West Trenton Line Station Area Design Study

Prepared for: The Somerset County Planning Board

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Somerset County was once served by New Jersey Transit’s West Trenton commuter rail line, with stops in Montgomery and Hillsborough Townships. The service was discontinued by New Jersey Transit in 1982, but is being considered for possible reactivation. Considering the strategic location of both Townships between New York and Philadelphia, reactivation would provide additional transit options for residents of Somerset County and provide easier connections for residents to Newark, and New York as well as Trenton and Philadelphia. The reactivation of passenger service on the West Trenton Line is tied to the completion and opening of two new rail passenger tunnels and related capacity improvements into Penn Station, New York. The estimated completion and opening of the new rail passenger tunnels is 2017.

Montgomery and Hillsborough, two communities which have slowly transformed from farmland to residential suburbs, are examining ways to counteract suburban sprawl and strategically plan for future growth. Through extensive study and analysis, Somerset County selected Hillsborough Township and Montgomery Township to participate in a planning study intended to produce guidelines and design framework related to station area plans and to create and enhance community resources. The general goal of the West Trenton Line Station Area Design Study is to assist the two communities long range planning efforts by providing a conceptual land use framework to update municipal zoning ordinances, master plans and undertake visioning to further smart growth plans for the Hillsborough Township Transit Oriented Village and the Montgomery Township Belle Mead node. The study will explore the differences between “Transit-Ready” Development and “Transit-Oriented” Development and examine the positive and negative impacts that Transit-Ready Development might have on communities.

Somerset County believes that communities need to demonstrate a commitment to Transit Ready Development planning in order to receive the needed support from appropriate State and Federal agencies. The communities expressed an interest in exploring how the vacant land near and adjacent to the existing and proposed rail stations might be best developed in the future. Hillsborough and Montgomery are interested in planning wisely for appropriate and desirable growth and to take advantage of transit options when they become available. Both communities intend to utilize Transfer of Development Rights (TDR) to support mixed use and residential development. As of this printing, Montgomery Township has indicated that a TDR program may not be economically feasible and will re-examine the possibility of locating a rail station to take advantage of their existing housing stock.

During the study, the logical question asked by many stakeholders was, “How long before train service is activated?” Since there is no definitive answer to the question at this point, the study examined how the vacant...
land surrounding the future train stations could be developed with or without train service. General Smart Growth land use recommendations and zoning and design concepts have been outlined in this report to guide future discussions and assist the communities with future visioning and planning activities as NJ Transit furthers its own study of the reactivation of passenger rail service along the West Trenton Corridor.

The Opportunity
At this pivotal time, Hillsborough and Montgomery Townships are taking full advantage of the distinct window of opportunity to do long-term planning. The immediacy to engage in long-term planning is not always understood: what is the rush when generating a 10 or 20 year vision for a community? However, it is important to coordinate efforts and the West Trenton Line Station Area Design Study aims to build upon these current efforts.

The Townships are currently working on several other planning initiatives and the West Trenton Design Study aims to build upon these current efforts.

- Reactivation of Passenger Service on the West Trenton Rail Line: The reactivation of the West Trenton rail line is a long-term planning initiative and the service would provide a new transit option in central New Jersey. Due to funding issues, service on the West Trenton line was discontinued in 1983. Currently, New Jersey Transit is interested in providing commuter service between West Trenton and New York City.

- Route 206 By-Pass Alignment: Communities have called for the redesign of Route 206 to relieve congestion in their towns. In Hillsborough, once the Route 206 bypass is completed, the old section of Route 206 will become a “Main Street” enabling a pedestrian friendly, mixed-use Town Center to be created.

- Local planning initiatives: Both communities are in the process of development of Transfer of Development Rights (TDR) plans in order to encourage and direct development to appropriate areas of the towns while preserving valuable open space.

Hillsborough residents and Township officials have been planning for a town center, the first in community’s history, to create an identity and a center of commerce and community life.

- CSX Bridge replacement in Montgomery Township: The Bridge over the CSX Railroad on Route 206 just north of Trent Avenue needs to be replaced due to structural integrity and acute existing traffic safety problems affecting the existing alignment. NJDOT is developing design plans at this time.

The communities have gone beyond synthesizing information, studies and initiatives. Through this study both townships are shaping and generating new frameworks and initiatives employing smart growth planning concepts. Montgomery and Hillsborough have already successfully generated plans for mixed use neighborhoods with a range of community resources such as transit services and a mix of land use types.

The Process
The community residents and implementing agencies had several opportunities to shape the planning and development framework and, as a result, establish their short-term and long-term priorities. The consultant team in conjunction with the stakeholders advanced the study based on the following concepts:

- Build upon a significant existing body of work and on-going analysis. For example, the Hillsborough Master Plan set out development objectives and community priorities for the “Transit Village” and other areas (i.e. the “Town Center” area).

- Advance an ambitious public participation process. Community outreach and participation were critical components of the Design Study. The Montgomery outreach process consisted of several discussions with
residents and stakeholders, five (5) Steering Committee meetings and one public workshop. The public visioning workshop in Montgomery, was the major force in developing community Project Goals. Hillsborough’s public outreach process included stakeholder interviews; four (4) Steering Committee and Stakeholder Committee meetings; and one public workshop.

Advancing an ambitious public participation process heading that reads The hands on design workshop format allowed participants the freedom to express their own vision while working within the context of the physical capacity/limitations and fiscal constraints facing each township. This method educates participants about the fiscal, social and environmental impacts related to planning and zoning actions. Participants also benefited from an increased awareness of and appreciation for design of the built environment and public place making.

- **Establish Guiding Principles.** Principles generated in the beginning of the process ensured that the final recommendations are based on shared priorities and goals. For example, one of Hillsborough’s guiding principles was “Transit-Ready Development does not only apply to train service.”

- **Employ and incorporate anti-sprawl and anti-auto dependent development that is environmentally, fiscally, and economically smart.** Some of the critical planning concepts include:
  - Transit Oriented Development
  - Transit Ready Development
  - Smart Growth
  - Transfer Development Rights if feasible and practical
  - Sustainable design; open space and greenway networks
  - Retro-fitted commercial areas
  - Development Best Practices
  - Pedestrian and bicycle friendly

- **Promote/emphasize the synergy between land use and transportation planning and the need for compatible strategies.** By emphasizing the land use and transportation connection, the study has helped stimulate development of progressive, innovative smart growth plans while working to secure future opportunities to advance Smart Growth planning initiatives.

The Federal Transit Administration (FTA) emphasizes the importance of having transit ready or transit oriented development zoning in place as part of its new starts funding program criteria. Reactivation of passenger rail service on the West Trenton Line may seek funding under the FTA small starts program in which projects that have transit oriented or transit ready development zoning already in place score higher and have a better chance of receiving a favorable rating necessary to receive funding.

**Project Goals**
During initial discussions with residents and during the Steering Committee and Stakeholder kick-off meetings, the County, municipalities and consultant team articulated the following project goals.

- Seek out a broad array of perspectives to have a thorough and constructive discussion. It is important that the final product is shaped by a range of perspectives.

- The Steering Committee, the stakeholders (agency and community representatives) and the general public- with the guidance of the consultant team- will generate a series of transportation and land use-related recommendations.

- The recommendations will articulate community priorities and also allow the community to be proactive rather than reactive to development forces and market trends.
An implementation strategy is a typical component found in most planning studies. A viable implementation strategy is critical to the success of the West Trenton Line Station Area Design Study. Since the action items stem from discussions with implementing agencies and informed stakeholders, the community can be assured that although the proposed solutions may be innovative, they are still achievable. Based on a realistic understanding of the issues and opportunities, the community through the stakeholder and steering committees helped shape the implementation strategy.

The planning process emphasized the need for a design framework that was appropriate for both communities where actual train service may not be realized for many years in the future.

To ensure the development goals are attainable in an ever changing real estate market, it is important for the development framework to remain flexible, yet rooted in the guiding principles. Montgomery’s and Hillsborough’s Transit Ready development framework is based on important pedestrian-friendly, compact development components and a programmatic goal to secure state and or federal smart growth funding by insuring transit supportive land uses are in place for the transit village and train station areas. The walkable concept is based on train station areas. This concept is based on:

- **Connectivity**
  It is a community priority to have circulation options. Multiple east-west and north-south connections will provide appropriate access from the transit area to existing destinations and surrounding neighborhoods and create an accessible and pedestrian friendly transit area. The new transit ready development needs to stitch well with the existing context of the communities.

- **Development district best practices** include: appropriate land uses; densities; building scale; and orientation.
Transit service is not limited to train service. In most communities there is an opportunity to provide or expand bus, jitney and or shuttle service such as in Hillsborough.

Transit Service in and of itself is a good thing. It is a policy and programmatic benefit when transit service such as bus and jitney lines make the case for additional service (i.e. rail service).

In order to become transit-ready prior to the reactivation of train service, it is suggested that communities consider forming a transit hub by attracting various forms of public transportation. During the planning process, several viable transit recommendations emerged and make a strong case for rail service. For example in Hillsborough, existing bus service could be extended to the station areas or a pilot program for shuttle service to nearby active train stations, neighborhoods or to regional destinations such as New Brunswick could be employed. The alternative transportation options would begin to establish a set pattern of behavior; transit ridership numbers would increase and make a strong case for rail service.

Implementation strategy
Based on significant public feedback, rigorous analysis and meaningful design solutions, the study participants and consultant team generated a viable implementation strategy with both short-term and long-term action items. The implementation items will not only help create a transit ready environment but also build an argument for the reactivation of the West Trenton line. Hillsborough has articulated its transit and development goals and will continue to work hard to advance these goals. Montgomery is continuing its efforts to appropriately plan for the possible reactivation of rail service on the West Trenton Line. Implementation agencies such as NJDOT, NJ Transit and Somerset County are also needed to contribute to a comprehensive effort to insure its success.

Hillsborough and Montgomery have clearly articulated a dissatisfaction with the increased traffic, neighborhood isolation, and increased fiscal costs associated with sprawled development and are seeking strategies to improve the overall quality of life. One way to achieve this is to incorporate policies and regulations that promote progressive planning measures such as diversity of land uses, housing types, pedestrian and bicycle friendly environments and fiscal social and environmental sustainability.

The following are several short and long-term implementation recommendations generated by this study which require programmatic and financial support of Federal, State and County agencies:

- Incorporate Transit Ready Development framework into zoning regulations
- Provide critical multimodal transportation connections between existing and new development
- Provide streetscape improvements
- Implement greenways and open space
- Implement area-wide shuttle system
- Implement transit (jitney or bus) to nearby train stations
- Implement transit (jitney or bus) to nearby destinations
- Implement LID and green infrastructure
Purpose of report

The main purpose of the report is to document the information and analysis used to develop the planning and design framework, summarize the community outreach process and describe the implementation strategy. The latter is an essential road map for the community to continue to advance the action items, form useful partnerships and secure the appropriate funding.

