

## 2. Context

Sussex County residents speak with passion about the joy of being in the middle of a quiet salt marsh at sunset, the thrill of watching an osprey soar over their street, the pleasure of driving past waving fields of corn, or the enjoyment they get from being able to bike around the area easily. The things that attract new residents to Sussex County and that keep lifelong residents here must be preserved to keep Southern Delaware the place that people love. Good, thoughtful development can help preserve the natural landscape, the wildlife, the coastal and the rural landscapes, the agricultural lifestyle, and the distinctive housing styles that have been seen around the county for a hundred years or more.

That said, change is coming to Sussex County, and many aspects of life that current residents are used to will change. There will be more residents; there will be more development; there will be more traffic. It's up to Sussex County residents to make development bring the

amenities they want—like more local-serving stores, more jobs, more housing choices, and more transportation options—and to make the increase in traffic as bearable as possible by diffusing it over a wider network and by giving people other choices, like walking, biking, or taking transit.

Some neighborhoods in Sussex County already show how more sustainable development can look in this area. In the Villages of Five Points, for example, a mix of uses makes it possible for residents to walk to the grocery store when they just need to pick up a few items, instead of having to get in the car and deal with traffic just to buy a gallon of milk. Places like Milton and downtown Lewes show the value of preserving what you have and making sure that new development and renovation of existing properties fit with the character of the community. Tourism is very important to the county, and tourists want to visit destinations that look and feel unique, like downtown Lewes.



Figure 2. Marsh in Prime Hook Wildlife Refuge.



Figure 3. Town center in the Villages of Five Points.

There is pent-up demand for other housing options in the county, including less expensive housing for teachers, nurses, and other essential community workers, and condos and apartments as second homes and retirement options for people used to living in a setting where they can walk to most of their daily needs and interact with their neighbors. The predominant housing option in the county has been single-family homes on relatively large lots. But young people just starting out, service workers, teachers, nurses, and other workers can't afford those homes and have to commute from a long way away.

## 2.1 Population and Other Growth Trends

Sussex County's population in 2005 was estimated at 176,192 people. By 2030, the Delaware Population Consortium estimates, it will grow to 253,240,<sup>2</sup> a 44 percent increase. The biggest change will be in the population aged 65 years and over, which is projected to more than double.

Age group	2005	2030	Change in absolute numbers	Percentage change
0-19 years	40,366	56,169	15,803	39%
20-64 years	100,167	122,809	22,642	23%
65 years and up	35,659	74,262	38,603	108%

**Figure 4. Population change in Sussex County by age group, 2005 to 2030.** (Source: Delaware Population Consortium, Annual Population Projections, 2007.)

These demographic trends have significant implications for community design. Communities around the nation are starting to wake up to the wave of baby boomers that will be retiring in the next decade or two and are trying to



**Figure 5. The historic and small-town character of Lewes.**

accommodate these retirees with community design that gives them the amenities they want and lets them stay independent for as long as possible. Sussex County is an attractive destination for retirees,<sup>3</sup> particularly from large nearby cities like Washington, Baltimore, or Philadelphia. As these people look for a vacation home—and, eventually, a home to live in full-time after retirement—they seek places that offer the same amenities as the urban neighborhoods they have lived in all their lives: a lively sense of community; stores, parks, churches, restaurants, and other attractions within easy walking distance; and safe and pleasant sidewalks and biking and walking paths. They may not want to have to mow a lawn or take care of a big house. They may want to be assured that they can continue to get around on foot or with public transit if they no longer feel comfortable driving.

<sup>2</sup> Delaware Population Consortium. Annual Population Projections. October 23, 2007. Data tables available at [stateplanning.delaware.gov/information/dpc/dpc\\_2007v0\\_final.xls](http://stateplanning.delaware.gov/information/dpc/dpc_2007v0_final.xls). Accessed January 11, 2008.

<sup>3</sup> For example, see Sarah Mahoney, "Dream Towns," *AARP Magazine*, July and August 2006. Available at [www.aarpmagazine.org/lifestyle/dream\\_towns.html/page=3](http://www.aarpmagazine.org/lifestyle/dream_towns.html/page=3). Accessed January 11, 2008.

