition, the natural beauty of our region is easy to enjoy in our many public parks and recreational facilities, operated at the community, state, and national level. Our oceanfront and waterways are second to none and are beloved by our residents and...
by millions of visitors every year. Miles of bike and hike trails and hundreds of acres of parkland make Hampton Roads a breath of fresh air for residents and visitors alike. To help ensure that these natural amenities are protected and enhanced for the enjoyment of future generations, the very nature of how the region is geographically arranged requires increased emphasis on promoting improved water quality and maintaining high air quality. As these two resources are not strictly the domain of any one community, shared solutions and cooperative agreements are essential in achieving federal and state mandates, but also for accomplishing regional, sub-regional, and local goals for enhancing water quality, in particular. Working as a coalition, the region has the potential and responsibility to help ensure airborne pollutant loadings from west of the region do not adversely directly affect air quality or water quality indirectly from atmospheric deposition.

In 2012, the City of Virginia Beach and Virginia Beach City Public Schools sponsored the first Hampton Roads Sustainable Living Expo. This two-day event attracted over 3,000 attendees and was designed to educate the greater Hampton Roads public about recycling, energy conservation, locally grown produce, green living, and other sustainable practices.

The Expo’s e-cycling-shredding event, sponsored by the Virginia Aquarium, TFC, and Goodwill, diverted eight tons of electronics from the landfill and recycled almost 3,000 pounds of paper and cardboard. In addition, 128 pounds of canned food items were collected for The Potter’s House at the Virginia Beach United Methodist Church.

Arts Garden at the Sandler Center for the Performing Arts
A Community Plan for a Sustainable Future

GOAL

We will work together with our regional partners to streamline our services, realizing cost savings through shared, efficient public services.

OBJECTIVES

26.1 Partner with our neighboring cities to centralize access to services, where appropriate, across the region.

26.2 Work together between the City government and the community to optimize natural disaster preparedness.

AS OF TODAY...

Our regional government leaders recognize they must manage constant change and create flexible systems that can adapt to new demands. Dialogue has begun among some of the regional leaders to identify opportunities to reduce the cost of providing essential local services. Currently, all Hampton Roads municipalities have some form of shared services agreement with one or more of their neighbors. Sometimes these shared approaches are integrated formally through an inter-local agreement or a joint powers agreement; other times these shared approaches are more informal in nature, such as through cooperation between neighboring departments that provide the same service to separate constituencies. Several past studies on the Hampton Roads region have estimated that municipalities could reduce the cost of local government by as much as 15% by cooperating on purchasing goods and services.

The 2012 pilot program of the Hampton Roads Shared Services Project is a joint public-private effort of the Fortune 500 businesses and the cities of Chesapeake, Norfolk, and Virginia Beach, who are all members of the Hampton Roads Partnership. The objective is to identify possible ways these three regional cities can share services among each other, resulting in more efficient and effective service delivery for the citizens of the cities and cost savings for the governments. This shared services project is an excellent example of how local governments and the private sector can work together to improve services and manage costs in the current economic climate.

2 Chris Bonney on: “Regional Envy or Regional Denial? What We Miss by Not Believing in a Region”, Bonney & Company, Virginia Beach, VA, October 2011

Virginia Beach Volunteer Rescue Squad
Key goals established for this project include:

- Identifying and fostering opportunities for improving services, reducing current costs, and avoiding future costs;
- Widening the range of service sharing opportunities among the participating governments; and
- Establishing a basis for future sharing.\(^3\)

As the results of this pilot program are finalized and implemented, it is hoped that this same approach can be expanded to include other regional local governments, and to explore additional opportunities for shared public services.

\(^3\) Hampton Roads Partnership, Virginia’s Hampton Roads Region: Shared Services Project (SSP), 2012 Pilot Program
A Community Plan for A Sustainable Future would not have been possible without the commitment and support of the City of Virginia Beach and the input received from the community, both the public and advisory groups as listed below:

FOCUS GROUPS:

Social Focus Group:
April T. Strickland - Annual Fund Manager, Virginia Aquarium & Marine Science Center
Dr. Venita Newby-Owens - Director, Virginia Beach Department of Public Health
Bruce W. Edwards - Chief, Virginia Beach Department of Emergency Medical Services
Cheryl Smith - Housing Programs Coordinator, Virginia Beach Housing & Neighborhood Preservation

Economic Opportunity Focus Group:
David Trimmer - Director, Virginia Beach Department of Agriculture
Pat Konopnicki - Director of Technical and Career Education, Virginia Beach City Public Schools
Cynthia Whitbred-Spanoulis - Strategy & Performance Coordinator, Department of Economic Development
Brian Ballard - Community Planning Liaison Coordinator, Joint Expeditionary Base Little Creek-Fort Story
Louisa Strayhorn - Owner, LSA Consulting, LLC
Ned Williams - Sustainability Plan Steering Committee Member / Principal, Vector Real Estate Advisor

Planning and Design Focus Group:
Phil Davenport - Interim Director, Virginia Beach Department of Public Works
Leslie Bonilla - Current Planner, Virginia Beach Department of Planning
Jeryl Phillips - Comprehensive Planning Coordinator, Virginia Beach Department of Planning
Mark Schnaufer - Transportation Planner, Virginia Beach Strategic Growth Area Office
Barbara Duke - Planner, Virginia Beach Department of Parks & Recreation
William "Billy" Almond - Vice-President, WPL

Fiscal Responsibility Focus Group:
Patricia A. Phillips - Director, Virginia Beach Department of Finance
John T. Atkinson - Treasurer, City of Virginia Beach
David Sandloop - Procurement Specialist, Virginia Beach Department of Finance
Frank Fentress - Landscape Management Administrator, Virginia Beach Department of Parks & Recreation
Richard "Tuck" Bowie - Chair, City of Virginia Beach Process Improvement Steering Committee/President, The Terry Peterson Companies
Greg Grootendorst - Chief Economist, Hampton Roads Planning District Commission
Mark Gemender - Operations Engineer, Virginia Beach Department of Public Works
FOCUS GROUPS CONTINUED:

Environmental Stewardship Focus Group:
John C. Barnes - Waste Management Administrator, Virginia Beach Department of Public Works
Lori Herrick - Energy Management Administrator, Virginia Beach Department of Public Works
Barbara Brumbaugh - Environmental Quality Coordinator, City of Chesapeake
Myles Pocta, President - MAP Environmental Inc.
Charles (Chuck) F. Payne, III - President/Project Director, New Millennium Environmental, Inc.

College Student Focus Group:
Jonathan O’Neill - Tidewater Community College
Angela Tonnessen – Art Institute of Virginia
Mathew Smith – Tidewater Community College
Alison Allred – Art Institute of Virginia
Julie Brindley – Hampton Roads Association for Commercial Real Estate
Metwyoine Dunn – Norfolk State University
Jefry Floyd - Art Institute of Virginia
Willie Jordan - Art Institute of Virginia
Kynesha Fongsam - Hampton University College of Virginia Beach
Nube Macancela - Hampton University College of Virginia Beach
Inel Sile - Hampton University College of Virginia Beach
Maurice Hill - Hampton University College of Virginia Beach
Carey Blackwell - Norfolk State University
Zachary Walls - Norfolk State University
Nathanael Meseret - Norfolk State University
Dr. Amelia Ross–Hammond - Norfolk State University
NaDeen Williamson - Norfolk State University
Jermaine Gill – Tidewater Community College
Curtis Crumity - Norfolk State University
Chuma Pat - Norfolk State University
Vincent Rono - Norfolk State University
Shene Y. Owens – Hampton University College of Virginia Beach

Environmental Pillar Focus Group:
Karen Forget - Executive Director, Lynnhaven River NOW
Cindy Summs - Membership & Administration Manager, Rudee Inlet Foundation
Ben Pascarossa Duff - Environmental Director, Terrascapes Environmental
Kathy Owens - Deputy Refuge Manager, Back Bay Natural Wildlife Refuge
Brian Salem - Park Ranger, Back Bay Natural Wildlife Refuge
Tom Rumely - Account Executive, Virginia Natural Gas
Jason Barney - Founder, The Crystal Club
John M. Carlock - Deputy Executive Director, Hampton Roads Planning District Commission

Social Pillar Focus Group:
Father James E. Parke - Chair, Virginia Beach Human Rights Commission
Bobby Melatti - Chair, Virginia Beach Arts and Humanities Commission
Martha McClees - Treasurer, Virginia Beach Social Services Advisory Board
Ross Brockwell - Streets & Bridges Administrator, City of Chesapeake Department of Public Works
John C. Boylan - Homeless Policy & Resource Coordinator, Bring an End to All City Homelessness

Economic Pillar Focus Group:
Carolyn McPherson - Executive Director, Light Rail Now
E. Dana Dickens, III - President, Hampton Roads Partnership
Mary Heinricht - Environmental Consultant Facilitator, Environmental Council of Hampton Roads
Donna Morris - Executive Vice President, Hampton Roads Partnership