The report and implementation strategy will also be used by the community to advance recommendations. While transit service is not needed to generate good land use and design framework, it is critical to continue a proactive campaign to realize the reactivation of passenger service on the West Trenton Line. Rail service would accelerate all of the community’s Transit Ready development goals.

Background and Study Purpose

Somerset County through a NJTPA grant retained Phillips Preiss Shapiro Associates (PPSA), Regional Plan Association and Howard/Stein-Hudson Associates to develop design concepts for transit ready development area in Montgomery and Hillsborough Township. A multi-disciplinary team was selected to advance a comprehensive approach.

Hillsborough and Montgomery adjoin each other. The communities are approximately 60 minutes from New York City, 75 minutes from Philadelphia, Pennsylvania, 15 minutes from downtown Princeton, and are approximately 20 minutes from New Brunswick, New Jersey.

Hillsborough and Montgomery are ten miles from one another. The communities are approximately 60 minutes from New York City, 75 minutes from Philadelphia, Pennsylvania and 15 minutes from downtown Princeton. The two towns are approximately 20 minutes away from New Brunswick, New Jersey.

Montgomery Township

Montgomery Township is located in the southern tip of Somerset County and is situated between the Millstone River Valley and the Sourland Mountains.

As of the 2000 Census, there were 17,481 people, 5,803 households, and 4,781 families residing in the township. The median income for a household in the township was $118,850, and the median income for a family was $129,150.

Between 1990 and 2000, there was an 80% increase in population.

There are several national, state and locally-designated historic districts and structures located within the Township. Transportation was a major industry in Montgomery Township during the 19th century. The Delaware and Raritan Canal was constructed on the municipality’s eastern border with Franklin Township during the 1830’s. The railroad arrived in the
Figure 6: Montgomery aerial photograph of the Belle Mead node
Figure 5: Recent major development in Hillsborough Township (PPSA)
1870’s: the Central Railroad of New Jersey had stops in several local villages. Today the railroad is used only for freight traffic. Today, Montgomery Township is now a predominantly residential community with a modest amount of commercial, retail, and office uses and significant open spaces. The Township has planned for nonresidential and mixed use growth in two areas: the Rocky Hill node located at the intersection of County Route 518 and State Route 206 and the Belle Mead node, located at the northern end of the Township and which is the subject of this study.

**Hillsborough Township**

In terms of geographic area, Hillsborough is the largest Township in the County. As of the 2000 census, Hillsborough had a population of 36,634 people, 12,649 households, and 9,802 families residing in the Township. Similar to Montgomery, Hillsborough has a high median income. The median income for a household in the township was $83,290 and the median income for a family was $93,933.

There has been significant population increases since 1950. Between 1950 and 1960, the population grew 95%. From 1970 to 1980, Hillsborough’s population grew approximately by 72%. Similar to Montgomery Township, Hillsborough has been shaped by rapid development during the past decades and has changed from rural to a suburban character. Both communities are pro-actively planning to reinforce positive built and open space character in order to resist sprawl. The landscape is defined by predominantly single family homes, some of which are century-old houses. Recent new construction delivered townhouses, condominiums and rental apartments onto the market.

At one time there were approximately 300 farms in Hillsborough; the farmland is what attracted many residents to the community. There is still a significant amount of open space including 26-acre Mark Singley Park off Amwell Road in the northwestern corner of town, the Royce Brook Golf Club which is a private 440-acre facility located on the eastern part of town. The Duke Gardens and Duke Farms are located in the north-eastern portion of town. The 2,700 acre Duke Farm is now one of the few remaining large natural areas in Hillsborough Township.

**Transit Ready Development in Communities**

While Transit Oriented and Transit Ready Development are extremely powerful tools and have incredible potential, rail service in and of itself will not transform these places. This means it is essential to look comprehensively at the entire area and identify ways in which Transit Ready Development can reinforce the already accepted policies and larger community quality of life objectives. It should be noted that some of the likely impacts resulting immediately adjacent to each train station from transit ready development include increased traffic along with positive community wide impacts such as improved connectivity and new public and private facilities such as parks and retail destinations.

Beyond the likely impacts immediately adjacent to each station area, Transit Ready planning and growth in both Hillsborough and Montgomery Townships could potentially have significant, positive community-wide impacts.

Montgomery was selected as an appropriate area to receive a station area plan because there are two station locations being considered by the Township in conjunction with the proposed reactivation of passenger service on the West Trenton Line. After Hillsborough completed its Master Plan the township was selected as an appropriate area to receive a station area plan, and to create and enhance community resources. As part of the Plan, the Township designated a “Transit Village” which is located adjacent to new proposed Route 206. Hillsborough Township designated a nearby area as the Town Center which is located along existing Route 206 between Raider Boulevard and Andria Drive.

Hillsborough Township designated one area as the Town Center which is located along existing Route 206 between Raider Boulevard and Andria Drive.
**Significant Public Participation**

The purpose of the public participation process is to provide members of the public with an opportunity to participate in an exchange of information with local officials and pose challenging questions. Several aspects of the reactivation of the rail service raised some controversy with residents and local officials. Specially, for Montgomery Township, there was a concern about an increase in traffic associated with the size of the proposed park and ride to be located at the Belle Mead stop and the large quantity of housing that is typically associated with TOD. Community outreach and participation can help build community consensus around controversial projects and was employed during the development of this study.

Community outreach and stakeholder participation are pivotal components of the transit ready guidelines. While transit-ready or transit-oriented development can have positive impacts on a community, they can also be controversial. An informed and open dialogue with the community is critical to build a consensus.

A familiarity with County and Township issues also informed the public participation process. Before the West Trenton Study was initiated, key members of the consultant team were involved in the Belle Mead node project. Therefore, the consultant team was able to bring a fresh perspective as well as an informed opinion to the West Trenton process. For example, the consultant team learned many lessons from the Montgomery design process (Spring 2006) which were shared throughout the West Trenton process.

- Robust communication was needed between the Steering Committee, the Stakeholders Committee and the general public. There needed to be layers of participation in the form of meeting summaries and decisions—both written and in the form of sketches/diagrams of findings.

- Different ways to understand development and potential scenarios. For example GIS maps and sketches provide different ways of layering information such as synthesizing the information collected to see how different factors influence each other (i.e. what happens when a roadway intersects with a natural resource or crosses wetlands.

- Creative use of physical models. This was particularly helpful when explaining the original Route 206 proposal and how the scale of it impacted the potential developable area in Hillsborough.

- Incorporated real world New Jersey success stories for the proposed Transit Oriented or Transit Ready strategies in discussions with stakeholders.

**Planning Concepts**

**Transit Oriented Development**

Transit Oriented Development (TOD) is alive and well in New Jersey. Many communities throughout the country are also planning TOD in order to avoid sprawl and concentrate growth near public transportation stations. Typically, TOD involves a mixed-use residential or commercial area designed to maximize access to public transport, developing a critical mass of transit users that encourages transit ridership. A TOD neighborhood typically has a center with a train station, metro station, tram stop, or bus station, surrounded by relatively high-density development with progressively lower-density development spreading outwards from the center.

NJ Transit has been proactive in working with communities to implement transit-oriented development. There is an important synergy between existing transportation networks and development opportunities.

Whether it is a transit station located in an older downtown, suburban village or a more rural area, TOD is based on the same premise: communities need to think about growth in a comprehensive manner and take advantage of existing transit. Rather than let market forces dictate the built character and direct growth, TOD aims to create vibrant livable areas and address multiple community needs and aspirations. Efficiency encourages more pedestrian-oriented environment, contributes less to congestion and allows
for open space preservation opportunities

**New Jersey’s Transit Village Initiative**
New Jersey’s Transit Village Initiative was created by the New Jersey Department of Transportation and NJ TRANSIT to acknowledge the existence of transit-friendly, smart growth land use practices in designated municipalities that allow for mixed-use development.

There are currently 19 designated Transit Villages in New Jersey established from 1999 to 2007. These municipalities have demonstrated a commitment to revitalizing and redeveloping the area around its transit facility into a compact, mixed use neighborhood with a strong residential component.

**Transit-Ready Development**
The Transit Ready Development rather than transit oriented development is an appropriate choice for both Montgomery and Hillsborough Townships. Both townships will benefit from long term planning practices and the opportunity to create market desirability.

Transit Ready Development is different and has significant meaning for both Hillsborough and Montgomery.

While transit oriented development is built around existing transit stations, transit ready development prepares for future transit expansion with neighborhoods and road networks designed for maximum efficiency of all development types and transportation modes.

Much like Transit Oriented Development, Transit Ready Development is usually defined by:

1) Broad range of land uses
2) Flexible and expandable street grid to provide many connections; no cul-de-sacs
3) Pedestrian friendly environment (sidewalks, landscaping, consistent streetscape; greenways and open spaces)
4) Vehicular connections/ buffers
5) A range of residential densities
6) Destinations/ community resources

The planning framework for Transit Ready development incorporates the appropriate locations for transit activities (i.e. potential routes for transit). In the design concept, a node for certain uses and a future transit site is included. These items encourage transit service (express buses) and reduce auto dependency.

**Smart Growth Planning Principles**

In communities across the nation, there is a growing concern that current development patterns – dominated by "sprawl" – are no longer in the long-term interest of our cities, existing suburbs, small towns, rural communities, or wilderness areas.

Though supportive of reasonable planned growth, communities are questioning the economic costs of abandoning infrastructure in the city and established towns, only to rebuild it further out. They are questioning the social costs of the mismatch between new employment locations in the suburbs and the available workforce in the city. They are questioning the wisdom of abandoning "brownfields" in older communities, eating up the open space and prime agricultural lands at the suburban fringe, and polluting the air of an entire region by driving farther to get places.

Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth. The result is both a new demand and a new opportunity for smart growth.
Smart growth recognizes connections between development and quality of life. It leverages new growth to improve the community. The features that distinguish smart growth in a community vary from place to place. In general, smart growth invests time, attention, and resources in restoring community and vitality to center cities and older suburbs. New smart growth is more town-centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial and retail uses. It also preserves open space and many other environmental amenities.

But there is no "one-size-fits-all" solution. Successful communities do tend to have one thing in common—a vision of where they want to go and of what things they value in their community—and their plans for development reflect these values.

**Sustainability and Low Impact Development Regulations**

Transit options and sustainable growth contribute to the environmental quality of a community. These types of low impact development regulations are intended to limit the potential environmental detriments that new development may have on drinking water reserves, water quality, and the functioning of the natural hydrology of the watershed (watershed hydrology, meaning the relationship between rain, groundwater infiltration and runoff).