Nationally, about 21 percent of Americans aged 65 and older don't drive—for health or safety reasons, because they don't have access to a car, or out of personal preference. Because so many communities around the country are designed for automobile use, these non-drivers find themselves having to stay home, which makes them feel isolated and cuts them off from the community and from participating in the economy, or having to ask someone for a ride, something that about half of them are reluctant to do because they do not want to impose on others or feel dependent. Compared to older adults who drive, non-drivers make 15 percent fewer trips to the doctor, 59 percent fewer restaurant and shopping trips, and 65 percent fewer trips for social, family, and religious reasons.<sup>4</sup> The

potential physical and mental health ramifications of this isolation are troubling.

Where older non-drivers have the option to walk or use public transportation, they do so, but in areas where they can only get around by car, they are left with the unappealing choice of staying at home or asking for a ride. A community that gives all its residents options besides driving will help these older residents avoid having to make such choices, something that even drivers will appreciate as they anticipate a time when they can't or don't want to drive.

Of course, these types of walkable, amenity-rich communities appeal to all ages, not just senior citizens. Children also enjoy the freedom of

Older non-drivers who...	in a compact, walkable community	in a spread-out, automobile-dependent community
... stay home on a given day	43%	61%
... use public transportation at least occasionally	1 in 2	1 in 20
... walk on a given day	1 in 3	1 in 14

**Figure 6. Mobility for older non-drivers in compact communities versus spread-out communities.** (Source: Bailey, Linda. *Aging Americans: Stranded Without Options*. Surface Transportation Policy Project. April 2004.)



**Figure 7. People enjoying the different ways to get around Lewes.**

<sup>4</sup> Bailey, Linda. *Aging Americans: Stranded Without Options*. Surface Transportation Policy Project. April 2004. p.4. Available at [www.transact.org/report.asp?id=232](http://www.transact.org/report.asp?id=232).



being able to get around the neighborhood without needing a ride. Many other people want to live in a place where a coffee shop or ice cream parlor is a short walk from their home, where they can choose whether to drive to work or to bike, and where they can run into their neighbors walking around the neighborhood.

## 2.2 Smart and Sustainable Growth

Sustainable communities need to be successful in three areas: economy, equity (social issues), and environment.

### *Economy*

Economic success includes making sure good jobs are available, jobs that offer people opportunities and a living wage. Development could benefit the whole community by providing new opportunities. For example, one idea suggested during a stakeholder discussion with the team was to encourage light-industrial structures to allow live/work units where artisans—boat builders, furniture makers, weavers, and tailors—could live on upper floors and work in ground-floor workshops with storefront windows. Passersby could watch beautiful objects being created and then come in and buy them.

Economic success also means preserving and enhancing Sussex County's existing industries. In the eastern part of the county, the beautiful beaches, salt marshes, and historic towns are what attract tourists. Preserving these assets in the face of growth will protect the county's distinctive character and appeal. In the western part, agriculture needs not only land on which to raise poultry and other livestock and grow crops, but also a buffer between farm fields and houses. Otherwise, farmers may find themselves dealing with complaints from neighboring homes about smells from livestock, spraying on fields, or loud machinery being used early in the morning.



EPA

Figure 8. The Lewes and Rehoboth Canal.

Rural economies also include small cities and towns that provide stores, services, and civic institutions and can serve as transportation hubs. Much of what people like about rural life involves these small towns and their relationship to the land surrounding them. As a different type of economic development advances into rural areas, people may feel like things are changing for the worse, but they might not be able to pinpoint how or why. Preserving a rural community—just like preserving any other type of community—depends on the local residents deciding what they like about their community and what they want it to be, and then finding the tools and resources to fulfill that vision. To succeed, rural communities must help existing places to thrive and build great new places.

The team did not have the opportunity to explore rural growth strategies, but team members did hear throughout the site visit that residents in western Sussex County want to keep the jobs and other benefits from agriculture, and landowners want to retain economic use of their land. Appendix E contains some resources to help the county preserve what people love about the rural areas and find new development strategies that are appropriate for the rural lifestyle.