VIRGINIA BEACH BOARDS AND COMMISSIONS REPRESENTATIVES:
Michael Aschkenas - Mayor’s Commission on Aging
Carolyn Garrett - Arts and Humanities Commission
Sally Saunders - Arts and Humanities Commission
Ken Jobe - Wetlands Boards, Beaches and Waterways Commission
Nick Anoia - Open Space Advisory Committee
Brad Martin - Chesapeake Bay Preservation Area Board
Jeanne Evans - Chesapeake Bay Preservation Area Board
Molly Brown - Wetlands Board
Bobby Melatti - Arts and Humanities Commission

VIRGINIA BEACH MANAGEMENT LEADERSHIP TEAM:
James K. Spore - City Manager
Robert S. Herbert - Deputy City Manager
Cindy A. Curtis - Deputy City Manager
Dave L. Hansen - Deputy City Manager
Kathy Hevey - Organization Development Coordinator
Aislyn Hughes - Executive Assistant III
STRATEGIC ISSUE TEAM (SIT) MEMBERS:

**Cultural & Recreational Opportunities Team:**
Cynthia Buckler - *Department of Human Services*
Emily Spruill - *Office of Cultural Affairs*
Joanna McAnulty - *Department of Human Services*
Karen Prochilo - *Department of Planning*
Lynn Clements - *Department of Museums & Historic Resources*
Meredith Ching - *Department of Management Services*
Michael Kalvort - *Department of Parks & Recreation*
Mike Mundy - *Department of Public Works*
Pat Cook - *Department of Libraries*
Rob Hudome - *Department of Economic Development*
Ron Kuhlman - *Convention & Visitors Bureau*
Sharon Vaughan - *Department of Communications & Information Technology*
Tony Zucaro - *Police Department*

**Economic Vitality Team:**
Al Hutchinson - *Convention & Visitors Bureau*
Barry Frankenfield - *Strategic Growth Area Office*
Bob Matthias - *City Manager’s Office*
Brian Solis - *Department of Parks & Recreation*
Jack Whitney - *Department of Planning*
Jim Ricketts - *Convention & Visitors Bureau*
John Fowler - *Department of Public Works*
Karen Lasley - *Department of Planning*
Mary Hancock - *Media & Communications Group*
Matt Lighthart - *Department of Libraries*
Pat Konopnicki - *Virginia Beach City Public Schools*
Patti Phillips - *Department of Finance*
Rich Nettleton - *Department of Public Utilities*
Teresa Pippin - *Department of Libraries*
Warren Harris - *Department of Economic Development*
Family & Youth Opportunities Team:
Andy Friedman - Department of Housing & Neighborhood Preservation
Barbara Brinson - Department of Parks & Recreation
Bob Morin - Department of Human Services
Catheryn Whitesell - Department of Management Services
Chris Chandler - Department of Human Services
Clara Hudson - Department of Libraries
Ed Brazle - Department of Emergency Medical Services
John Bell - Police Department
Linda Filippi - Tidewater Regional Group Home Commission
Mary Cole - Department of Parks & Recreation
Venita Newby-Owens - Department of Public Health
Victoria Strickland-Cordial - Department of Libraries

Quality Education & Lifelong Learning Team:
Carolyn Stark - Department of Parks & Recreation
Chris Witherspoon - Department of Museums & Historic Resources
David Palmer - Department of Libraries
Jerry Stewart - Department of Economic Development
Jim Bilsborough - Department of Communications & Information Technology
Joe Burnsworth - Virginia Beach City Public Schools
Karen Kehoe - Department of Economic Development
Kathy Drumwright - Department of Human Services
Marcy Sims - Department of Libraries
Millicent Gallagher - City Manager’s Office
Pat Gallagher - Police Department
Patti Greer - Department of Human Resources
Regina Hilliard - Department of Human Resources
Renee Olander - Old Dominion University
Quality Organization Team:
Beverly Spencer - Department of Human Resources
Bill Davis - Department of Finance
David Bradley - Department of Management Services
David Trimmer - Department of Agriculture
Donna Mickley - Department of Human Resources
Kathy Hevey - Organization Development Office
Kevin Fairley - Department of Communications & Information Technology
Marilyn Crane - Department of Public Utilities
Melissa Zibutis - Office of Volunteer Resources
Nancy Pavona - Department of Libraries
Neva White - Department of Libraries
T.J. McAndrews - Fire Department

Quality Physical Environment Team:
Barbara Duke - Department of Parks & Recreation
Erin Sutton - Fire Department
Frank Fentress - Department of Parks & Recreation
Jerry Stewart - Department of Economic Development
Jeryl Phillips - Department of Planning
Kim Putman - Department of Public Works
Lori Herrick - Department of Public Works
Mark Schnaufer - Strategic Growth Area Office
Mark Wawner - Department of Economic Development
Nancy Leavitt - Department of Finance
Randy Journigan - Fire Department
Phil Davenport - Department of Public Works
Phil Pullen - Department of Public Works
Skip Leezer - Department of Communications & Information Technology
Tom Leahy - Department of Public Utilities
Tony Arnold - Virginia Beach City Public Schools
Wells Freed - Department of Housing & Neighborhood Preservation
Safe Community Team:
Alexis Zoss - Department of Human Services
Arlene Manzella - Department of Public Health
Athena Plummer - Department of Emergency Communications & Citizen Services
Bruce Edwards - Department of Emergency Medical Services
Cindy Hart - Department of Libraries
Dick Ponti - Virginia Beach City Public Schools
Jim Cervera - Police Department
Jonathan Hobbs - Department of Management Services
Kathy Williams - Department of Parks & Recreation
Mark Gemender - Department of Public Works
Mick Vollmer - Department of Communications & Information Technology
Olympiah Perkins - Court Services
Paula Patty - Department of Emergency Communications & Citizen Services
Steve Johnston - Department of Parks & Recreation
Steve Cover - Fire Department

CITY OF VIRGINIA BEACH STAFF:
Alice F. Testerman - Department of Human Services
Bob Trahan - Organization Development Office
Corrina Green - Department of Public Works
David Compton - Department of Planning
Joann Bonney - Commissioner of the Revenue
Hazel Turner - Office of Cultural Affairs
Joann Moore - Organization Development Office
Mark Podolinsky - Department of Public Works
Mary Russo - Office of Volunteer Resources
Michael Moore - Department of Parks & Recreation
Mary Richmond - Department of Public Works
Wayne Wilcox - Department of Parks & Recreation
Through extensive public and stakeholder meetings and interviews with staff, we found a tremendous amount of overlap between the objectives developed throughout this planning process and the ongoing work and plans or the City Council and the City government. Knowing it would be impossible to list every City staff initiative as well as every plan, a decision was made to only list City government plans that have a direct relationship to that particular objective, as listed on the following pages. Additional plans, strategies, documents, and initiatives can be viewed in the References Section found in Appendix D.

KEY TO ABBREVIATIONS LISTED IN THE FOLLOWING ELEMENT TABLES:

<table>
<thead>
<tr>
<th>Abbreviation:</th>
<th>City Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG Strategic Plan</td>
<td>Agriculture Strategic Plan (<a href="http://www.vbgov.com/government/departments/planning/areaplan/docs/Documents/Pungo-Blackwater-RuralArea/AgPlan.pdf">http://www.vbgov.com/government/departments/planning/areaplan/docs/Documents/Pungo-Blackwater-RuralArea/AgPlan.pdf</a>)</td>
</tr>
<tr>
<td>AHC Work Plan</td>
<td>Arts &amp; Humanities Commission Committee Work Plan 2011-2012</td>
</tr>
<tr>
<td>Bikeways &amp; Trails Plan</td>
<td>Bikeways &amp; Trails Plan 2011 (<a href="http://www.vbgov.com/bikewalk">www.vbgov.com/bikewalk</a>)</td>
</tr>
<tr>
<td>Chesapeake Bay WIP</td>
<td>Chesapeake Bay Watershed Implementation Plan (<a href="http://www.dcr.virginia.gov/vabaytml/documents/baytmdl/documents/baytmdlp2wip.pdf">http://www.dcr.virginia.gov/vabaytml/documents/baytmdl/documents/baytmdlp2wip.pdf</a>)</td>
</tr>
<tr>
<td>Compass</td>
<td>Virginia Beach City Public Schools - Compass to 2015: A Strategic Plan for Student Success (<a href="http://www.vbschools.com/compass/StrategicPlan.pdf">http://www.vbschools.com/compass/StrategicPlan.pdf</a>)</td>
</tr>
<tr>
<td>Comp Plan</td>
<td>Virginia Beach Comprehensive Plan 2009 (<a href="http://www.vbgov.com/compplan">www.vbgov.com/compplan</a>)</td>
</tr>
</tbody>
</table>
| Econ Dev Strategies | Economic Development Strategies:  
  * Strategic Plan Update  
  * Annual Report - Big, Bold Beach 2013 |
| 2040 Vision | Envision Virginia Beach 2040 Committee Report (www.vbgov.com/envisionvb2040) |
| HRT | HRT Transportation Plans: (http://www.gohrt.com/about/development/)  
  * Hampton Roads Regional Transit Vision Plan 2011  
  * Hampton Roads Transit Development Plan 2012 - 2017  
  * Comprehensive Operations Analysis Report for Hampton Roads Transit, 2009  
  * Hampton Roads Transit: Service and Schedule Efficiency Review, 2011  
  * Virginia Beach Transit Extension Study (currently underway) (http://www.gohrt.com/about/development/vbtes/) |
<table>
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<tbody>
<tr>
<td>HRTPO</td>
<td>HRTPO Transportation Studies (<a href="http://www.hrtpo.org/">http://www.hrtpo.org/</a>)</td>
</tr>
<tr>
<td>HRTPO LRTP</td>
<td>Hampton Roads Transportation Planning Organization - Long Range Transportation Plan</td>
</tr>
<tr>
<td>OVR Strategic Plan</td>
<td>Office of Volunteer Resources - Strategic Plan</td>
</tr>
<tr>
<td>PU Strategic Plan</td>
<td>Public Utilities - Strategic Plan</td>
</tr>
<tr>
<td>PW Strategic Plan</td>
<td>Public Works - Strategic Plan 2010-2015</td>
</tr>
<tr>
<td>SSP</td>
<td>Virginia’s Hampton Roads Region: Shared Services Project (<a href="http://hrp.org/Site/sharedservices">http://hrp.org/Site/sharedservices</a>)</td>
</tr>
<tr>
<td><strong>SP (CRO)</strong></td>
<td>Cultural &amp; Recreational Opportunities</td>
</tr>
<tr>
<td><strong>SP (EV)</strong></td>
<td>Economic Vitality</td>
</tr>
<tr>
<td><strong>SP (FYO)</strong></td>
<td>Family &amp; Youth Opportunities</td>
</tr>
<tr>
<td><strong>SP (QELL)</strong></td>
<td>Quality Education &amp; Lifetime Learning</td>
</tr>
<tr>
<td><strong>SP (QQ)</strong></td>
<td>Quality Organization</td>
</tr>
<tr>
<td><strong>SP (QPE)</strong></td>
<td>Quality Physical Environment</td>
</tr>
<tr>
<td><strong>SP (SC)</strong></td>
<td>Safe Community</td>
</tr>
</tbody>
</table>
**1. We will have a strong sense of community spirit and involvement.**