Low impact design (LID) is based on the objective of utilizing natural systems to process stormwater generated from new development. Green infrastructure is a compliment to LID and includes: energy efficiency, siting of land uses and energy conscience building products. If natural vegetation and other pervious portions of a development site can be utilized to process stormwater, rather than traditional engineering techniques (storm drains, detention basins, drainage channels), a potential exists to preserve the natural character and quality of the land, while properly managing stormwater runoff. Utilization of LID techniques does not preclude the use of small-scale treatment systems for the handling of stormwater runoff. However, LID provides an opportunity to reduce the complicated array of engineering infrastructure used in most projects, while also preserving the natural features of the land through a reduced amount of impervious coverage.
Strip malls to Town Centers

“Greyfields”, a term in the development community for out dated and underutilized commercial areas, represent potential infill sites connected to established infrastructure, water, sewer and other utilities. A growing number of communities around the country have capitalized on these assets to re-energize areas that have become stagnant. While some greyfield sites have been razed and rebuilt, others areas include a mixture of building preservation and new construction to create new retail opportunities and residential neighborhoods. Since limited access roads, water lines or sewer systems do not need to be built, most greyfield sites are ready and waiting for redevelopment. In addition, many of these sites do not have a history of environmental contamination and do not normally require major clean-up. The result is not only the creation of a revitalized and high-quality mixed-use pedestrian oriented environment, but in addition, the proximity of many greyfields to established transportation networks (often in the center of a municipality) provides an opportunity to create a transit hub. Other opportunities exist to provide significant civic uses or public open spaces with access to natural resources and regional greenway networks. This is particularly meaningful for communities such as Montgomery and Hillsborough that have a such rich agricultural history.

Transfer of Development Rights

Transfer of development rights (TDR) is a land preservation technique that allows the owner of property within a designated sending area the ability to sell development rights to landowners within a specified receiving zone. Sending areas are created to preserve open space, historic districts or rural/farming landscapes in perpetuity, while also allowing landowners the ability to reap the economic benefits of development. Receiving zones are selected based on sewer and utility capacity and the ability to handle increased concentrations of traffic and density. In essence, receiving zones contain land that includes characteristics more appropriate for growth and/or increased density.

While receiving areas are often permitted for development at densities in excess of the baseline zoning, a sender is only permitted to transfer development rights equal to the underlying zoning. For example, if a landowner controls property in a zone that would permit development of ten residential units, the landowner is permitted to transfer ten units of development. On the other end, however, the receiver may purchase numerous transfer credits, and receiving areas are often designed to allow greater densities than permitted by the baseline zoning controls.

A TDR program allows municipalities flexibility in the design and location of receiving areas making these an increasingly suitable tactic for development of transit villages that need a push. Especially in rural municipalities, where development of a historic core may not have occurred, TDR can be utilized to funnel development in the right direction from the right places so that rural character is preserved and density is contained.

Plan Endorsement

Both Hillsborough and Montgomery Township have initiated the Plan Endorsement process with the State Planning Commission. Plan Endorsement essentially replaces the earlier Center Designation process and allows Communities to submit their plans and ordinances for consistency with the State Development and Redevelopment Plan and state agency programs and functional plans. Once the State Planning Commission has endorsed a petitioner’s plan it will provide benefits to the towns that will

New Jersey Smart Growth

In New Jersey, many communities are advancing Smart Growth goals and supporting anti-sprawl growth management strategies in order to enhance the quality of life. Smart Growth is appropriate in urban, suburban, and rural settings and has an array of benefits for individual residents as well as municipalities. More specifically, the sensible growth approach helps encourage development and economic growth while preserving historic and environmental resources. Chesterfield Township and Hudson County are just two examples of communities that employed Smart Growth planning frameworks to prevent conventional suburban sprawl and act as a catalyst for neighborhood improvements.

In New Jersey, many communities are advancing Smart Growth goals and supporting anti-sprawl growth management strategies in order to enhance the quality of life. Smart Growth is appropriate in urban, suburban, and rural settings and has an array of benefits for individual residents as well as municipalities. More specifically, the sensible growth approach helps encourage development and economic growth while preserving historic and environmental resources. Chesterfield Township and Hudson County are just two examples of communities that employed Smart Growth planning frameworks to prevent conventional suburban sprawl and act as a catalyst for neighborhood improvements.
assist in implementing the endorsed Plan. This assistance will include technical assistance, direct state capital, priority grants and streamlined regulatory review. This is particularly important for the West Trenton Line since it allows the development of an Action Plan that develops a consensus between the towns, county and state on implementing transit ready land use and associated infrastructure investments and identifies constraints associated with growth. A Certificate of Eligibility for Plan Endorsement also entitles the municipalities to further investigate the designation of growth areas such as: a Town Center; Transit Villages; and further permits Transfer Development Rights receiving areas. This certification allows for a multi-agency partnership spear-headed by NJDOT and NJ Transit for revitalization around existing planned transit nodes and can further the work of the West Trenton Line Station Area Design Study in the context of a broader community visioning and planning effort.
The reactivation of the West Trenton rail line is a long-term planning initiative and the service would provide a new transit option in central New Jersey.

Due to funding issues, passenger service on the West Trenton line was discontinued in 1983. Although still an active freight line, passenger service was terminated due to lack of ridership. Currently, New Jersey Transit is interested in starting commuter service between West Trenton and New York City. The reactivation project involves restoring commuter rail service for 27 miles on the West
Trenton Line between the existing Southeastern Pennsylvania Transportation Authority (SEPTA) West Trenton Station in Ewing, Mercer County where riders could transfer to Philadelphia bound trains and Bridgewater Station in Bridgewater, Somerset County, where the line connects with the existing Raritan Valley Line providing service into Newark, New Jersey with connections to Penn Station New York.

The proposed project would include re-installation of previously removed track and installation of 12.8 miles of new track within the existing rail right of way.

Although the construction of the project is not currently funded (The project cost is approximately $300 million), the Federal Transportation Administration is advancing the Environmental Assessment review process. In the meantime, the communities are eager to explore other transit services for the station areas to indicate potential rail ridership levels and make a case for future train service.

It is helpful to understand the following about transit service, when considering options for Hillsborough and Montgomery.

1) Less than 4% of Somerset County work trips are destined for Manhattan and the vast majority of trips (63%- 70%) are within Somerset County. Less than 3% of trips in Somerset County are made by transit.

2) TOD does not solve all issues associated with rail service but it does give residents and employees additional mobility choices in how they get around, and helps to generate the ridership to make the transit service enhancements feasible.

3) It is pivotal to view transit options such as jitney and bus service as building an argument for service rather than reactivation of rail lines needed as a catalyst for proper planning. For example, existing bus service could be supplemented and new service to train stations and regional destinations could be initiated.

4) Potential regional connections: passenger service on the West Trenton Line will provide additional rail connections including the ability to transfer to trains to Trenton and Philadelphia as well as to Newark and New York City.

**Route 206 Bypass**

Route 206 is the primary north-south corridor through both Montgomery and Hillsborough Townships. In an effort to relieve congestion and improve safety, two NJDOT initiatives are planned that significantly affect the planning for Transit Ready Development in both towns.

The Route 206 Bypass is an approximately 3-mile limited access roadway that will extend from Old Somerville Road to Mountain View Road in Hillsborough Township. The Bypass runs through the Hillsborough Transit Ready Development Area; the proposed Amwell Road (CR 514) interchange also is located in the transit ready development area. The form and development of the Route 206 Bypass will shape the planning framework for the Hillsborough transit ready development area.

Regional growth and transit patterns have an impact on local development. For Hillsborough and Montgomery, existing Route 206 and the Route 206 Bypass have long represented both opportunity and challenge. While land use along the Route 206 corridor is different in the two towns, the Bypass has been, and will continue to be, a significant factor in land-use decision making. During the public outreach process, several stakeholders expressed the view that their community was known too much for traffic congestion, and should seek instead to become a pedestrian friendly environment.

For more than 20 years, Hillsborough and the County has supported construction of a roadway to bypass an especially congested part of Route 206. The NJDOT planned the Route 206 bypass as part of a freeway connection between Route 287 and Exit 8A of the New Jersey Turnpike. Montgomery Township opposed the freeway plan through its community, and this opposition led to years of delay in constructing the project. NJDOT and Montgomery Township
forged an agreement in 1992 establishing the Bypass route, which was to terminate in Montgomery at Belle Mead–Griggstown Road.

In 2002, Montgomery raised additional concerns about the bypass and submitted a problem statement to NJDOT calling attention to the Bypass’s predicted impact on traffic congestion on Route 206 and on neighborhood roads south of the terminus, and on the lack of a direct connection between the Bypass and County Route 601. Montgomery also expressed serious concerns about environmental and social impact within the Pike Run neighborhoods, given the transection of wetlands; connection within the Pike Run neighborhoods and change of plans about the grade of the roadway.

NJDOT agreed to undertake a value engineering process and traffic analysis to update its data on the predicted impact of the Bypass on roads along and beyond its path. This analysis, along with rapidly escalating costs of construction materials, led to NJDOT’s decision to re-evaluate the road design with an eye toward reducing costs and traffic impact. Ultimately, NJDOT, Somerset County, Hillsborough and Montgomery Townships agreed on an alternate design that serves the same traffic circulation objectives of the original bypass design, but costs 1/3 less, induces less new traffic and provides a needed connection to Hillsborough’s Belle Mead Depot redevelopment site and allows access to bypass traffic to County Route 601.

Once the bypass is complete, Hillsborough intends for the old section of Route 206 to become a Main Street area that will be pedestrian friendly, with a downtown appearance.

Hillsborough needs an identity that is not based on traffic and congestion.

Original Route 206 Re-design
Although the communities agreed that there needed to be a new Route 206 bypass alignment to alleviate and move traffic, it became clear during the stakeholder interviews that many residents were not aware of the design details of the Route 206 bypass. Specifically, that the Amwell Road Interchange was a cloverleaf design that occupied a significant amount of land. In the original Route 206 bypass design, traffic movement was the priority; pedestrian movement was a secondary concern.

NJDOT previously presented plans to improve traffic flow through Hillsborough and Montgomery Townships. The plans called for widening
existing Route 206 from two lanes to four from the Somerville Circle primarily to Hillsborough Township and building a new bypass in Hillsborough and Montgomery to allow traffic to circumvent the two-lane portion of existing Route 206.

Revised Route 206 Re-design
During the West Trenton Station Area Design Study, the Route 206 bypass proposal was revised. The bypass was reconfigured to provide at grade connections at designated locations which will better serve both local communities. There were several factors that contributed to the decision to re-visit the Route 206 proposal and design:

• Awareness that re-design does not automatically mean loss of Federal transportation funding.

• The original Route 206 bypass design was a very expensive and complex project. It was no longer financially viable option: the state could no longer afford to build it.

• Even though the new Route 206 bypass is critical for alleviating traffic congestion in southern Somerset County and for the central New Jersey region and for allowing Hillsborough’s future town center planning to advance, the Route 206 bypass could not get intermunicipal support for the road design from surrounding municipalities.

• Because of the high cost and complex nature of the project, NJDOT subjected the project to a smart solutions process that included value engineering during winter 2007. The process involved redesigning the entire project to be able to construct it more economically while providing the type of road that would help traffic flow and not degrade local residents quality of life including a design that contributes to a pedestrian friendly environment. The revised interchange design maintains flexibility for potential future development surrounding the train station. The final interchange design is still evolving and is directly benefiting from the land use/design

Developable area for Hillsborough Transit Ready development
concept and circulation work the consultant team has completed to date.