Uncontrolled, dispersed growth in rural areas is expensive to serve. A 2006 American Farmland Trust study found that Delaware's capital budget increased by almost 250 percent from 1986 to 2005, eight times greater than the state's population increase and six times greater than the growth in housing units. The land consumption per new housing unit grew at about the same rate as the capital budget, and the relationship is not coincidental: as houses use more and more land, they are spread farther and farther apart. The state has to spend more on extending utility lines, roads, and other infrastructure to these dispersed homes, and it has to spend more on associated expenses, like transporting children to school. The study also found that the state spending on school transportation per student rose 235 percent from 1970 to 2005, even though the number of students declined. Although many factors are behind that rise, at least part of it is the increased distance school buses must drive to reach all the students they serve.<sup>5</sup>

## *Equity*

Equity, or social issues, refers to giving everyone the same basic opportunities to succeed. In terms of community development, this means making sure that a wide range of housing options are available, so that people can choose among single-family homes, townhouses or condos, and apartments. They can choose to rent or own. They can find a safe, comfortable home that they can afford without having a long commute to work. Of course, some people will choose a longer commute as a trade-off for having a larger home or more land, but they should be able to make that trade-off because they want to, not because they have no other option.

Just as people need choices in housing to have a fair chance at success, they also need options for getting around. Not everyone can afford a car; others may not want or be able to drive. As

the price of gas rises, some drivers may want to drive less to save money on gas. By creating walkable communities with amenities to make biking and walking safe and pleasant, and offering public transit options like buses and shuttles, Sussex County can help its residents find less expensive and more environmentally friendly ways of getting around. In the process, the county is giving its residents more freedom by expanding their mobility and giving them more access to jobs and educational opportunities.

Fairness and equity mean balancing individual rights with community benefits. Property owners in Sussex County, particularly farm owners, are concerned that changes in land use policies could diminish their land's value or limit what they can do on their land. They appreciate the benefits to the community of preserving open space or directing development to certain areas, but they want to make sure that they can still get economic value from their land. Many other places around the country have dealt with similar issues and have found solutions that protect both the rights of property owners and the rights of the community as a whole. Some of these solutions are discussed in Section 6.1; other resources can be found in the rural development section of Appendix E.

Social equity considerations also include public health issues. Some health problems are caused by environmental factors, like air or water pollution, that can be mitigated through smarter development. A major problem in much of the nation is lack of daily physical activity, which can lead to obesity, heart disease, high blood pressure, and diabetes, as well as contributing to depression, respiratory problems, and other ailments. Delaware has an adult obesity rate of about 24 percent (ranking 29<sup>th</sup> in the nation) and a child obesity rate of about 15 percent (ranking 19<sup>th</sup> in the nation). More than 22 percent of

<sup>5</sup> American Farmland Trust. "Trends in Delaware's Growth and Spending: Technical Report." May 2006. Available at [www.farmlandinfo.org/delaware](http://www.farmlandinfo.org/delaware).

adults in Delaware do not engage in any physical activity.<sup>6</sup>

In response to what many health experts are calling an epidemic of inactivity, some communities are designing neighborhoods to make it easy for residents to get physical activity as part of their daily routines. For example, a person could get the recommended 30 minutes per day of activity just by walking to and from a store ten minutes away and then walking five minutes to and from a park near his or her home. Children can walk to school, their friends' houses, a park, or after-school activities without relying on a parent to chauffeur them.

## Environment

Many people move to Sussex County because of its beautiful natural environment. Keeping the environment healthy means, at the most basic level, reducing or preventing pollution. The stormwater management solutions presented in this report are one way of keeping pollutants out of the water.

Climate change and energy use are rising concerns for many state and local governments and their constituents. By building more compactly and offering more transportation options besides driving, the county can help reduce its energy use and greenhouse gas emissions. Studies have found that building more compact, walkable communities can reduce driving by 20 to 40 percent, which in turn reduces air pollution and greenhouse gas emissions.<sup>7</sup>

Sussex County's coast is vulnerable to projected sea-level rises and to the more frequent and more severe storms forecast as the climate

changes. Beach erosion, flooding, wind damage, and heat waves could all increase in the coming decades.<sup>8</sup> The county may also want to consider how it could adapt to the changing climate. Measures to consider include building more wind- and water-resistant homes, adapting flood maps to new projections and prohibiting building in the newly designated flood plains, and keeping development away from wetlands and beaches to allow a buffer for storm surges. The projected increase in frequency and severity of precipitation will affect the county's storm sewers and other infrastructure. Stormwater management solutions that hold and filter runoff are one way to reduce the volume of water flowing into the storm sewers; these measures are discussed more in Section 5.