| 1.1 | Continue the City government’s outreach to promote conversations with the community, promoting awareness on issues important to us all. | SP(QO3); 2040 Vision |
| 1.2 | Support local civic leagues and neighborhood organizations to build strong community spirit. | SP(QPE3); 2040 Vision |
| 1.3 | Continue to build volunteer opportunities that are a way of life for our citizens. | OVR Strategies |
| 1.4 | Promote cultural, educational, and recreational events that reflect our diversity and are accessible to all by removing economic, physical, and other barriers to participation. | SP(CRO2); EEO Plan; 2040 Vision |
| 1.5 | Build strong relationships with local organizations such as cultural, environmental, and historical groups, and support them in their efforts to connect with local communities. | SP(CRO1; SC5); 2040 Vision |

**2. All of our residents will have the opportunity to live healthy lives and meet their basic needs to survive and thrive.**

| 2.1 | Continue to promote high-quality healthcare and to provide high-quality emergency services for all citizens. | SP(SC) |
| 2.2 | Promote equitable access to affordable housing for all citizens. | SP(QPE3); 10Year Plan; Comp Plan |
| 2.3 | Promote a healthy lifestyle for our citizens and provide active recreation opportunities that are accessible to all, regardless of age or ability. | SP(FYO1; CRO2; SC3); 2040 Vision |
| 2.4 | Promote greater availability and equitable access to fresh, local foods for all citizens. | SP(CRO); Comp Plan |
| 2.5 | Provide senior support services and accommodation for our aging-in-place residents. | Comp Plan; HS Strategic Plan (Goal VI) |
| 2.6 | Promote affordable, high-quality out-of-school youth development opportunities for all of our citizens. | SP(CRO2); P&R Strategic Plan |
### ELEMENT TABLE - PLACES:

**Goal / Objectives:**

3. We will have unique, vibrant, and attractive gathering places in our rural, suburban, and urban centers that are accessible to and treasured by residents, visitors, and guests.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
<th>City Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Design for and encourage a sense of place in our centers with unique features that distinguish one place from another.</td>
<td>SP(SC1; QPE3; CRO2); Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>3.2</td>
<td>Support and promote centers with multiple uses where appropriate.</td>
<td>SP(EV4); SGA Plans; Comp Plan; 2040 Vision; Owls Creek MP</td>
</tr>
<tr>
<td>3.3</td>
<td>Promote green certification (e.g., LEED) for the construction and retrofitting of our structures and centers.</td>
<td>SP(QPE2,3,4,5); Comp Plan</td>
</tr>
<tr>
<td>3.4</td>
<td>Maximize walkability in our places and reduce the amount of surface parking by promoting alternative parking strategies.</td>
<td>SP(EV1); SGA Plans; Comp Plan</td>
</tr>
<tr>
<td>3.5</td>
<td>Coordinate transportation, jobs, and housing to maximize accessibility for all citizens.</td>
<td>SP(EV4); SGA Plans; Comp Plan</td>
</tr>
<tr>
<td>3.6</td>
<td>Provide safe, well-maintained public recreational space within a 10 minute walk of every residence to planning areas identified in the Outdoors Plan (with the exception of the Pungo/Blackwater planning area).</td>
<td>SP(CRO1; SC1); Outdoors Plan; 2040 Vision</td>
</tr>
<tr>
<td>3.7</td>
<td>Maintain the lowest crime rate in the nation for a city of this population and market this achievement.</td>
<td>SP(SC5); 2040 Vision</td>
</tr>
</tbody>
</table>

4. We will have abundant cultural experiences present throughout our city and accessible to all, regardless of age or income.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
<th>City Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Use our centers and gathering places for cultural, recreational, and educational events and activities.</td>
<td>SP(CRO1,2); 2040 Vision</td>
</tr>
<tr>
<td>4.2</td>
<td>Incorporate and invest in public art throughout the city to foster community pride and create community identity.</td>
<td>SP(CRO1,2); 2040 Vision</td>
</tr>
<tr>
<td>4.3</td>
<td>Designate pedestrian-friendly Arts and Cultural Districts and encourage the establishment of art galleries, arts-related businesses, and creative industries within the districts.</td>
<td>SP(CRO2); AHC Work Plan</td>
</tr>
<tr>
<td>4.4</td>
<td>Partner with the Arts &amp; Humanities Commission, the Cultural Alliance, and non-profit organizations to expand the number and quality of our cultural experiences.</td>
<td>SP(CRO1,3); AHC Work Plan; 2040 Vision</td>
</tr>
</tbody>
</table>

5. We will become a top-quality, year-round destination for domestic and international visitors.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
<th>City Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Grow our ecotourism potential by developing, marketing, and investing to enhance our existing natural resources.</td>
<td>SP(EV1; CRO2,3); Comp Plan; Owls Creek MP; 2040 Vision</td>
</tr>
<tr>
<td>5.2</td>
<td>Transform our hospitality and restaurant industry into a nationwide leader in sustainable practices.</td>
<td>SP(EV1)</td>
</tr>
<tr>
<td>5.3</td>
<td>Capitalize on our historic and cultural coastal Virginia heritage through tourism development.</td>
<td>SP(EV1; CRO2,3); 2040 Vision</td>
</tr>
<tr>
<td>5.4</td>
<td>Promote local and regional military tourism opportunities, both historic and contemporary.</td>
<td>SP(CRO2)</td>
</tr>
<tr>
<td>5.5</td>
<td>Pursue public-private partnerships that can broaden the array of facilities and attractions.</td>
<td>SP(EV1; CRO1,3)</td>
</tr>
</tbody>
</table>
### ELEMENT TABLE - LEARNING:

**Goal / Objectives:** We will ensure all of our citizens have access to quality lifelong learning and educational opportunities.

| 6.1 | Increase the level of commitment and investment in early childhood education, beginning at birth, to offer the best start in life. | SP(QELL1,2; CRO2); 2040 Vision |
| 6.2 | Expand opportunities for all individuals and families to pursue education. | SP(QELL2) |
| 6.3 | Collaborate with Virginia Beach Public Schools to promote diverse informal educational and cultural opportunities to ensure arts and culture remains part of the school district’s curriculum. | SP(CRO1,2,3); 2040 Vision |
| 6.4 | Utilize the most up-to-date communication methods to maximize access to education for all residents, including those with limited mobility and/or learning disabilities. | SP(QO3); 2040 Vision |
| 6.5 | Promote learning opportunities for our aging residents, including the development of Lifelong Learning Centers, and increase awareness of those opportunities. | SP(SC2); HR Strategic Plan; 2040 Vision |
| 6.6 | Support environmental, public health, and disease prevention education. | SP(FYO1; CRO1,2,3); 2040 Vision |