- During the study’s outreach process, land use and circulation plans and alternative interchange designs were developed. The consultant team integrated the preferred interchange design (Amwell Road Interchange) with the preferred land use concept for the Hillsborough transit ready area during Spring 2007. The NJDOT will present the revised Route 206 design in Summer 2007 and receive public feedback. NJDOT is hoping to award the construction contract before 2008 and start construction on the bypass during the first half of 2009.

New Connectivity
With the modification to the plans to the Route 206 bypass, additional connector roads become possible. It is likely that the connection between the Bypass and Amwell Road will be an on-off, loop-type of ramp that is signalized both at the Bypass and at Amwell Road. The signalized intersection at the Bypass is an opportunity to map a new road extending from old Route 206 and the future Town Center, across the Bypass, to the station area. In this framework proposal, the loop ramp is configured to anticipate access to, and the orientation of, a future street and block network around the station.

Similarly a new north-south road in Royce Brook (north east) sub area can link to the reconfigured ramp south of Amwell Road with a continuation of Steinmetz Road north to Hamilton Road and south to Stryker Lane providing a north-south connection in the northwest subarea.

Together the north-south roads and potential east-west roads at the signalized ramp, create a new level of connectivity between these sub-areas, a future station area, and the future Town Center on Route 206.

As the community, the County and consultant team witnessed during the plan process, revisions to the Route 206 design impacted the land use, density, and greenway proposal, which emphasized the need for ongoing dialogue. The objective was to propose improvements to provide better connectivity between pedestrian, bicycle, vehicular, and transit nodes, and to enhance the character of the developable area.

Route 206/CSX Bridge Replacement
The Bridge over the CSX Railroad on Route 206 just north of Trent Avenue (CR 601) is in poor condition and needs to be replaced due to not only struc-
Issues and Opportunities

Each community is defined by distinct issues and opportunities.

Through the initial discussions with the County, the Township, the Steering Committee and other community stakeholders, the team gained a greater understanding of community assets and issues which helped shape the design concepts.

The team realized that it was essential to strike a balance between the extent of development that would benefit the community and the capacity of various transportation modes to handle this growth.

Hillsborough’s preferred Route 206 bypass design especially the Amwell Road Interchange design seeks to create Master Plan road right of ways to allow for the creation of a grid network later on. Alternative east–west and north south routes (complement the existing road network) are important to alleviate traffic and make connections between the proposed Town Center and mixed used Transit Ready Development Area.

Some of the conclusions highlighted at the Hillsborough community design workshop include:

- Extending Stryker Lane from a cul-de-sac to connect with Steinmetz Road
- The Rescue Squad would need to connect with the new Master Plan road in northeast subarea due to a Hamilton Road grade change at the Bypass
- Extend Steinmetz Road from Town Center to the train station area to provide an east-west connection
- Reconfiguration of the service ramp is needed for increased connectivity to the train station area
West Trenton Line Station Area Study

Hillsborough's preferred interchange design.

NJDOT Revised Interchange
Hillsborough Issues and Opportunities
Hillsborough’s stakeholder’s interview comments
Background
Located in southern Somerset County, Montgomery Township is recognized as an extremely desirable place to live, due in large part to an excellent public educational system and pastoral setting. The population, which has more than doubled in the last 15 years, is well-educated and maintains a high income. Proximity to the Somerville and Princeton Junction train stations allows Montgomery residents and workers the ability to travel to work in Newark, New York City, Philadelphia and Southern New Jersey.

The Township has preserved significant open spaces that are enhanced by two regionally significant open space and recreational resources. The Millstone River and Delaware and Raritan Canal State Park, which form the eastern boundary of the municipality, include a historic tow path that begins in New Brunswick and terminates along the Delaware River. The Sourland Mountains is the largest contiguous forest remaining in Central New Jersey that provides rare wildlife habitat and hiking opportunities within a 10-mile green ridgetop. These natural boundaries of the Sourland Mountains to the west and the Millstone River to the east are also significant since they effectively limit intra-municipal vehicular access points and channel most traffic flow to a north-south direction.

Montgomery has planned for nodes of mixed-use development along the Route 206 corridor (i.e. Rocky Hill and Belle Mead), with single-family residential development the primary land use in between. Development pressure remains high, with an additional 1,600 housing units developed in the last five years. Like many communities, Montgomery is seeing its landscape consumed by larger homes and experiencing a change in community character. Much of this development is in the form of large lot subdivisions with cul de-sac roads that disconnect neighborhoods..., and the Pike Run neighborhood. Montgomery desires that any new development in the study area occur in a complimentary manner with the existing “Pike Run” residential development and the other existing residential development in the Belle Mead Node.
In order to combat these impacts, Montgomery has aggressively implemented a pathways master plan that provides bike and pedestrian linkages between these neighborhoods. Further, the Pike Run Planned Unit Development concept plan depicts inclusion of high-density housing adjacent to the existing train station, with medium- and low-density housing radiating out. Small areas for commercial development at the station and along Route 206 are also shown. Finally, the Township was eager to explore the possibility of Transfer of Development Rights to preserve the fragile environmental lands within the Sourland Mountains while transferring units to a more appropriate location; however, at this time, such a TDR program does not appear practically feasible.
Development impacts, not only in the Township, but throughout the Somerset County and Mercer County Region, have led to increased traffic volume and congestion on the southern portion of Rte 206. This congestion led the Township to update its Master Plan and implement a series of loop roads designed to relieve congestion. The Township has also developed a multi-year strategic plan to implement these improvements. Recent grants from NJ DOT have assisted with the construction of the roadways, which are to be constructed over time.

To increase pedestrian and bicycle mobility along Route 206 and enhance the visual appearance of the corridor, the Township is presently working on implementing the recommendations of a NJDOT-sponsored bike and pedestrian feasibility analysis for the southern section of Route 206, as well as a character and design study of the entire length of the Route 206 corridor prepared with funding assistance from the County.

As mentioned in the Hillsborough planning context section, the Route 206 corridor was once served by passenger trains between West Trenton and Penn Station, by way of a connection to the Raritan Valley Line in Bridgewater Township. Montgomery Township supports the restoration of passenger service and began planning for the possibility of a train station within the Belle Mead node. The Mayor’s Institute was instrumental in initiating the planning effort. Shortly thereafter, the State of New Jersey permitted TDR to be implemented on a statewide basis and the Township applied for and received State and County grants to study the possibility of implementing a local TDR program. The Township designated the environmentally fragile Sourland Mountains as the “sending area” so that land can be preserved and development potential sent to the “receiving area”, which was designated as the Belle Mead node. The initial findings is that the program may not be economically feasible to achieve the Township’s desired goals.

### Community Priorities

As the Township began to further explore the possibility of implementing TDR, it began to examine the proposed receiving area and whether additional development could be appropriately planned. As part of the planning and visioning efforts that took place in 2005, a draft goals statement was developed that set forth the following for the Belle Mead study area:

- Promote commercial development to meet the needs of residents of the northern end of the Township, with any housing on the site designed to meet the needs of the aging population.
- Conform to the Circulation Element of the Township’s Master Plan. This means assuming an alternate southern terminus to the proposed 206 bypass, no widening of existing roads and creating as much network connectivity as possible.
- Create a “place” with distinct identity in the Belle Mead area.
- Anticipate the potential re-opening of the West Trenton Passenger Rail Line and potential siting of the Belle Mead station and associated parking.
- Reinforce and protect the historic character of Old Belle Mead.
- Establish pedestrian, bicycle, and mass transit connections within the larger Belle Mead area.
- Maximize open space preservation/natural resource conservation elsewhere in town. Take advantage of the ability to transfer development rights (TDR) off of the Sourland mountains to this study area.
- Create a positive impact on municipal finances.

Understanding the capacity of existing infrastructure (such as roadways and
sanitary sewer) is important when determining the variety and type of land uses that can be permitted in an area. Within the Belle Mead node, the Township favors land uses that generate less peak hour traffic such as entertainment retail, retail, civic cultural and open space. In regard to sewer capacity, there is a nearby treatment plant that is being upgraded and additional capacity is anticipated to become available.

As far as potential land uses, Route 206 is overburdened, and its limited capacity to handle additional vehicles, controls the variety and type of land uses that can viably be built on site. Thus, any land use mix in this area must favor uses that tend to generate less peak hour traffic. Uses such as retail, entertainment retail, offices, and high-density residential are high traffic generators. Civic/institutional uses can generally be considered medium traffic generators, while cultural uses and open space uses are usually low traffic generators depending upon the day of the week and/or special events.

In regard to sewer capacity, there is a nearby treatment plant. The ultimate capacity of which is set by the discharge capacity of Pike Brook. Estimates indicate that a maximum of 500 dwelling units and 1.5 million square feet is possible. Focusing development on an area of the Township already served by sewer, with capacity to spare, makes planning sense. While this creates a potential scenario for transfer of development rights (TDR) from the Sourland Mountains, Township representatives have indicated concerns that a viable TDR program in Montgomery would require too much high-density development in the core for such a program to provide positive community impacts.

Planning Process
The Montgomery planning and visioning process include a workshop that took place during Fall 2005 and five Steering Committee meetings. A series of goals and objectives regarding the Belle Mead node emerged from this process. Using the community’s Statement of Goals and new Planning Framework Diagram, the preferred plan and design of the area included the following principles:

- A greenway network
- Connections between the Pike Run neighborhood and activities on the development site
- An open space network that anticipates future train station, but does not depend on it
- Delineate major connecting roads and organizing open spaces on the site

Montgomery concluded at the end of the visioning process that a framework for a site plan was impossible to conclude due to the underdetermined status of the alignment of the Route 206 bypass and the uncertainty whether TDR would be a feasible option. When the County first approached the Township with the desire to further explore options for the West Trenton rail stations, it was determined that additional analysis on pedestrian and bicycle linkages and design guidelines would be appropriate to carry forward the planning work.

Montgomery Township representatives reported their concerns regarding the undetermined status of the alignment of the Route 206 by-pass and whether TDR could work. The Township instructed PPSA to delve further into bike/ped linkages and design guidelines.

Design Concepts
With the Route 206 bypass alignment now finalized by NJDOT and having been presented to the both communities affected, the Township is preparing to provide a status report to the Township Committee, Planning Board and community in the near future.

Nonetheless, the following development framework was generated as part of this study and may be helpful to the Township is in its future planning efforts. Graphic examples of these recommendations are provided in the
Development Typologies section of this report.