The natural landscapes of Sussex County are attractive, but they also provide environmental functions by creating wildlife habitat and filtering stormwater runoff. The county can protect these open spaces by determining where it makes sense to grow and where the natural landscape should not be disturbed. Preserving natural lands gives people places for recreation and relaxation and helps keep the county's air and water cleaner.

## 2.3 Managing Stormwater Through Smart Growth Strategies

For the last few decades, stormwater management has meant control and treatment strategies that use hard infrastructure, focus on the "end of the pipe" instead of the source, and concentrate on site-specific practices that mainly

<sup>6</sup> Trust for America's Health. *F as in Fat: How Obesity Policies Are Failing in America*, 2007. Delaware-specific highlights available at [healthyamericans.org/reports/obesity2007/release.php?StateID=DE](http://healthyamericans.org/reports/obesity2007/release.php?StateID=DE). Accessed January 11, 2008.

<sup>7</sup> For more information, see Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. *Growing Cooler: The Evidence on Urban Development and Climate Change*. Urban Land Institute: Washington, DC. 2008. The book's executive summary is available for free at [www.smartgrowthamerica.org/gcindex.html](http://www.smartgrowthamerica.org/gcindex.html).

<sup>8</sup> For more details on potential effects of climate change, see U.S. Climate Change Science Program. *Weather and Climate Extremes in a Changing Climate*. 2008. Department of Commerce, NOAA's National Climatic Data Center.



Figure 9. Pond in the Prime Hook National Wildlife Refuge.

address flood control. Conventional practices, however, fail to address the widespread and cumulative hydrologic modifications within watersheds that result in increased stormwater volumes and runoff rates and cause excessive erosion and stream channel degradation. Existing practices also do not adequately treat for other pollutants of concern, such as nutrients, pathogens, and metals.

While conventional stormwater approaches drain individual sites, expanding development over the past years means that too much water, carrying too much pollution, is running into drains and receiving water bodies. The results are poor water quality, especially at drain outlets, and a dramatic drop in the refill rate of aquifers and streams. The 20 regions in the country that developed the most land between 1982 and 1997 now lose between 300 and 690 billion gallons of water annually that could otherwise have

filtered through the earth and been captured as groundwater.<sup>9</sup>

Today, stormwater management is evolving beyond engineered approaches applied at the site level to an approach that manages stormwater at the regional (or watershed), community (or neighborhood), and site (or block) scales through natural approaches. Commonly referred to as green infrastructure, these strategies manage stormwater in a cost-effective, sustainable, and environmentally friendly way. Green infrastructure is the use of soil, trees, vegetation, wetlands, and open space to reduce total runoff and treat what is produced through capture and reuse or infiltration of rainwater. A comprehensive green infrastructure approach to stormwater management seeks to:

- **Preserve:** Protect and enhance natural features, such as undisturbed forests,

<sup>9</sup> American Rivers and Smart Growth America. *Paving Our Way to Water Shortages: How Sprawl Aggravates The Effects of Drought*. 2002.

---

meadows, wetlands, and other natural areas.

- **Recycle:** Recycle land by directing development to already degraded land like parking lots, vacant buildings, or abandoned malls.
- **Reduce:** Reduce land consumption and development footprints by using land efficiently.
- **Reuse:** Capture and reuse stormwater by directing it back into the ground through infiltration, evapotranspiration, or reuse techniques.

Conventional wisdom and common practice assume that lower-density development, such as large-lot zoning, provides sufficient open space to minimize any development-related impacts on water quality. However, recent research has found that dispersed, low-density development can exacerbate nonpoint source pollution by converting absorbent open space into compacted lawns and increasing impervious surface with numerous driveways, parking lots, and roads. Smart growth strategies encourage more compact development, with natural areas protected for their aesthetic, recreational, or ecological value.