**City Documents:**

**Goal / Objectives:** Our schools and higher learning institutions will prepare a skilled and educated workforce.

| 7.1 | Close the achievement gap and increase high school graduation rates for all students. | SP(QELL2); Compass (SO3); 2040 Vision |
| 7.2 | Expand the partnering of our public schools with technical/vocational training higher learning institutions, and local businesses to coordinate our workforce skills with current and projected future job base. | SP(QELL2; EV3); 2040 Vision |
| 7.3 | Ensure our schools are utilizing the most up to date technologies and equipment possible, and provide education and training for jobs of the future. | SP(EV2); Compass (SO4); 2040 Vision |
| 7.4 | Further develop the Virginia Beach K-12 sustainability curriculum and expand it to include partnerships with libraries, non-profits, and businesses. | Compass (SO4) |
| 7.5 | Encourage work experience and research opportunities for high school students to connect with potential employers. | SP(EV3) |
| 7.6 | Increase access to higher learning opportunities. | SP(QELL3) |
## ELEMENT TABLE - WORK:

<table>
<thead>
<tr>
<th>Goal / Objectives:</th>
<th>City Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8. We will support and value the traditional sectors as the foundation of our economy.</strong></td>
<td></td>
</tr>
<tr>
<td>8.1 Continue to grow and diversify our tourism sector into a year-round economic driver by marketing our unique environment and history.</td>
<td>SP(EV3; CRO2): 2040 Vision</td>
</tr>
<tr>
<td>8.2 Promote the sustainable growth of our agriculture, fishing, and aquaculture sectors.</td>
<td>SP(EV2); Comp Plan; Compass; 2040 Vision</td>
</tr>
<tr>
<td>8.3 Coordinate and balance the needs of our Department of Defense partners with the civilian community.</td>
<td>SP(SC3,4); Compass; 2040 Vision</td>
</tr>
<tr>
<td>8.4 Support our business community with favorable local government policies.</td>
<td>SP(EV2); Econ Dev Strategies; 2040 Vision</td>
</tr>
<tr>
<td>8.5 Promote existing businesses with the mission of expanding as a world-leading economic marketplace.</td>
<td>SP(EV2,3,6)</td>
</tr>
<tr>
<td>8.6 Expand beyond traditional business sectors by fostering opportunities for investment in alternative energy, marine sciences, and environmental research.</td>
<td></td>
</tr>
<tr>
<td><strong>9. We will attract new businesses, entrepreneurs, and startups with our culture of innovation and sustainability to build a marketplace of the future.</strong></td>
<td></td>
</tr>
<tr>
<td>9.1 Ensure the workforce has the skill set necessary for jobs of the future.</td>
<td>SP(QELL2; EV3; SC5; QO1 &amp; 2); Library Strategic Plan; HR Strategic Plan; Compass; 2040 Vision</td>
</tr>
<tr>
<td>9.2 Attract and partner with higher education to promote research and development and the emergence of the city as a center of excellence in marine science and new technologies.</td>
<td>SP(EV2; QELL3); Compass; 2040 Vision</td>
</tr>
<tr>
<td>9.3 Ensure the physical space and facilities exist within the city to accommodate new business opportunities.</td>
<td>Econ Dev Strategies; Compass</td>
</tr>
<tr>
<td>9.4 Attract quality employers, offering well-paid jobs, good health benefits, and following sustainable business practices, with favorable local government policies.</td>
<td>SP(EV3); 2040 Vision</td>
</tr>
<tr>
<td>9.5 Attract green industry and jobs that benefit the environment or conserve natural resources.</td>
<td>SP(EV2,3,6); 2040 Vision</td>
</tr>
<tr>
<td>9.6 Continue to grow Virginia Beach into the most livable city in America to attract and retain the best and brightest workforce.</td>
<td>SP(EV3); Econ Dev Strategies; 2040 Vision</td>
</tr>
<tr>
<td>9.7 Attract entrepreneurs and support the successful development of business start-ups.</td>
<td>SP(QELL); Econ Dev Strategies; ITA Master Plan; 2040 Vision</td>
</tr>
</tbody>
</table>
### ELEMENT TABLE - CONNECTIONS:

<table>
<thead>
<tr>
<th>Goal / Objectives</th>
<th>City Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10. We will ensure our infrastructure is high-performance and utilize the latest technologies, providing the highest level of service to our community.</strong></td>
<td><strong>SP(QPE2; SC1,3; EV4); HR Vision; 2040 Vision</strong></td>
</tr>
<tr>
<td><strong>10.1 Maintain high performance infrastructure systems city-wide by retrofitting, designing for adaptability, and investing in new technologies.</strong></td>
<td><strong>SP(QPE2; SC1,3; EV4); HR Vision; 2040 Vision</strong></td>
</tr>
<tr>
<td><strong>10.2 Act as a responsible steward of public funds and take a long-term life-cycle approach to new construction, upgrades, and maintenance of infrastructure.</strong></td>
<td><strong>SP(QPE2; QO5)</strong></td>
</tr>
<tr>
<td><strong>11. We will have an inter-connected, multi-modal transportation system providing efficient, safe, and affordable movement city-wide and linking to regional systems.</strong></td>
<td><strong>SF(QPE4); Comp Plan; HR Vision; HRT; HRTPO LRPT; 2040 Vision; SGA Plans</strong></td>
</tr>
<tr>
<td><strong>11.1 Develop an efficient and convenient public transit system, connecting major centers and gathering places, and offering residents and visitors with comparative alternatives to the automobile.</strong></td>
<td><strong>SP(QPE4); Comp Plan; HR Vision; HRT; HRTPO LRPT; 2040 Vision; SGA Plans</strong></td>
</tr>
<tr>
<td><strong>11.2 Educate both residents and visitors about the benefits of public transit and the importance of such choices.</strong></td>
<td><strong>SP(EV2,4; QPE4); Comp Plan; HR Vision</strong></td>
</tr>
<tr>
<td><strong>11.3 Create active transportation routes, such as bikeways and trails, that are safe, connect our centers, and are widely used by our citizens and visitors.</strong></td>
<td><strong>SP(CRO1,2; EV4; QPE4); Comp Plan; 2040 Vision; Bikeways &amp; Trails Plan</strong></td>
</tr>
<tr>
<td><strong>11.4 Ensure funding is available to support quality roadway infrastructure that maximizes connectivity and traffic flow, while not impairing pedestrian and bike access.</strong></td>
<td><strong>SP(EV6; QPE4); Comp Plan; HR Vision; HR Competitiveness Report; HRT; 2040 Vision</strong></td>
</tr>
<tr>
<td><strong>12. We are a technologically connected community where all people have internet and telecommunications access.</strong></td>
<td><strong>SP(QO3); 2040 Vision</strong></td>
</tr>
<tr>
<td><strong>12.1 Maximize Wi-Fi availability throughout the City.</strong></td>
<td><strong>SP(QO3); 2040 Vision</strong></td>
</tr>
<tr>
<td><strong>12.2 Partner with communications providers to ensure all citizens have optimum communication access as technology changes.</strong></td>
<td><strong>SP(SC3); HR Vision; 2040 Vision</strong></td>
</tr>
</tbody>
</table>
### ELEMENT TABLE - AIR:

**Goal / Objectives:**

13. We will do our part as a community to continually improve the region’s air quality and reduce harmful greenhouse gas emissions and air pollutants.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
<th>City Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.1</td>
<td>Track greenhouse gas emissions from City government operations and establish goals for the future.</td>
<td>SP(QPE5) ; Comp Plan</td>
</tr>
<tr>
<td>13.2</td>
<td>Improve monitoring systems to better track air pollutants.</td>
<td>Comp Plan</td>
</tr>
<tr>
<td>13.3</td>
<td>Partner with the State and energy providers to increase power generation from renewable energy sources and reduce harmful emissions.</td>
<td>Comp Plan</td>
</tr>
<tr>
<td>13.4</td>
<td>Expand and encourage the use of alternative modes of transportation to reduce vehicular emissions.</td>
<td>SP(SC1; QPE4)</td>
</tr>
<tr>
<td>13.5</td>
<td>Improve traffic flow and encourage better driving habits to reduce vehicular emissions.</td>
<td>SP(QPE4) ; Comp Plan</td>
</tr>
<tr>
<td>13.6</td>
<td>Preserve and expand our urban tree canopy (UTC).</td>
<td>SP(QPE2) ; Comp Plan; 2040 Vision</td>
</tr>
</tbody>
</table>
## ELEMENT TABLE - WATER:

**Goal / Objectives:** We will preserve and protect our water resources to ensure a continued potable drinking supply.

<table>
<thead>
<tr>
<th>14.1</th>
<th>Maintain a sufficient quantity of high quality potable water.</th>
<th>SP(QPE1); PU Strategic Plan; 2040 Vision; Comp Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2</td>
<td>Promote potable water conservation and the use of non-potable water, such as rainwater capture and ground water wells, for non-potable activities.</td>
<td>SP(QPE1); PU Strategic Plan; HR Water Supply Plan; 2040 Vision; Comp Plan</td>
</tr>
<tr>
<td>14.3</td>
<td>Explore other drinking water supply sources, including brackish water.</td>
<td>HR Water Supply Plan; Comp Plan</td>
</tr>
</tbody>
</table>

**Goal / Objectives:** We will achieve and maintain high water quality to ensure public health, protection and propagation of aquatic life, and recreation in and on the water.