**Compact and Predictable development**
- Connect the surrounding area to the transit facility by creating an environment that accommodates the automobile but favors pedestrians and bicycles
- Favors uses that support compact, mixed-use environments as opposed to auto-dependent uses
- Orient buildings towards streets and public spaces and solves the parking problem creatively
- Encourages building architecture that is scaled to pedestrian activity

**Green Infrastructure: An approach to design and planning that responds to the environmental resources in the area**
- Solar energy
- Incorporate best management practices for dealing with stormwater
- Development with compact configurations to minimize disruption of the landscape

**Connectivity (long-term)**
- Connectivity performance standard
- Network easements at an interval of approximately 300 feet

**Corridor Re-design**
- Boulevard
- Parkway
- Pedestrian crossings
- Quality materials
- Landscaping

Several factors contributed to the design concept process including historic preservation, and emphasis on community character. These design considerations were developed to reflect the character and existing land uses of the historic section of Old Belle Mead, which includes a compact village center grid containing older houses and several commercial buildings fronting on Route 206.

The design process identified two potential station areas in Montgomery – the existing station building in Old Belle Mead, and an old industrial district south of Route 206. The existing train station buildings and platforms in Old Belle Mead are located just north of the Route 206 overpass. During an earlier era, the original train station functioned south of Old Belle Mead near an industrial cluster on Reading Boulevard, south of the proposed Route 206 realignment.

The aforementioned industrial buildings on Reading Boulevard include a village-like cluster of old sheds and other industrial structures near the original train station. While a former hardware store is vacant, active uses, such as a lumberyard and the Princeton Design Guild of architects and furniture designers/builders represent a potential arts district.

Each of the train stations fit within the proposed Route 206 realignment, which is proposed to include a re-built train overpass preceding the Route 206 and County Route 601 (Belle Mead-Blawenburg Road) intersection. The new bridge and intersection realignment will increase safety, as the proximity of the existing CSX railroad bridge to the Route 601 intersection creates limited visibility and awkward roadway geometry. The existing Route 206 alignment and bridge will be abandoned and replaced by a more gradual curve and signalized intersection.

The Reading Boulevard industrial area was incorporated in these concepts since it provided a potential opportunity for new infill development and parking. This location may provide better connectivity. However, if TDR is not found to be feasible and no new housing units can be provided, this, coupled with the future realignment of the CSX Bridge, may create development opportunities around the existing train station. Considering these factors and the adjacent newly constructed apartments at Pike Run, the existing station location may be the more feasible location.

Transit ready development must take into consideration the existing community and context [this is true for all development]. For example, the Route 206 realignment will likely increase travel speeds, further cutting off the Pike Run area from Old Belle Mead.
Neighborhood (a 1,288-unit development of single-family houses, condomini-
ums and apartment townhomes), or roughly 20 percent of the Township’s popu-
lation, from Historic Belle Mead. Considering Pike Run’s population, and since
Pike Run Road is a principle connector to other developments, an effort to link
Pike Run to a potential train station is essential.

As discussed, there are obviously not only built environment considerations, but
also environmental opportunities and constraints, namely the wetlands along Rte
206, potential greenway connections, and possible linkage by way of the soon to
be replaced Route 206 bridge.
Montgomery: Connectivity and Open Space

Montgomery: Destinations

Montgomery Open Space network
The Montgomery planning process generated consensus regarding the connectivity network and the open space network. Key prototypes were produced to ensure that certain situations are noted, keyed and repeated in the plan. The prototypes will allow for coexistence of bike/pedestrian/vehicle traffic in the potential transit ready development.

In Montgomery, landscaping and traffic calming measures are important. The following are potential traffic-calming examples:

- Washington Street in Princeton at the University
- Hodge Road in Princeton
- Princeton Pike in Princeton
The Hillsborough component of the West Trenton Line Station Area Design Study began at a point where a significant amount of analysis has been completed and a strong idea about the direction of future development in the Township has already been determined.

**Planning Process**

**Master Plan**

The 1999 Master Plan Reexamination Report and Master Plan Amendment (Town Center and Main Street Plan) recommended development of a “Main Street” that could be achieved in line with the proposed Route 206 realignment and future activation of the West Trenton passenger rail line. The proposed long-term plan involved retrofitting the existing commercial corridor, where the buildings are currently set back and parking defines the street frontage, to a more pedestrian-friendly, active street.

Phase I of the Master Plan Amendment was focused on the Agricultural and Mountain Zones. The Phase II Amendment seeks to address the proposed Town Center as well as nearby areas in the eastern portion of the Township (i.e. “Transit Village” area). The Amendment (Phase II) seeks to address development potential and streetscape issues present within the existing Route 206 alignment, while also supporting construction for the new Route 206 bypass. Without the Route 206 bypass and investment in infrastructure, the Town Center cannot be realized. The amendment also set forth recommendations that would advance transit-friendly development and Smart Growth goals.

After reviewing the draft Master Plan with the Planning Board and the Board’s subcommittee, there was a public hearing where the consultant team presented its findings.
Highlighted Master Plan recommendations
The following community priorities are articulated in the Master Plan:
• Create a Town Center (TC)
• Create a Transit Oriented Village (TOV) with connections to the Town Center
• Provide appropriate buffering as well as connections between the Town Center and the Transit Oriented Village
• Utilize Transfer of Development Rights (TDR) in order to encourage new, mix-use development while preserving open space and farmland areas.

“Transit Oriented Village” Recommendations
A mixed-use Transit Oriented Village is proposed where the Route 206 bypass intersects with Amwell Road. The focal point of the Transit Oriented Village is the development of a new passenger train station as part of the West Trenton Rail Line Passenger Service Restoration project.

The County Planning Board supports the creation of Transit-Ready Development such as a transit ready village focused on mixed-use development site(s) located within a half-mile of transit facilities and routes.

“Transit Oriented Village” design principles
Moving away from the mixed use transit ready village core area, density patterns should moderate with appropriate residential and nonresidential development located near existing and proposed development, as appropriate.

Implementation of the Transit Oriented Village zone should result in the construction of a Transit-Ready environment that maximizes the use of the rail line, increases Township employment levels, integrates nearby housing desired by consumers so as to maximize rail usage, provides for public open spaces, natural and manmade, and includes limited commercial and retail uses to benefit employees, transit riders, residents and workers in the vicinity of the new transit-based zone.

The Master Plan suggested the Town Center area needs to have a strong multimodal connection to the train station. Transit Oriented village development promotes the usage of LID and greening infrastructure concepts in the planning process.

Town Center recommendations
The “Transit Oriented Village” cannot be described without describing the “Town Center”, as the two areas must complement, rather than compete with
one another. Hillsborough residents contributed to the design – the architecture and landscaping of the Town Center. Township officials recently adopted Town Center zoning regulations to provide a clear set of development guidelines.

The intent of this district is the creation of a fairly concentrated core (e.g. +1,500 to 2,000 feet long and 1,000 to 1,500 feet wide) with retail uses on the first floor and office or residential use above the ground floors. Existing sites often have the appropriate use but reflect inadequate layouts or design standards.

The visual sense of this district should be of a compact, walkable, mixed-use, tree-lined, village of shops, with architectural variety. All on-site parking should be landscaped and located behind buildings. In addition, on-street parallel parking should be permitted. There should also be a “center or accent building” adjoining a major civic space. It is also important that the transit station area and Town Center include vehicular and pedestrian connections between the two nodes.

Utilizing the Master Plan concepts, the consultant team generated three design concepts for the transit ready development scenarios (See Design Concepts Section). Through the community outreach process, the team solicited feedback on concepts and determined a preferred design, which was developed into a detailed development framework.

Public Participation

Interviews
During March 2006, the consultant team interviewed a range of stakeholders: Hillsborough residents, local business owners and property owners, real estate professionals, and municipal representatives to better understand the community’s existing conditions, issues and opportunities, and to start to formulate a preliminary vision for the Transit Ready Area.

It was a valuable opportunity to generate candid discussions and opinions that participants may not have felt comfortable expressing in a public forum.

Based on these discussions, the consultant team synthesized the information and interviewee feedback into a set of “Guiding Principles” which permitted a flexible forward-looking process, but also provided consistency and preliminary shared goals as a greater number of participants got involved in the process.

The Guiding Principles were extremely helpful to the consultant team in generating three different Transit Ready Design concepts that still shared fundamental characteristics.

While the interviewees’ comments and Design Guidelines touch upon a broad array of issues, much of the feedback focused on land use and transportation-related aspirations and concerns. The following are examples of Hillsborough’s Guiding Principles: Guiding Principles (See Appendix)

- There needs to be a Route 206 bypass to alleviate and move traffic.
- Anti-sprawl would be a good development strategy for Hillsborough. There must be a balance of centralized development and preservation.
- Vehicular circulation to and from the existing residential neighborhoods must be considered when evaluating potential transit ready area designs. Through–traffic needs to be minimized in existing neighborhoods.

Many of the comments heard during the interviewing process where echoed during other outreach meetings.

Committee Meetings
The Hillsborough Steering Committee and Stakeholder Committee members were pivotal to the consensus building process. The Committee mem-
bers and the general public- with the guidance of the consultant team- generated a series of transportation and land use-related recommendations.

The Steering Committee
The steering committee was comprised of State agency and Township representatives. It is critical to get their input early and often in the study process since these members include the implementing and funding agencies for many recommended improvements. One of the study’s primary goals was to generate a viable implementation strategy rather than a vision plan disconnected from reality. The Stakeholder and Steering committee members provided the information and feedback needed to develop detailed and relevant action items.

The Stakeholders Committee was comprised of residents, local organization representatives, Township and County representatives. Township representatives served on both the steering and stakeholder committees.

Although the Steering Committee and Stakeholder Committee meet separately, the same analysis and recommendations were shared at each Committee meeting. Each committee met four times. (The Hillsborough and Montgomery planning process took place at different times: Montgomery had several workshops before Hillsborough had their kick-off meeting ). In general the steering and stakeholder committee meetings utilized the following format:

*Kick off meeting:* Reviewed study purpose and study goals; information was exchanged about existing conditions; discussed potential challenges and opportunities.

*Second Meeting:* Reviewed “Guiding Principles” and “Issues and Opportunities” maps and gathered feedback to generate three design concepts

*Third Meeting:* Based on the preferred Design Concept the committee reviewed the development framework, it brainstormed about viable transit alternatives to rail service, it identified issues the committee would like addressed in the zoning framework (i.e. low impact development regulations)

*Fourth Meeting:* Reviewed revised Route 206 bypass configuration in conjunction with design concept and prototypical developments that were presented by the consultants. Additional items discussed included connectivity, performance standards, district best practices and development prototypes that are appropriate for the Transit Ready areas in Montgomery and Hillsborough Townships.

A list of steering and stakeholder committee members are available in the appendix to this report.

Community Design Workshop
The public workshop was held on September 30th and there were approximately 60 participants. The workshop objective was to build upon the work previously completed in Hillsborough during the Master Planning process. The workshop was an opportunity for the community to fine-tune its vision for potential land uses and density at development sites related to the proposed transit village and town center.

Public Workshop Handout (See Appendix)
Public Workshop Feedback (See Appendix)

The consultant team envisioned a highly interactive design oriented community design event. The workshop working groups, each with between eight and ten stakeholders, was co-facilitated by a planner and a designer, such as an architect, urban designer, transportation analyst or a landscape architect. (See Appendix for workshop summary.)

As with the Montgomery workshop, the consultant team and stakeholders
did not start the workshop with a blank slate. Again, there were the accepted “Guiding Principles” to help direct the discussion.

As a point of departure for the design analysis generating at least three concepts that incorporate the best feasible practices for design, sustainability, and community development, we will define an initial program for Transit Ready Development. We will build upon our work done in the first tasks—existing conditions, community needs assessment, and market and feasibility analysis—and utilize our experience with other Transit Ready projects to inform the process. (See Appendix: Development Scenario chart)

By way of stakeholder interviews and community input during three stakeholder meetings, the consultant team developed two alternative interchange scenarios for the future Route 206 bypass in addition to the NJDOT preferred design highlighted within the EIS. The consultant team developed a potential road network and concept buildout plan for each interchange scenario, including the NJDOT alternative.

The transportation network provided the framework for the three design concepts. One design concept is based on the original Route 206 bypass design. The team also generated two alternative Route 206 bypass designs.

**Design Concepts**

Based upon the alternatives generated during the internal consultant team charrette with input from County and Township, the consultant team generated three conceptual prototype subdivision and design sketches for the proposed Transit Ready Development. Each scheme was based on market, Transit Ready Design, traffic, and pedestrian considerations. These design concepts include:

- **Design concept one** utilizes NJDOT’s original interchange design for the Route 206 bypass. It proposes a green necklace linking the four quadrants of development noted from the Hillsborough Master Plan. Considering the potential barrier created by the bypass, the green necklace aids in moving pedestrians and bicyclists between the proposed transit village and town center.

- **The Design Concept 2 scheme** shifts ramps closer to the bypass allowing more room for the train station and thus a chance to develop a linear arrangement of roads in the transit village. Further, the arrangement works well with the proposed Raider Boulevard extension mentioned in the Hillsborough Master Plan.

- **The Design Concept 3 scheme** presents a two cloverleaf interchange on the northern portion of Amwell Road. This opens up development for the transit village and allows an unimpeded green connection between the transit village, Roycebrook Estates and the proposed town center. The green connection would be in the form of a widened portion of the Amwell Road overpass that included sidewalks on one or both sides of Amwell Road.

Based on the discussion after the group’s report back to the workshop participants it was clear that Design Concept #3 (Cloverleaf only on the northern side of the interchange) articulated the shared priorities and goals of the participants.

After the discussion session, each group reported back to all workshop participants. (Appendix: Group Discussion Summaries)

**Preferred Framework**

Based on the feedback from the public workshop, one preferred design concept emerged. The community clearly articulated their priorities and one scheme was able to address an array of issues. Selecting one preferred scheme is critical to ultimately translating the concept into a detailed zoning framework which important land use and design goals.

After the groups reported back to the workshop participants, it was clear that Design Concept # 3 (Cloverleaf only on northern side of the exchange) articulated the shared priorities and goals of the participants. (Group
Discussion Summaries: See Appendix)

Based on the brief presentations, the following issues, opportunities, and ideas emerged as common themes:
- Scheme 3 is the preferred interchange
- Vehicular and pedestrian connectivity is a significant issue:
- How do you manage Amwell Road traffic?
- Rail/station would add positive identity to Hillsborough and sense of place
- Open space should not be sacrificed for the Transit Oriented Village and Town Center

- Residents are concerned about noise, light glare from Transit Oriented Village; people do not want to sacrifice Hillsborough’s rural character.

Hillsborough’s Development Framework
The preferred Hillsborough development framework incorporates the revised Route 206 bypass proposal and advances transit ready development goals. As described previously the proposal developed after the 2006 workshop is an efficient and pedestrian friendly option. In addition, the footprint of the proposed roadway and Amwell Road interchange was considerably smaller than the original proposal, therefore, there is additional land
available in the Transit Ready Development area. This allowed for an unimpe
ded green connection between the transit station area, the Roycebrook 
Estates, and the proposed Town Center. The green infrastructure would be 
in the form of the widening portion of Amwell Road.

The Hillsborough stakeholders strongly believed in a grade separated Route 
206 bypass interchange with Amwell Road and an at-grade ramp connec-
tion between the bypass and Amwell Road and are encouraged by the 
NJDOT revised proposal for the redesigned Route 206 bypass. It is impor-
tant that the Route 206 bypass design including primary and local roads in 
the Transit Ready Development provide maximum connectivity and circula-
tion improvements. For example, some of the stakeholder recommendations include:

- Raider Boulevard should connect to the Route 206 bypass and allow for 
  access to Amwell Road via an alternative route.
- There needs to be several connections between the Town Center area 
  and the Transit Ready Development.

In response to the preferred transportation and development scheme devel-
oped at the September 2006 workshop (and the Route 206 design improve-
ments), the consultant team generated a conceptual design which is not 
indicative of exact land uses and densities. The development framework is 
intended to indicate appropriate land use and densities and a circulation 
network and provide guidance for zoning. (The report’s next section pro-
vides a detailed description of best practices and guidelines for each district 
type.)

Since the development in the Transit Ready Development area will evolve in 
phases, it is important that there be a definitive zoning framework in place. 
Stakeholders agreed that the relative density of the development should 
decrease as it moved away from the transit station area. Based on this prin-
ciple and the typical Transit Ready Development framework, the following 
is a general description of each sub-area:

- Subarea 1 is generally defined by low density residential with some low 
  density office/commercial spaced near Amwell Road.
- Subarea 2 is generally low-density residential (especially in the area 
  adjacent to the Roycebrook Estates), but if the market allows, some low-
  density office/commercial could be possible closer to the proposed 
  Town Center.
- Subarea 3 is the most dense, designed to reflect a mixed-use style of 
  development. Hillsborough Township should commit to density here, 
  with a strong residential component near the location of the proposed
The first diagram describes a continuous green connection between the transit village, Royce Brook Estates and the proposed town center. This green connection would allow for increased north-south and east-west pedestrian and bicycle connectivity.

The second diagram describes the proposed transit village street grid and street connections to the service ramp. The proposed street grid allows for increased access to the train station as well improve traffic flow in the transit village itself. The diagram also illustrates the proposed block size and how those blocks fit into a grid street pattern.

The third diagram describes the larger circulation system and new connections between the Amwell Road interchange, the transit village, train station and the town center areas. The two cloverleaf interchange is located on the northern portion of Amwell Road freeing up land for development in the transit village and improves east-west connections between the town center and the transit village.

The fourth diagram describes potential new access connections north and east of Amwell Road. The proposed new connections offer improved mobility for persons driving through the Amwell Road Interchange.

The fifth diagram describes the proposed grid street system and proposed density levels south of the Amwell Road Interchange.
Subarea 4 is commercial with hidden parking. Commercial development here would not be as dense as the Transit Station Area. Because of the area’s proximity to existing commercial developments, there is an opportunity to have medium density residential development in this area as well.

Civic Space/ community facilities in the Transit Ready Development should not compete with the proposed Town Center, but a smaller amount could be possible at or near the transit station area or possibly along Amwell Road in the potential commercial districts.

Another critical element of the development framework is the mapped set of open spaces and greenways. This system is a part of the pedestrian-friendly environment and the community’s call for active open spaces and a network of paths for recreational purposes. While there will be significant reforested area near the new Route 206, it is important to include active and passive public open spaces for Hillsborough residents to use.

The following chart and accompanying diagram summarizes the land use types and densities in each Transit Ready Development Sub-area.

The zoning framework is one of several tools to ensure that Transit Ready Development occurs. Transfer Development Rights is another important mechanism, especially to advance the Transit Ready Development goals. Hillsborough Township is currently developing a TDR plan and determining which sites (and how much development) can be transferred to the Transit Ready Development area. The infrastructure for the development area will initially be provided by municipal government, but the Township can potentially leverage private development to provide local road infrastructure through a Transportation Development District. In addition, the zoning framework has incorporated “green” design principles and examples of low-impact zoning regulations. This framework responds to local issues such as wetlands and storm water basins.
Hillsborough Preferred Development Framework

Development Framework
The goal of Hillsborough’s transit ready development framework is to create a mixed use area where vehicular, pedestrian and bicycle circulation receive equal consideration.

The diagrams represent the development framework with the outcome of the public outreach process. The framework is based on both Hillsborough’s preferred Route 206 bypass design and land use and density recommendations for the different sub-areas that comprise the transit ready development.

Hillsborough’s preferred development framework is appropriate for the existing suburban context. A modest increase in density and the range of housing types and commercial activities will encourage new development. The street network, the building orientation, public spaces, and greenways will create a walkable environment.

The new infrastructure investments at the train station and the Route 206 bypass, the road hierarchy, overall context and community feedback during public meetings, all suggest that different parts of the larger transit ready development area will be developed at different intensities.

Sub-Areas
An open space or greenway network that would allow wildlife and, potentially, pedestrian access across the Route 206 bypass at the Royce Brook crossing and possibly also between Amwell Road and Hamilton Road is an important part of the development framework. It is also noted that the reforestation/mitigation areas proposed by NJDOT should be located outside the transit ready development area, wherever possible, to provide more developable land and to enhance wildlife management.

After discussions between the community and NJDOT about the bypass design, it was apparent the transit oriented village design would be affected. It should be noted that the northeast sub-area should provide transitional, low density uses with minimal impacts to the adjoining Royce Brook Estates neighborhood. Areas adjacent to the Royce Brook neighborhood should be developed in a manner that is complimentary to low intensity uses.

The reconfigured service ramp should be located so as to maximize development potential in the rail station area. The reforestation areas should be incorporated into any existing or proposed greenway and or open space systems.
If designed properly, the new street network should not only insure a rational distribution of traffic within the TRD but may also increase the connectivity of the overall, larger study area to help mitigate traffic impacts from any new development.

Although it’s premature to map the streets throughout the study area and prohibitively expensive to build it, it is important (and possible) to establish a “paper street” network based on a performance standard that will insure overall connectivity even as the area evolves over time. The key objectives are to create both north-south and east-west connectivity within the Transit Village area and to encourage movement between the Transit Village and the future Town Center. The following items should be considered in conception of the roadway network:

Create a grid of paper streets throughout all sub-areas to include approximately 330-foot block widths. This provides sufficient block width for a wide range of building types and leaves enough room for parking within the interior of the block.

No block shall have a total perimeter length of more than approximately 2,000 feet. This creates the flexibility to create a rectangular block (330 feet by 660 feet) on top of the square paper street grid. This ensures that there will be enough through-streets to provide overall roadway connectivity. As the area develops, site plan review should determine how blocks should be oriented, and which segments of the paper grid should be maintained as public streets to ensure the overall connectivity of the area. The goal is to create a connected fabric of streets and blocks as opposed to an agglomeration of stand-alone development, each with separate access points off Primary Roads.