<table>
<thead>
<tr>
<th>15.1</th>
<th>Increase the proportion of our water bodies that meet the swimmable/fishable water quality standards.</th>
<th>SP(QPE1,2); PW Strategic Plan; Chesapeake Bay WIP - Phases I,II; Comp Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2</td>
<td>Increase biofiltration habitat (oysters, wetlands, submerged aquatic vegetation, living shorelines).</td>
<td>SP(QPE1,2); PW Strategic Plan; Chesapeake Bay WIP - Phases I,II; Comp Plan</td>
</tr>
<tr>
<td>15.3</td>
<td>Eliminate human-caused debris in all of our waterways.</td>
<td>SP(QPE1,2; CRO2) PW Strategic Plan; Chesapeake Bay WIP - Phases I,II; Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>15.4</td>
<td>Maintain and improve high-quality sanitary sewer service.</td>
<td>SP(QPE1); PU Strategic Plan; Comp Plan; HR Solid Waste Management Plan</td>
</tr>
<tr>
<td>15.5</td>
<td>Increase stormwater quality upstream of beach outfalls.</td>
<td>SP(QPE1); PW Strategic Plan; Comp Plan</td>
</tr>
</tbody>
</table>
**Goal / Objectives:**

<table>
<thead>
<tr>
<th><strong>16.</strong> We will promote the city’s valuable water resources for tourism, aquaculture, and as a center of excellence in marine and water quality research.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>16.1</strong> Increase access for responsible use of our waterways.</td>
</tr>
<tr>
<td><strong>16.2</strong> Partner with local colleges and higher learning institutions to encourage marine research.</td>
</tr>
<tr>
<td><strong>16.3</strong> Promote opportunities for aquaculture.</td>
</tr>
<tr>
<td><strong>16.4</strong> Support our local fishing community and promote the sale and consumption of locally harvested sustainable seafood.</td>
</tr>
</tbody>
</table>

**17. We will be engaged in ocean assessment, monitoring, and planning efforts related to potential development of the state’s offshore resources.**

| **17.1** Promote efforts to engage citizens and elected representatives on ocean issues and legislation that supports responsible development. |  |
| **17.2** Promote sound science and research efforts in support of ocean planning. |  |

**18. We will preserve and protect our groundwater aquifers from depletion and contamination.**

| **18.1** Implement continuous groundwater monitoring and educational programs to promote conservation and protection against aquifer depletion. | SP(QPE2,6) |
### ELEMENT TABLE - ENERGY:

**Goal / Objectives:**

<table>
<thead>
<tr>
<th>19. We will use energy efficiently, both the City government and the community.</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.1 Reduce energy consumption in City government operations and facilities.</td>
</tr>
<tr>
<td>19.2 Expand residential/business energy education and incentives to overcome barriers to implementing energy-efficiency and conservation actions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20. We will support the research and production of clean energy and products.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1 Partner with the State and energy providers to increase clean energy's share of total power supply to the city and transition to clean fuel technologies.</td>
</tr>
<tr>
<td>20.2 Capitalize on economic development opportunities through business expansion and increased research and development in alternate energy development.</td>
</tr>
<tr>
<td>20.3 Promote Virginia Beach as a center of excellence for clean energy.</td>
</tr>
</tbody>
</table>
## ELEMENT TABLE - LAND:

<table>
<thead>
<tr>
<th>Goal / Objectives</th>
<th>City Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>21. We will have balanced land uses to allow the city’s growth while preserving our agricultural land and open space for future generations.</strong></td>
<td>SP(QPE3; SC1,2,5); SGA Plans; Comp Plan</td>
</tr>
<tr>
<td>21.1 Preserve existing neighborhoods and direct and accommodate growth, at a range of neighborhood types, where facilities and infrastructure exists or is planned.</td>
<td>SP(QPE2); Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>21.2 Promote the long-term preservation and conservation of our open spaces and natural areas throughout the city.</td>
<td>AG Strategic Plan; Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>21.3 Support our local farmers to ensure the preservation of our precious agricultural land and to increase demand for our locally grown crops.</td>
<td>Comp Plan</td>
</tr>
<tr>
<td>21.4 Connect our agricultural heritage with our suburban and urban communities through farmer’s markets.</td>
<td></td>
</tr>
<tr>
<td><strong>22. We will support and promote a culture of waste avoidance to maximize the lifespan of our landfills.</strong></td>
<td>SP(QPE6); Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>22.1 Provide environmentally responsible waste management services and operations for all of the community that are reliable and cost-effective.</td>
<td>SP(QPE6; CRO2); Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td>22.2 Conduct a progressive educational program to reduce waste and promote reuse and recycling by both residents and businesses.</td>
<td></td>
</tr>
<tr>
<td><strong>23. We will work proactively to address the impacts of sea level rise, land subsidence, and recurrent coastal flooding.</strong></td>
<td>SP(QPE2; SC4); Comp Plan; Hazard Mitigation Plan</td>
</tr>
<tr>
<td>23.1 Investigate the extent of impacts and develop strategies to address sea level rise and land subsidence and educate the community regarding these issues.</td>
<td></td>
</tr>
</tbody>
</table>
## ELEMENT TABLE - NEIGHBORS:

### Goal / Objectives: 24. We will work together with our regional partners to promote our community resources that make Hampton Roads a great place to live and locate a business.

<table>
<thead>
<tr>
<th>Element Table</th>
<th>Description</th>
<th>City Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>24.1</strong></td>
<td>Build on existing relationships to further promote tourist opportunities in Hampton Roads.</td>
<td>SP(EV6); HR Vision; 2040 Vision</td>
</tr>
<tr>
<td><strong>24.2</strong></td>
<td>Work with our regional partners to promote Hampton Roads as a center of excellence in healthcare, technology, marine science, maritime industry, and agriculture/aquaculture.</td>
<td>SP(QELL3; CRO3); Owls Creek MP; 2040 Vision</td>
</tr>
<tr>
<td><strong>24.3</strong></td>
<td>Utilize our resources to further develop our natural amenities, such as the ports, for multiple options for receiving and moving goods and to attract new business investment in the region.</td>
<td>SP(EV2); HR Vision; 2040 Vision</td>
</tr>
<tr>
<td><strong>24.4</strong></td>
<td>Promote the development of renewable energy alternatives such as wind, solar, bio-mass, geothermal, and tidal/wave energy, to attract research and development and investment in the region.</td>
<td>Comp Plan; 2040 Vision</td>
</tr>
<tr>
<td><strong>24.5</strong></td>
<td>Coordinate a progressive education program that builds learning as a cornerstone in the region.</td>
<td>SP(EV3; QELL3); HR Vision</td>
</tr>
<tr>
<td><strong>24.6</strong></td>
<td>Work with our regional partners to enhance the transportation linkages between the Peninsula and Southside areas of Hampton Roads and provide transit options.</td>
<td>SP(EV6; QPE4); Comp Plan; HR Vision; HR Competitiveness Report; HRTPO; 2040 Vision</td>
</tr>
<tr>
<td><strong>24.7</strong></td>
<td>Coordinate our transportation systems with our regional partners and provide linkages to key destinations including regional military institutions, airports, ports, educational institutions, and employment centers.</td>
<td>SP(QPE4); HR Vision; 2040 Vision</td>
</tr>
</tbody>
</table>
### Goal / Objectives:

25. We will work together with our regional partners to ensure the preservation and enhancement of our shared cultural and natural resources to support a high quality of life for our citizens.

<table>
<thead>
<tr>
<th>25.1</th>
<th>Maintain high air and water quality to ensure a healthy regional population and quality of life.</th>
<th>Comp Plan; HR Vision; 2040 Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.2</td>
<td>Work with neighboring cities to minimize and/or reduce regional pollutant sources upwind of the city.</td>
<td>SP(QPE4,7)</td>
</tr>
<tr>
<td>25.3</td>
<td>Promote and expand cultural assets throughout the region as a catalyst for economic development and enhancing the quality of life.</td>
<td>SP(EV6); HR Vision; 2040 Vision</td>
</tr>
</tbody>
</table>

26. We will work together with our regional partners to streamline our services, realizing cost savings through shared, efficient public services.

<table>
<thead>
<tr>
<th>26.1</th>
<th>Partner with our neighboring cities to centralize access to services, where appropriate, across the region.</th>
<th>SP(SC1,3; FYO1); Mutual Aid; HR Vision; HR Regional Competitiveness Report; 2040 Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.2</td>
<td>Work together between the City government and the community to optimize natural disaster preparedness.</td>
<td>SP(SC3,4); HR Hazard Mitigation Plan; Comp Plan; SSP</td>
</tr>
</tbody>
</table>
The Performance Measures identified in the table below are intended to reflect a relatively broad snapshot of progress toward each Goal. At this point in time, not each Performance Measure has a baseline. In order to gauge the City’s progress as well as track success, baselines for each Performance Measure must be established and/or created, where necessary. Where data for a Performance Measure exists, that base measurement has been inserted into the table. As the ESO continues to work with stakeholder groups, both within the City government and the community, to implement the work program, these measures may be adjusted as new and/or better data is provided or generated. In addition, targets will be developed and added to the table. The bi-annual report to City Council will reflect changes to the table and can be viewed at www.vbgov.com/sustainplan.