Based on the revised Route 206 bypass design, potential east-west streets shown on the paper grid should connect and cross the Route 206 bypass, enabling more east-west connectivity for the network.
**Roadway Hierarchy**

Ultimately, there may be a wide variety of road types throughout the study area, each of which will balance auto mobility with pedestrian and bike mobility.

**Primary Roadways**

**Connectivity**

The street network diagram suggests a flexible, incremental process for creating a fine-grained interconnected street network. Developers could build the road segments that fill in the “paper grid”.

There are several significant connecting roads that should be mapped now. Ideally they would even be built in anticipation of development, although funding infrastructure ahead of development is politically difficult.

The consensus plan proposed several primary roads. The primary roads, together with the Open Space Framework, create the armature for growth in the study area. The following roadway connections should be considered:

Two new north-south roads, connecting Amwell Road to Hamilton Road, one on each side of the Route 206 Bypass right-of-way.

These roads should be located approximately midway between the Route 206 Bypass and the existing neighborhoods to allow both for development and ample buffering from those neighborhoods.

In the TOD quadrant (southeast) the primary roads connect Amwell Road to the station plaza.

A primary road would extend first south and then west across the proposed Route 206 Bypass in order to link with the Raider Boulevard cul-de-sac. This would create a connection from the future station area to existing Route 206, and create additional east-west connectivity off Amwell Road. As with other future roads in the study area, the connection to the Bypass includes the possibility of an at-grade intersection that will only be determined upon the final design of the Bypass.

A primary road in the southwest quadrant would extend north-south from Stryker Lane to Amwell Road. An extension of Steinmetz Road to existing Route 206, the Town Center and proposed rail station would provide an east-west connection.
Character
In most cases, design speeds should not exceed 35 miles per hour. Typically, these would be two lane roads (11-foot travel lanes preferred) with on-street parking on both sides. It is assumed that such roadways would not measure more than 50 feet from curb to curb if a decorative median were included. There may be some need at key intersections, for a left turn lane. Roadways of greater traffic volume requiring two lanes in each direction should not be considered to measure more than 75 feet in width.

In all cases, even where an additional left turn lane is provided, pedestrian crossing distances should be minimized by reducing lane widths to a minimum and by providing “bump-outs” (these can occupy the space reserved elsewhere on the block for on-street parking) or landscaped medians. Other traffic calming devices should be used, including changes in material at crosswalks. These primary roads should also have striped bike lanes.

Neighborhood Streets
Most of the other streets (primarily streets to be built over the “paper grid”) can be considered “neighborhood streets” or “Local Roads”.

It is anticipated these will be two lane roads with on-street parking (left turn lanes should not be necessary). Design speeds should be between 20 and 30 miles per hour.

It is assumed that such roadways would not measure more than 35 feet from curb to curb. Intersections should be traffic calmed and bike lanes should be included throughout the area, pursuant to a full bike plan.
Open Space

Green Infrastructure
A connected system of public open spaces, in conjunction with Primary Roads, creates an armature on which new development can develop and evolve. It should include a variety of public spaces integrated into a comprehensive system. The larger concept underlying this armature is that a “Green Ring” is created by linking each of the four quadrants defined by the Amwell Road/Route 206 ByPass axes.

These elements can be thought of in terms of two broad categories: “Natural Areas” and “Urban Forest”. Natural Areas include greenways and buffers that are less structured and where relatively minor interventions (trails, some new plantings of native species) are made into the existing landscape.

The Urban Forest concept is meant to capture the more structured elements of the landscape. It includes street landscaping and the landscaping of new public spaces such as a future train station plaza, and the landscaped setbacks around new structures (i.e. required front, rear, side setbacks). In both cases, certain principles apply: use of native, non-invasive species, and best practices storm water management.

The major features of the green infrastructure system include the following:

Green Streets:
Primary roadways should be landscaped. Some possible techniques include watering tree pits with storm water run-off from roofs, opening up curbs to allow storm water run-off to flow onto lawns or into “bio swales.” Consider opportunities to open up curbs to allow storm water run-off to flow onto lawns or into “bio swales.”

Amwell Parkway
Amwell Parkway is conceived as a linear park, deep enough so that it may incorporate a wide, multi-use path for separate bike and pedestrian traffic. Also envisioned are small pocket parks of varying length. At the edge of the actual roadway, the landscaping should engage the street trees that line both sides of Amwell Road.

An overall design is required for the Parkway that incorporates both street trees and front yard setbacks so that the entire zone, including the buildings that define it, have a coherent and unified design. Thus, any landscaping in the front setback (front yards of buildings fronting on the Parkway) will be
Greenways
In large measure, these are the existing open space resources that are protected from future development. Minimum interventions are made here, including the following: new trails/bikeways; selective replanting of native, non-invasive species to help define circulation routes or create visual and sound buffers; stream and wetlands rehabilitation/restoration. The Greenways should not only help link the quadrants, but also create connections outside the ring to the surrounding context.

Buffers
Some green areas function as buffers, in particular between the Route 206 By Pass and adjacent development areas. Plantings should be selected to create year-round visual and acoustic barriers. Green buffers along Amwell Road between the entrance of Roycebrook Estates and the transit village are imperative to reduce any impacts on existing development.

Station Plaza
This open space is largely hard surface, but is nevertheless a strategic part of the green infrastructure and open space network. In terms of landscaping, trees in this space should create an extension of the streetscape on the connecting streets.

Greenway Overpass
For the Green Ring to be complete, it must cross the proposed Route 206 bypass in two locations, north and south of Amwell Road. Because the design of the Bypass has not been finalized, including its elevation above, at, or below grade, it is not possible to present a definitive strategy. Although very likely an expensive option, one possibility is a green overpass (essentially a landscaped bridge) that functions in a similar manner to a wildlife corridor. Conversely, a green underpass would provide the same function, but is only possible if the Bypass is built partially above grade. Any green connection would have to be high enough and wide enough to feel like a real continuation of the open space system.
Development Districts

Different development types will be appropriate for each of the transit ready development quadrants or “sub-areas”. The potential opportunities in each area as well as the existing context has shaped the proposed mix-use development framework.

Sub-Area 1 is the area adjacent to Pinney Woods and will permit low density residential development with limited office and commercial development along Hamilton and Amwell Roads.

Sub-Area 2 is the area closest to Roycebrook Estates and will be transitional allowing low density residential development.

Sub-Area 3 is the area adjacent to Town Center south of Amwell Road and shall permit moderate density housing with office and limited commercial development along Hamilton Road and Amwell Road.

Sub-Area 4 The train station area shall contain mix use development. Stand alone retail and residential uses should not be permitted.

The following chart summarizes what type of development districts and development typologies define Hillsborough’s preferred development framework and what type of land use and densities are appropriate in each Sub-Area. (The districts and development typologies’ standards and guidelines are described in detail in the following chapter)

<table>
<thead>
<tr>
<th>SUBAREA</th>
<th>DISTRICTS/ Development Typologies</th>
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<tbody>
<tr>
<td>Sub-Area 1</td>
<td>Low Density Residential/ Low Density Residential</td>
</tr>
<tr>
<td></td>
<td>Low Density Mixed Use/ Retail, Office, Medium Density Residential</td>
</tr>
<tr>
<td>Sub-Area 2</td>
<td>Low Density Mixed Use/ Office, Limited Commercial</td>
</tr>
<tr>
<td>Sub-Area 3</td>
<td>Low Density Mixed Use/ Retail, Office, Low Density Residential and</td>
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<tr>
<td></td>
<td>other limited Commercial</td>
</tr>
<tr>
<td></td>
<td>Medium Density Residential/ Medium Residential</td>
</tr>
<tr>
<td>Sub-Area 4</td>
<td>Medium Density Mixed Use/ Station Area, Retail, Office, Medium Density</td>
</tr>
<tr>
<td></td>
<td>residential</td>
</tr>
<tr>
<td></td>
<td>Low Density Mixed Use/ Retail, Office, Medium Density Residential</td>
</tr>
<tr>
<td></td>
<td>Medium Density Residential Use/ Medium Density Residential</td>
</tr>
</tbody>
</table>
Hillsborough’s preferred development framework preferred building envelopes, massing and site planning.

- Site design can advance low impact development guidelines. The developers/architects should:
  - Minimize impervious surfaces such as rooftops, roads and parking lots. Eliminate as much impervious surface as possible that conveys stormwater directly to streams or other surface waters. Vegetated roofs can replace asphalt rooftops.
  - Locate residential, commercial buildings and community facilities and parking away from critical areas and soils that infiltrate well.
  - Use small-scale, integrated management practices such as bioretention, permeable pavement and vegetated roofs. Create a landscape that slows storm flows and increases the amount of time storm flows stays on site.
  - Stormwater facilities can protect the environment and become an attractive part of the streetscape design. A bioretention area can be a lush garden that beautifies the Transit Village and manages stormwater.

Train Station Area
The future station area should be the highest density area in the Transit Village and allow for a broad range of uses to create a highly pedestrian-friendly area; to achieve the place-making goals articulated by the stakeholders and to take advantage of the potential investment in the new transit station. Buildings should be placed at the sidewalk line (no front set-back) in order to clearly define the public realm of streets and public spaces.

The Train Station area is intended to encourage compact development around the train station to allow for higher densities, and is intended to provide a walkable scale, and a mix of residential and commercial uses and a range of densities. The prototypical mix may include ground floor retail around a future “Station Plaza” with offices and loft apartments above.

The district is also intended to advance improvements to the public realm; to improve pedestrian and vehicular circulation; and to build upon existing assets and maintain the existing character of the community. Building design standards will encourage a balance of new development opportunities and a respecting for the existing architectural context and character of the Township.

Recommendations for Train Station Area
Density – Minimum 5,000 square-foot lots

Permitted land uses: cafés and bars, limited local retail, personnel services businesses, residential apartments, commercial (professional offices), banks, restaurants, cafés and bars, local retail, personal services businesses, residential apartments (minimum 800 sq ft), community facilities (i.e. daycare or museum), and parking (Drive-through uses not permitted)

Building Heights – Mixed use retail/residential dwellings – 3 stories/45 ft (3 to 4 stories/60 feet adjacent to train station if animated changes in massing, such as set backs on upper floors are employed to maintain a “village center” scale, based on the topography at the station area only).

Massing – Maximum FAR 1.0 (gross floor area calculation not to include parking structures)

Building coverage – 50%
Development Typologies

Best Practice District Types

The best practice district types can be applied to both Hillsborough and Montgomery Townships. In both cases there are any number of future development scenarios that cannot be anticipated at this time. However, it is possible to ratify certain essential strategies that can prevent a place from being overrun by unattractive sprawl. These strategies include the following.

• To the greatest extent possible, buildings shall be oriented towards the streets and other public spaces.
• The street, conceived of as a public space defined by buildings and landscape elements, is the most essential building block for a connected, pedestrian friendly place.