**PERFORMANCE MEASURES TABLE - PEOPLE**

1. We will have a strong sense of community spirit and involvement.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Figure for Base Year (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours of total volunteer service for the City of Virginia Beach and VBCPS</td>
<td>NDA*</td>
</tr>
<tr>
<td>Percent of citizens who visited a museum, aquarium, or City-sponsored cultural activity</td>
<td>70.40%</td>
</tr>
<tr>
<td>Number of citizens who participate in youth and adult sports leagues</td>
<td>22,537</td>
</tr>
</tbody>
</table>

2. All of our residents will have the opportunity to live healthy lives and meet their basic needs to survive and thrive.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Figure for Base Year (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of eligible residents receiving SNAP benefits</td>
<td>NDA*</td>
</tr>
<tr>
<td>Percent of eligible Women, Infants, and Children enrolled in the Virginia Beach WIC program</td>
<td>NDA*</td>
</tr>
<tr>
<td>Infant mortality rate for low-income residents</td>
<td>NDA*</td>
</tr>
<tr>
<td>Percent of residents whose monthly housing expenses (rent or mortgage) exceed 30% of household income</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

* No data available
**PERFORMANCE MEASURES TABLE - PLACES**

3. We will have unique, vibrant, and attractive gathering places in our rural, suburban, and urban centers that are accessible to and treasured by residents, visitors, and guests.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of citizens who visited a City Park in the past 12 months</td>
<td>72%</td>
</tr>
<tr>
<td>Violent Crime Rate (per 1,000 population)</td>
<td>1.9</td>
</tr>
</tbody>
</table>

4. We will have abundant cultural experiences present throughout our City and accessible to all, regardless of age or income.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of free City-sponsored arts and cultural events</td>
<td>NDA*</td>
</tr>
<tr>
<td>Programs funded by the Arts and Humanities Commission</td>
<td>434</td>
</tr>
<tr>
<td>Combined audience attendance at performances sponsored by the Arts and Humanities Commission</td>
<td>239,428</td>
</tr>
<tr>
<td>Number of visitors to the Historic Houses</td>
<td>7,163</td>
</tr>
</tbody>
</table>

5. We will become a top-quality, year-round destination for domestic and international visitors.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visitors</td>
<td>NDA*</td>
</tr>
<tr>
<td>Tourists who are repeat visitors</td>
<td>75.2%</td>
</tr>
<tr>
<td>Total City and State tax revenue from tourism (in millions)</td>
<td>$94.93</td>
</tr>
<tr>
<td>Year round hotel occupancy rate</td>
<td>57.7%</td>
</tr>
</tbody>
</table>

**PERFORMANCE MEASURES TABLE - LEARNING**

6. We will ensure all of our citizens have access to quality life-long learning and educational opportunities.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten children needing reading remediation</td>
<td>11.30%</td>
</tr>
<tr>
<td>Number of children reached through the City's</td>
<td>34,328</td>
</tr>
<tr>
<td>Enrollment at the Virginia Beach Higher Education Center</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

7. Our schools and higher learning institutions will prepare a skilled and educated workforce.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of 3rd graders passing their Standards of Learning test in Reading</td>
<td>84.85%</td>
</tr>
<tr>
<td>High School Graduation Rate</td>
<td>78.6%</td>
</tr>
<tr>
<td>Dropout rate - Grades 7 through 12</td>
<td>1.34%</td>
</tr>
<tr>
<td>Number of industry certifications earned by students</td>
<td>4,164</td>
</tr>
</tbody>
</table>

* No data available
### PERFORMANCE MEASURES TABLE - WORK

8. We will support and value the traditional sectors as the foundation of our economy.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Jobs in the Tourism Industry</td>
<td>11,560</td>
</tr>
<tr>
<td>Economic impact of Agriculture (in millions)</td>
<td>$122.20</td>
</tr>
<tr>
<td>Economic impact of Aquaculture and Fisheries (in millions)</td>
<td>NDA*</td>
</tr>
<tr>
<td>Percent of the labor force in the armed services</td>
<td>5.00%</td>
</tr>
</tbody>
</table>

9. We will attract new businesses, entrepreneurs, and startups with our culture of innovation and sustainability to build a marketplace of the future.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of new high tech companies and start-ups located in Virginia Beach</td>
<td>NDA*</td>
</tr>
<tr>
<td>Number of new high tech jobs created</td>
<td>NDA*</td>
</tr>
<tr>
<td>Residents over the age of 25 who have a graduate or professional degree</td>
<td>10.9%</td>
</tr>
<tr>
<td>Residents over the age of 25 who have an undergraduate degree</td>
<td>31.6%</td>
</tr>
<tr>
<td>Cost of living compared to U.S. average</td>
<td>99/100 (2012)</td>
</tr>
<tr>
<td>Average weekly wage compared to U.S. average</td>
<td>$745/984 (2012)</td>
</tr>
</tbody>
</table>

### PERFORMANCE MEASURES TABLE - CONNECTIONS

10. We will ensure our infrastructure is high-performance and utilize the latest technologies, providing the highest level of service to our community.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of street system meeting minimum physical condition rating</td>
<td>76%</td>
</tr>
<tr>
<td>Percent of roads in the two lowest grades for transportation efficiency</td>
<td>18.4%</td>
</tr>
</tbody>
</table>

11. We will have an inter-connected, multi-modal transportation system providing efficient, safe, and affordable movement city-wide and linking to regional systems.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average commute time (in minutes)</td>
<td>23.4</td>
</tr>
<tr>
<td>Public transit ridership</td>
<td>NDA*</td>
</tr>
<tr>
<td>Miles of existing bikeways/trails</td>
<td>144.3</td>
</tr>
<tr>
<td>Walking or biking trips as a percent of all transportation modes</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

12. We are a technologically connected community where all people have internet and telecommunications access.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of free City Wi-Fi hotspots</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

* No data available
**PERFORMANCE MEASURES TABLE - AIR**

13. We will do our part as a community to continually improve the region’s air quality and reduce harmful greenhouse gas emissions and air pollutants.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Orange and Red Air Quality Days</td>
<td>4 (2011)</td>
</tr>
<tr>
<td>Percent Urban Tree Canopy coverage</td>
<td>36%</td>
</tr>
</tbody>
</table>

**PERFORMANCE MEASURES TABLE - WATER**

14. We will preserve and protect our water resources to ensure a continued potable drinking supply.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable water consumption per resident</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

15. We will achieve and maintain high water quality to ensure public health, protection and propagation of aquatic life, and recreation in and on the water.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of waterways that meet or exceed Total Maximum Daily Load requirements</td>
<td>NDA*</td>
</tr>
<tr>
<td>Number of beach closing or advisory days</td>
<td>3 (2011)</td>
</tr>
<tr>
<td>Acres of leasible shellfish beds</td>
<td>NDA*</td>
</tr>
<tr>
<td>Number of septic systems north of the Green Line</td>
<td>NDA*</td>
</tr>
<tr>
<td>Number of curb miles of street sweeping</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

16. We will promote the city’s valuable water resources for tourism, aquaculture, and as a center of excellence in marine and water quality research.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visitors to the Aquarium</td>
<td>635,212</td>
</tr>
<tr>
<td>Number of public beach and waterway access points</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

17. We will be engaged in ocean assessment, monitoring, and planning efforts related to potential development of the state’s offshore resources.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ocean assessment programs</td>
<td>NDA*</td>
</tr>
<tr>
<td>Number of person hours spent on ocean assessment, monitoring, and planning efforts</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

18. We will preserve and protect our groundwater aquifers from depletion and contamination.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual aquifer withdrawal</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

* No data available
### PERFORMANCE MEASURES TABLE - ENERGY

<table>
<thead>
<tr>
<th>Measure</th>
<th>NDA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>kWh used by the City and VBCPS</td>
<td></td>
</tr>
<tr>
<td>Miles driven by City vehicles</td>
<td></td>
</tr>
<tr>
<td>Number of City owned LEED or ENERGY STAR buildings</td>
<td></td>
</tr>
<tr>
<td>Number of properties qualified for the Energy Efficient Building tax incentive</td>
<td></td>
</tr>
</tbody>
</table>

20. We will support the research and production of clean energy and products.

<table>
<thead>
<tr>
<th>Measure</th>
<th>NDA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of energy supply from renewable sources</td>
<td></td>
</tr>
<tr>
<td>Number of green industry jobs in Virginia Beach</td>
<td></td>
</tr>
</tbody>
</table>

### PERFORMANCE MEASURES TABLE - LAND

21. We will have balanced land uses to allow the city's growth while preserving our agricultural land and open space for future generations.