The street is conceived of not so much as a conduit for cars as a public space – that is, as a well-defined place that accommodates cars but is first and foremost a place that people want to occupy. A “street-place” has these characteristics:

• Buildings are sited so that they have a uniform relationship to the street and shall create a street wall that clearly defines the space of the street.
• Building entrances face the street.
• To the greatest extent possible, activity, especially within the ground floors of buildings, shall be visible to the street.
• Parking shall be located to the sides of and behind buildings so that it is not necessary to traverse a parking lot to get to a building entrance. Large expanses of parking shall not be permitted.
• All intersections shall have sidewalks and be pedestrian-friendly.
• Streets shall be uniformly landscaped.

The development prototypes presented here are intended to represent these principles for different types of districts and streets within those districts.

• Mixed-use retail/residential/office district
• Office
• Medium-density residential neighborhood
• Low-density residential neighborhood

In addition several prototypes for future train station areas are provided.

The prototype districts are organized around the proposed connectivity standard that blocks shall not be wider than 330’ or longer than 660’. In this way it is possible to relate these prototypes to the street and block framework diagrams for both Hillsborough and Montgomery.

By organizing this framework in this way – a street and block network capable of accommodating several prototype district types – the framework is meant to provide enough flexibility to accommodate the inevitable vagaries of the development process and real estate markets, while still ensuring the principles outlined above are implemented.
Issues w/ Conventional Development Patterns

1. Single point of entry concentrates traffic, usually requiring signalization.
2. With no direct access to either adjacent commercial or residential areas, the apartment site is physically isolated and psychologically separated from its surroundings.
3. Lack of defined street edge undermines the sense of enclosure on collector street, weakening the community fabric.
4. Commercial service area requires elaborate screening and buffering, further creating a sense of separateness from the adjacent neighborhood.
5. The spaces between isolated use areas become unmonitored and dangerous.

Transit Activity

It is possible to make the station areas transit hubs even before there is train service: The communities and appropriate agencies can explore alternative transportation options:

Alternative Transportation (Make TV a Transit Hub before Train)

- NJDOT, New Jersey Transit and Somerset County should look at priority bus treatments on Route 206 and Amwell Road to allow for express bus service in the interim. This would not only improve current transit opportunities, but would begin to establish a set pattern of behavior.
- Establishment of a Regional Bus Facility at the potential train station would not only provide interim transit options for residents, but would also set the stage for potential train service. A feeder bus running through the Township could be controlled by Somerset County or New Jersey Transit. If an employer could provide van pool or bus service, then stipulations could exist to lessen the parking requirement for developers:
  - Some examples currently exist:
    - Buses running on shoulder (Route 9—Old Bridge) would utilize alternative signals so that buses may bypass the traffic queue
    - Route 130-South Brunswick
Development Typologies

The following diagrams depict the district type, where it appears throughout the Hillsborough development framework and the development topologies appropriate for each district.
Station Area Typology

The transit-ready area in Montgomery and Hillsborough will be developed in phases; that the area will evolve over time. One of the most valuable benefits of transit oriented planning is that a community can ensure that near- and long-term development decisions are predictable.

The following development and transportation framework is relevant for Hillsborough and Montgomery and, given several other planning initiatives and an array of variables; it is still possible to ensure appropriate development consistent with community goals:

As the diagrams suggest, a future station area could have a variety of configurations. Regardless of the particular configuration, the station area should have the several characteristics, listed below. Two are of particular importance – parking strategies and ground floor activity.

Parking:
- Parking should not front onto the station square. Surface parking can be developed adjacent to the station square along side the train right-of-way, but should not be wider than one double-loaded parking aisle (+/-60').
- Larger surface parking lots should be screened from the station square, ideally behind a building with ground-floor activity facing the station.
- Parking structures should not front onto the station square. They should be behind, or wrapped by buildings that populate the station square.
- Auto access to and from parking facilities should be designed to minimize conflicts with pedestrians and auto circulation should accommodate other modes (bus, bicycle).

Ground Floor Activity:
- Buildings that frame the station square shall have visible, active uses that animate the edges of the space where the station square is linked to.
- The station square should be thought of as one element in a larger public open space network. Thus particular attention should be paid to the design and character of the roads that lead to the station square.
- Other characteristics of a successful station square include the following:
  i. Changes in materials to give this space a distinct identity
  ii. Use of landscape and streetscape elements to define the space
  iii. Use of well-scaled lighting fixtures
  iv. Accommodation for bus and shuttle drop-off and pick-up
  v. Accommodation for bicyclists
  vi. Prioritization of the pedestrian experience
  vii. Design of the space to be used for multiple purposes (e.g., farmer’s markets, performances, etc.)
(See Prototypes 1 - 3 on the following pages)
Hillsborough Development Framework
Station Area Prototype 1

Alternative Prototypes 1a, 1b and 1c
Low-density Residential

1. Promote on-street parking to meet parking demand.
2. Provide access to garages from mid block “alleys” if possible
3. Where garages are provided, set them back as far as possible and, in any case, behind the front façades of the houses. Driveways to garages should be no wider than x feet.
4. Provide street trees at uniform intervals (30’ o.c. recommended)
5. Sidewalks continue across intersections as highly visible cross walks.
6. Traffic calm intersections inside sidewalk bulb outs to frame on-street parking zone.
7. Houses at the corners of blocks should have primary or secondary access to both streets.
8. Houses should present a “friendly face to the street”: Primary entrances should face the street. Built-in garages should be a relatively small proportion of the building’s presentation to the street.
9. The fronts of houses should be located along a front set back (or “build-to” line), or within a narrow enough set back zone to establish the street as a well-defined public space.
**Medium Density Residential Neighborhood**

In no case shall parking lots front onto streets. Parking lots shall be only in the interior of the blocks. Access to parking lots and service areas shall be from secondary streets or alleys.

- Promote a diverse mix of residential building types
- Orient principal facades of buildings towards the most important streets.
- The massing of buildings shall create a transition between buildings of different scales.
Retail Typology Planning Principles

1. Link the internal street network to the surrounding street and block network.

2. To the greatest extent possible, distribute parking throughout the district into intermediate and smaller-sized lots. Avoid large, un-relieved expanses of parking.

3. Wherever possible, the internal roads between the parking lots and building frontages especially those that align with the surrounding street network, should be designed as streets with sidewalks that link to the rest of the pedestrian network.

4. The internal road network should be designed to maximize cross-access between parcels and different businesses.

5. Overall, the design of the retail district shall be pedestrian-friendly to enable visits to multiple destinations from one parking location.

6. Service areas should be internal to the blocks and screened from adjacent neighborhoods.

7. Along important connecting thru roads, establish uniform setback standards. At important intersections or at other strategic places, buildings should define the space of the street and sidewalks, with parking only to the sides or behind the buildings. Buildings sited in this way should have a positive relationship to the sidewalk in terms of transparency, entrances and architectural interest.
**Office Typology Planning Principles**

1. Link the internal street network to the surrounding street and block network.

2. Rationalize parking into lots along the sides of buildings and minimize frontage onto important connecting thru-streets.

3. To the greatest extent possible, develop on-street parking opportunities. Treat linear parking lots as “streets” with on-street parking, sidewalks and landscaping (see detail of street prototype).

4. Along important connecting through-streets, establish a uniform set-back standard and uniform landscaped design standards for the set-back zone.

5. Where the street network cannot continue through an oversized block that is organized around a central loading area, provide a visual corridor through the block along the street alignment.

6. The overall disposition of building types in a flex industrial campus should be such that office uses, or the office components of flex buildings, should front onto the important through streets.

7. Landscape treatments should screen service and loading areas from view.

8. The overall layout of the flex office/industrial “campus” should areas be such that service and loading areas and service routes are separated to the greatest extent possible from car, bicycle and pedestrian access routes, and especially from important thru streets.
Neighborhood Scale Open Space

1. Neighborhood-scale open spaces can support higher density residential building types.
2. Buildings around the space do not have to be the same type, but together, they should create a legible and integrated “ensemble”. Differences in scale and style should be managed creatively.
3. As with residential streets elsewhere, buildings should be oriented to the public space and have a consistent relationship to the sidewalk and street.
4. In no case shall parking lots front onto the public space. Parking lots should be behind buildings or otherwise completely screened from view. Landscape buffers should screen parking lots from side streets.
5. Typically, neighborhood parks should have streets on all sides to enable the buildings that front onto the space to have an address and entrance onto the open space.
6. On-street parking along the roads defining the public space is desirable.
7. All intersections should be traffic-calmed.
An implementation strategy will seek to maintain the interest and contributions of all stakeholders. Because the community will have contributed to defining the plan since the beginning of the process, they will have an interest in seeing the recommendations implemented. Genuine understanding of the origins of the plan engenders support.

Since community members and groups were actively engaged in the Process, many will want to see their ideas realized and will continue to contribute. (See Implementation Strategy Matrix)

**Montgomery Township**
Montgomery is encouraged to utilize the base planning and design concepts in its future planning and visioning for the Belle Mead node, including the location of the future West Trenton train station.

Based on the input received during the committee meetings and design workshop the Township committee and Planning Board created a development framework. It should be noted that based on the Townships evaluation of the potential for TDR credits, the Township has put the process on hold. Montgomery Townships desire to proceed with State Plan Endorsement and new community visioning for the Belle Mead node, the Township may want to consider re-opening discussions dealing with the Belle Mead node through the Plan Endorsement process.

**Hillsborough Township**
Hillsborough stakeholders, with the consultant team, have advanced the redevelopment alternatives beyond the concept level to detailed prototypes. It is important that the Transit Ready Development framework include not only existing currently planned roadways, but also include additional future road connections; connections that should be incorporated as the Transit Ready Development evolves. For example, there should be sidewalks on both sides of Amwell Road and a pedestrian bridge between Hamilton Road and Amwell Road should be considered.

The transit area development will be a destination in Hillsborough. Quality lighting and pavement treatment in addition to other streetscape elements could reinforce the destination concept. The County and Hillsborough Township could also work together to ensure that a portion of the Route 206 reforestation area becomes a community resource such as a passive open space. The zoning framework detailed in this report was generated for the Township and the Township will translate the framework into zoning text.

The framework includes the following regulatory elements:
- Transit Ready Area: Purpose
- Low Impact Development
Hillsborough and Montgomery: Getting Ready for Rail
A significant amount of public outreach was completed during the course of the study. There was a meaningful dialogue between State, County, Stakeholders and the consultant team to generate a viable implementation strategy. There are several long-term initiatives that acted as catalysts for immediate planning. Out of the process, came short-term action items to ensure critical projects are realized. It is important that the work done to encourage immediate transit activity (i.e. shuttle bus) is not a discrete task; that this effort is met with funding and support to reactivate passenger service on the West Trenton rail line. A major next step is to build upon this study’s recommended investments and actions. The recommendations and implementation strategies are meant to lay the groundwork for more significant actions and investments. The recommendations and implementation strategy are meant to lay the groundwork for more significant action and investment
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Implementation and Funding
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