<table>
<thead>
<tr>
<th>Measure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres of open space per 1000 population</td>
<td>16.12</td>
</tr>
<tr>
<td>Acres in the Agriculture Reserve Program</td>
<td>8,092.1</td>
</tr>
</tbody>
</table>

22. We will support and promote a culture of waste avoidance to maximize the lifespan of our landfills.

<table>
<thead>
<tr>
<th>Measure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Residential Waste Stream Recycled</td>
<td>17%</td>
</tr>
<tr>
<td>Tons of recycled materials collected by curbside recycling program</td>
<td>35,000</td>
</tr>
</tbody>
</table>

23. We will work proactively to address the impacts of sea level rise, land subsidence, and recurrent coastal flooding.

<table>
<thead>
<tr>
<th>Measure</th>
<th>NDA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of structures in areas vulnerable to recurrent flooding</td>
<td></td>
</tr>
</tbody>
</table>

* No data available
### PERFORMANCE MEASURES TABLE - NEIGHBORS

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>24. We will work together with our regional partners to promote our community resources that make Hampton Roads a great place to live and locate a business.</td>
<td>Number of local Colleges and Universities that are nationally ranked</td>
<td>NDA*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. We will work together with our regional partners to ensure the preservation and enhancement of our shared cultural and natural resources to support a high quality of life for our citizens.</td>
<td>Number of properties on the Historic Register</td>
<td>NDA*</td>
</tr>
<tr>
<td></td>
<td>Acres of land protected per person</td>
<td>NDA*</td>
</tr>
<tr>
<td></td>
<td>Stormwater treatment cost per person</td>
<td>NDA*</td>
</tr>
<tr>
<td>26. We will work together with our regional partners to streamline our services, realizing cost savings through shared, efficient public services.</td>
<td>Dollars spent per person on services</td>
<td>NDA*</td>
</tr>
</tbody>
</table>

* No data available
APPENDIX D
REFERENCES

(http://www.planning.org/policy/guides/adopted/sustainability.htm)
Campaign for Grade-Level Reading (http://gradelevelreading.net/)
City of Richmond, RVAgreen: A Roadmap to Sustainability
(www.richmondgov.com/sustainability/)
EarthCraft Homes (http://www.earthcraftvirginia.org/ or http://www.earthcraft.org/)
EPA Sustainable Communities (http://www.sustainablecommunities.org/ ; http://www.epa.gov/dced/partnership/;
http://www.epa.gov/aging/resources/sustainable-communities.htm)
EPA’s WaterSense Program (WaterSense) (http://www.epa.gov/watersense/)
Global Reporting Initiative (https://www.globalreporting.org/)
Hampton Roads Go Green (HR GREEN) (http://askhrgreen.org/)
International Council for Local Environmental Initiatives (ICLEI) Sustainability Planning Tool Kit, 2009
(http://www.icleiusa.org/sustainabilitytoolkit)
Mayor’s Alternative Energy Taskforce (http://www.vbgov.com/government/departments/city-clerk/mayor/Pages/alternative-energy-taskforce.aspx)
Miami-Dade County Green Print Plan, Our Design for a Sustainable Future
(http://www.miamidade.gov/greenprint/)
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(http://www.scgov.net/sustainability/documents/SustainabilityRoadmap.pdf)
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Sustainability at the EPA | United States Environmental Protection Agency
(http://www.epa.gov/Sustainability/)
Sustainable Cities: Siemens USA (http://www.usa.siemens.com/sustainable-cities/)
Urban Library Council, Partners for the Future: Public Libraries and Local Governments Creating Sustainable Communities
(http://www.urbanlibraries.org/research-publications-pages-6.php)
United States Department of Agriculture (http://www.usda.gov/wps/portal/usda/usdahome)
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Virginia Aquarium & Marine Science Center - Research & Conservation Programs
(http://www.virginiaaquarium.com/research-conservation/Pages/default.aspx)
   Stranding Response Program
   Sensible Seafood Program
Virginia Beach City Public Schools - Sustainable Schools (http://www.vbschools.com/GreenSchools/index.asp)
Virginia Beach City Public Schools - Sustainable School Liaison (SSL)
(http://www.vbschools.com/GreenSchools/OurThreeSustainableGoals.asp)
Virginia Beach Convention & Visitors Bureau (www.visitvirginiabeach.com/)
Virginia Beach Council of Civic Organizations (http://vbccp.org/)
Virginia Beach Project Green Teens (http://www.vbgov.com/government/offices/voo/Pages/project-green-teens.aspx)
Virginia Department of Conservation & Recreation (http://www.dcr.virginia.gov/)
This Glossary includes terms that appear in The Community Plan for a Sustainable Future that may not be familiar to the reader, and offers brief, simple definitions of the terms. The names of specific plans and reports are not included and are detailed in Related City Documents (Appendix B) and References (Appendix D).

Acre: A measure of land area that is 43,560 square feet. By comparison, the area of a football field is a little more than one acre.

Air Installations Compatible Use Zones (AICUZ): Encompass computer modeled areas recognized by the City and the U.S. Navy as being impacted by aircraft noise and/or the potential for aircraft accidents [Accident Potential Zones (APZ)].

Bikeway: A facility affording safe movement and access for pedestrians, bicyclists, and other non-motorized vehicles, including bike paths, lanes, and routes. There are three categories of bikeways:
- Bike Path: Separate trail facility or separated bikeway/walkway.
- Bike Lane: Signed and striped lane along the roadway.
- Bike Route: Marked route with adequate shoulder.

Carbon Footprint: The amount of greenhouse gases and specifically carbon dioxide emitted by something (as a person’s activities or a product’s manufacture and transport) during a given period.

Chesapeake Bay Preservation Area (CBPA): Describes those areas of land that are proximate to the shorelines of the Chesapeake Bay and its tributaries that have an intrinsic water quality value due to the ecological and biological processes they perform. These areas are designated as such on the Chesapeake Bay Preservation Area Map adopted by the City Council, subject to the determination of the City Manager on a site specific basis. A Chesapeake Bay Preservation Area consists of a resource protection area and a resource management area.

City-Owned Open Space: Open space lands such as parks, ballfields, and natural areas that are owned by the City of Virginia Beach.

Clean Energy: Energy derived from highly efficient, clean technologies, including renewable energy and combined heat and power. Clean Energy is practiced at the production of energy that will eventually be used in your home or office.

Complete Streets: Roadways that are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

Conservation/Natural Resources: Areas planned for little or no development where wetland, sensitive soils, and floodplains are present.

Density:
- Gross: The total number of dwelling units divided by the total developable land area.
- Net: The total number of dwelling units divided by the developable area remaining after open space areas have been deducted.

Dwelling Types:
- Multi-Family: Three or more dwelling units, surrounded by a yard that is in separate or common ownership.
- Single Family: A single family detached dwelling surrounded by yards.

Elements: Key areas of interest that encompass and organize the total Plan.

Environmentally Sensitive Area: An area with one or more of the following characteristics:
1. Slopes more than twenty percent;
2. Floodplain;
3. Soils classified as having a high water table;
4. Soils classified as highly erodible, subject to erosion, or highly acidic;
GLOSSARY OF TERMS CONTINUED:

5. Land incapable of meeting percolation requirements;
6. Land formerly used for landfill operations or hazardous industrial use;
7. Stream corridors;
8. Estuaries;
9. Mature stands of native vegetation;
10. Aquifer recharge and discharge areas.

Floodplain (100-year storm event): A federally defined, geographic area used for flood insurance and other purposes calculated to have a statistical probability of flooding once every 100 years.

Form-Based Code: A land development regulatory tool that places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of “place”.

Gateway: A specially designed entryway to an area of particular interest or character.

Goal: The achievement of a desirable outcome toward which effort, in the form of Objectives, is directed.

Green Building: A system of techniques used to build structures that are environmentally friendly, such as green roofs, water-saving devices, and natural materials.

Greenhouse Gases (GHG): Gases that absorb and subsequently emit the heat reradiated back from the Earth toward space, causing the Earth to warm as if in a greenhouse. Common greenhouse gases in the Earth’s atmosphere include water vapor, carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

Green Roof: A roof system that features a high-quality waterproofing membrane and vegetation four to six inches deep. Green roofs absorb rainwater, insulate and cool buildings, and lower the ambient air temperature in the vicinity.

Green Line: The boundary that separates the more urbanized northern area of the city from the Princess Anne Commons, Transition Area, and Rural Area. The extension of urban services for the purposes of supporting suburban and urban density residential development is not intended south of this line. The extension of sewer and water utilities is not intended south of Indian River Road (Rural Area Line).

Greenways: A greenway is a linear vegetated or open space area often bordering a water feature or trail corridor that can serve potential multiple benefits to the City, including passive recreational use, water quality buffering, wetlands mitigation, wildlife habitat, and natural heritage resource protection.

Groundwater: The supply of fresh water under the earth’s surface.

Hampton Roads Transit (HRT): The federally recognized regional transit authority, providing transit service to many of the region’s communities including the City of Virginia Beach.

Hampton Roads Transportation Planning Organization (HRTPO): The intergovernmental transportation planning body for the thirteen jurisdictions of Hampton Roads, including Virginia Beach. The HRTPO is recognized by the Federal Highway Administration and Federal Transit Administration as the region’s transportation planning organization.

High speed rail: Inter-city passenger rail, often operating on cargo rail tracks and/or right-of-way. Typical speeds can reach 90-110 mph. Amtrak’s ACELA train is an example of high speed rail.

Historic and Cultural Resource: Architectural styles, structures, sites, or archeological characteristics, often 50 years of age or older, that represent significant events in the development of a society.

Human Scale: The proportional relationship of the physical environment to human dimensions, acceptable to public perception and comprehension in terms of the size, height, bulk, and/or massing of buildings or other features of the built environment.

Impervious Surface: A surface that does not allow the absorption of water. Typical examples include paved parking lots, streets, roofs, patios, driveways. Impervious surface is usually calculated as a ratio to total developed area and is used, in part, to decide the size of stormwater management ponds and a rough estimate of an area’s potential pollutant load.
GLOSSARY OF TERMS CONTINUED:

**Infill Development:** Development or redevelopment that occurs on a tract of land encompassed by a larger area that is mostly developed.

**Intelligent Transportation System (ITS):** General term for a broad range of traffic management tools and technology, including communication, video, signal coordination, and other electronic capabilities.

**Intensity:** The degree, to which land is used, typically refers to the development levels of non-residential land as measured by Floor Area Ratio.

**Labor Force:** The number of residents that are more than 16 years of age and are either employed or looking for employment.

**Land Use:** A description of how land is occupied or used.

**LEED ™:** ‘Leadership in Energy and Environmental Design’ is an evaluation program, certified by the United States Green Building Council, which determines when building projects have met environmentally responsible design principles.

**Life Cycle:** The complete process of change and development during a life span. In this context life cycle is related to design, cost, and management of our infrastructure.

**Life-long Learning:** The ongoing, voluntary, and self-motivated pursuit of knowledge for either personal or professional reasons.

**Light Rail:** Intra-city public transit system, typically operated by electric engines at grade level or elevated on aerial structures, sometimes in the right-of-way of city streets. Typical maximum speed is approximately 60 mph.

**Military Installation:** An area used for military operations and support activities including a naval master fighter jet base, fleet combat training facilities, amphibious bases, and other facilities.

**Mixed Use:** A development consisting of a single building or multiple buildings, with each building containing a variety of compatibly planned residential and/or non-residential uses and designed to encourage pedestrian mobility.

**Multi-modal transportation:** Transportation networks that offer two or more modes, including pedestrian facilities, bikeways, public transit, and driving.

**Natural Resource:** A term used to describe the existing natural elements relating to land, water, air, plant and animal life of an area or a community and the interrelationship of these elements.

**Objective:** A measurable action required to achieve an over arching Goal.

**Open Space:** Any land, water, submerged land, marshes, or similar properties that serve to provide for: 1) park or recreational purposes; 2) conservation of land or other natural resources; 3) cultural or scenic purposes; and 4) offering natural relief from the built environment.

- Generally included in this definition are such land uses as waterways, ocean and bay beaches, related shorelines, golf courses, public and private parks, green areas, conservation areas, and wildlife refuges.
- Other Significant Open Space: Privately owned open space areas accessible to the public, such as golf courses.

**Park:** A tract of land, designated and used by the public for active and passive recreation.

**Public Facilities (Also known as Infrastructure):** Roads, schools, water & sewer systems, police/fire/emergency medical service facilities, parkland & recreation centers, libraries, landfills, and other publicly owned, operated, or maintained facilities that support the needs of a community.

(For example: “Urban public facilities” are usually distinguished from “rural public facilities” by their ability to support greater intensity of development and significantly higher costs. Typical examples of “urban public facilities” include multi-lane highways with curb and gutter and include underground stormwater/utility systems. Public water and sewer distribution systems that serve densities above one dwelling unit per acre are another example. By contrast, rural roads are normally designed as two lane facilities with soft shoulders and stormwater ditches along the edge of right of way. Rural water and sewer service is usually provided by individual, on-site wells and septic systems.)
GLOSSARY OF TERMS CONTINUED:

**Quality**: A degree or grade of excellence of a thing or service that helps fulfill the City’s Strategic Planning Goals and creates stronger linkages among value, beauty, function, and durability of such characteristics.

**Rain Barrels**: Barrels installed alongside buildings to capture rainwater runoff from roofs and gutters that would normally become stormwater runoff; water properly saved and maintained in the barrel can be used later for watering lawns and gardens.

**Resort Area**: Area located along the oceanfront that comprises a concentration of activities including lodging, entertainment, restaurant, leisure, cultural, and shopping.

**Recreation**:
- Active: Recreation requiring mental concentration or active physical participation, such as organized sports events.
- Passive: Activities requiring a limited amount of physical exertion.
  - Passive recreation is more closely associated with relaxed enjoyment of the natural features of an area, typically found in natural areas and wildlife refuges. Examples include bird watching and walking.

**Renewable Energy Resources**: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, and ocean energy.

**Solid Waste**: Unwanted or discarded refuse material.

**Southern Watersheds Buffer**: A 50-foot area from any wetland (based on soil type), shoreline, and waterway located in the Southern Watersheds Management Area of the City in which development is restricted in an effort to protect, enhance, and restore water quality; regulated under the City’s Southern Watersheds Management Ordinance.

**Stakeholder**: A person or group that has an investment, share, or interest in something.

**Strategic Growth Areas (SGA)**: These areas are planned to accommodate much of the future growth in Virginia Beach and are intended to prevent sprawl, preserve our established residential neighborhoods and rural areas, promote economic growth, and maximize efficient use of the city’s existing infrastructure systems. Because of their proximity to major road and planned transit corridors, and as they are not impacted by AICUZ restrictions, the Newtown, Pembroke, and North Rosemont Strategic Growth Areas are designated state-mandated Urban Development Areas.

**Strategic Planning Goals**: Seven goals that identify the reasons for the City of Virginia Beach’s existence. These are to:
- Promote Economic Vitality
- Promote Safe Communities
- Contribute to lifelong learning and education
- Enhance the quality of our physical environment
- Improve our cultural and recreational opportunities
- Strengthen our family and youth opportunities
- Promote a quality organization

**Stormwater Management**: A comprehensive program designed to administer, design, operate, maintain, enforce, and regulate development actions affecting flood control, drainage, water quality, and erosion and sediment control.

**Sustainability**: Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

**The Tide**: Virginia’s first Light Rail system, beginning operation in the City of Norfolk and operated by Hampton Roads Transit in 2011.

**Total Maximum Daily Loads**: A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.
GLOSSARY OF TERMS CONTINUED:

TRAFFIX: The Hampton Roads regional Traffic Demand Management program, a service provided through Hampton Roads Transit.

Transition Area: An area centrally located in the city generally south of North Landing, Princess Anne, and Sandbridge Roads and north of Indian River Road. This area is planned for low density development at calculated densities not to exceed one dwelling unit per acre.

Transit Oriented Development (TOD): Higher urban development patterns of mixed-use, commercial, and office development focused around public transit stations, typically with pedestrian friendly amenities.

Tree Canopy: The above ground cover of foliage that trees provide.

Triple Bottom Line: The triple bottom line (TBL) consists of three Ps: profit, people, and planet. It aims to measure the financial, social, and environmental performance of the organization/corporation over a period of time.

Urban Center: Areas planned for high-rise, mixed-use activities including office, retail, residential, cultural, entertainment, and other uses, integrating a multi-modal transportation system and providing pedestrian based storefront shops along wide, attractive sidewalks.

Vehicle Miles Traveled (VMT): A measure of the total number of miles driven by all vehicles within a given time period and geographic area. It is the most all-encompassing indicator of travel consumption.

Virginia Beach Outdoors Plan: This document presents the City’s plan to create a comprehensive system for outdoor recreation and natural resources. The Outdoors Plan defines the City’s philosophy regarding the protection, planning, design, financing, construction, maintenance, and management of its natural and recreational resources of an outdoor nature.

Vision: A description of what it looks like when we “get it right,” achieved by the accomplishment of a series of Goals, and expressed in the present tense.

Watershed (Drainage Basin): Refers to a defined land area drained by a river or stream or a system of connecting rivers or streams so all surface water within the area flows through a single outlet.

Waterways: Natural and man-made water bodies within the City of Virginia Beach.

Wetlands: The term is applied to those areas where: the soil is ordinarily saturated with water; or where the dominant plant community is one or more of those species designated by the U. S. Army Corps of Engineers as identifying wetlands or the transitional zone of wetlands; or there exist “vegetated wetlands” or “nonvegetated wetlands.” Wetlands can be classified as:

- Tidal: An area largely composed of coastal marshes, mudflats, and mangrove swamps that are subject to periodic flooding by ocean tides.
- Nontidal: An area inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, vegetation typically adapted for life in saturated soil conditions.
- Nonvegetated: All land laying next to mean low water and mean high water not otherwise included in the term vegetated and those areas subject to flooding by normal tides including wind tides, but not including hurricanes or tropical storm tides.
- Vegetated: Land lying between and next to mean low water and an elevation above mean low water equal to one and half times the mean tide and has certain vegetation growing on it.

Wi-Fi: The name of a popular wireless networking technology that allows an electronic device to exchange data wirelessly over a computer network, including high-speed internet connections.

Zoning: The classification of a municipality into districts with regulations governing the use, placement, spacing, and size of land and buildings.