

January 2007

# SOMERVILLE

## Station Area & Landfill Vision Plan



Prepared for the Borough of Somerville by Regional Plan Association.  
Sponsored by NJ TRANSIT, NJ Office of Smart Growth and NJ Department of Transportation

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## **Acknowledgements**

**The Borough of Somerville, New Jersey Transit, and Regional Plan Association** acknowledge the hard work and dedication of the many citizen stakeholders of the borough who committed countless hours of their time and energy to this effort.

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## **Municipal and County Support**

Colin Driver,  
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## **Special Thanks to those who made it all possible :**

Borough of Somerville Custodial Staff  
Somerset County Facilities & Services Department  
Somerset County Transportation  
Somerset County Administrator  
Somerset County Sheriff's Department for Security  
Somerset County Board of Chosen Freeholders  
Somerset County Engineers Department  
Somerset County Planning Division

**What's-In-The-Icebox**, for great food and refreshments

# Foreword

## Purposes and Uses of This Document

What is a vision plan? A vision plan is a graphic document that describes how a community's long term goals and objectives may be achieved. It should be ambitious, yet realistic; clear yet not prescriptive.

A vision plan is not an end in and of itself, but rather a means to an end, one very important step in a redevelopment process that will take several years to complete. While the many drawings and models contained in this report describe a plan for this place in some detail, it is likely that the final built form will only approximate this design, reflecting the inevitable changes in real estate markets, the opportunities offered by entrepreneurs and partners who may or may not come forward and the willingness of the community to support those uses that the private development market cannot support.

If there are so many uncertainties going forward, why is it important to go through a process to create a specific plan? Because in the process of creating a specific plan, it is possible to discover those essential parts of a flexible planning framework that are needed to protect the community's long term goals and objectives – the major roads, the principal open spaces, and generalized land uses. In this way the vision plan is the foundation for the next step in the process – a redevelopment plan on which the negotiations with developers and other potential partners will be based.

The creation of the redevelopment plan must itself be a public process that, like the vision plan, results in a document that is prescriptive enough to ensure Somerville is supported by the highest quality development and yet is flexible enough to accommodate the inevitable uncertainties of a long term effort. Indeed, a developer may well have a great idea that this process did not uncover. This is important to remember as discussions around the vision plan continue – and they should continue – the discussion should focus on the big ideas and not become bogged down in the details of any one development program or building configuration. The redevelopment plan process will create ample opportunities for those more detailed discussion which by that time will be based on more detailed information.

This suggests the other product of this process, a product as important as the drawings and models – the increased understanding by a large constituency of Somerville residents about the many complex dimensions of this initiative – from building typologies to fiscal and market analysis, to “green infrastructure.” This is an exciting but very complex undertaking and the better informed the residents of Somerville are, the better the outcome will be. For this reason, this report docu-

ments the process as much as it does the current outcome. Over time, as new constituents are brought into the process, they must understand the basis for the decisions that were made so that this vision can remain dynamic and relevant, not static and outdated.

This report summarizes a more-than-a-year-long public process. It also summarizes the key findings from several other technical reports that are too long to put directly into this document. These include: “Economic, Demographic and Financial Implications of the Somerville Landfill Redevelopment Program,” prepared by Richard B. Reading Associates; “Traffic Engineering Summary: Transit Oriented Development Somerville Landfill Site,” prepared by Vollmer Associates LLP; “Borough of Somerville Market and Planning Evaluation, Somerville Landfill Site,” prepared by Phillips Preiss Shapiro Associates, Inc; and “Summary of the Place Audit,” prepared by Project for Public Spaces, Inc. These technical reports are incorporated by reference into this document and are part of this official Vision Plan. A set of design guidelines is also in process, and that document as well is incorporated here by reference.

With this document, we believe the citizens of Somerville have mapped out a roadmap for the future that can have on-going value in guiding their decisions as they take advantage of this incredibly exciting opportunity.<sup>a</sup>



Somerville Station

# Introduction

This report offers a vision for the Somerville Landfill and Station Area. Together with New Jersey Transit's property and several other holdings, the study area takes in some 114 acres of strategically located, but underutilized land. It is hard to overstate its significance. More than any other part of the municipality, this place offers the single greatest opportunity to secure Somerville's future for the next several generations.

The vision outlined here capitalizes on a myriad of opportunities to achieve complementary goals of community development, transit-oriented "smart growth" and environmental restoration. If properly planned and designed, the redevelopment area has the potential to accomplish many objectives:

- To strengthen and invigorate the economic viability of downtown and the Main Street businesses.
- To reinforce and integrate the neighborhoods south of the railroad tracks.
- To create a vibrant gateway to downtown Somerville from Route 206.
- To improve pedestrian and automobile circulation.
- To restore the environmental integrity of the site and achieve a model for sustainability and smart growth.
- To link resources and destinations around the site, especially the greenway connections to the Peters Brook, the Raritan River and old Dutch Parsonage.
- To reinforce the regional significance of Somerville.
- To provide new cultural, recreational and open space opportunities for the residents of Somerville.

This initiative is about capturing this potential for the benefit of the residents of Somerville.

## Background History

The Somerville Landfill operated from 1954 to 1984 as the Borough's Sanitary Landfill, receiving residential and commercial waste. In 1984 the landfill closed operation and fell under the "Comprehensive Environmental Response, Compensation, and Liability Act" (CERCLA), commonly known as Superfund. Subsequently the site was determined to not qualify as a "superfund" site and no further action was taken by the federal government at that time. In 1986 the Borough entered into a developer's agreement with Rosenshein Associates/Somerville Square, Inc. Following a number of years of inactivity, in 1994, the Borough Council voted to terminate the Developer's Agreement. This led to a protracted legal action, which in 2002 was finally settled, with the Borough regaining redevelopment rights for the site.

## This Initiative

In the fall of 2005, RPA was asked by the Borough of Somerville and New Jersey Transit to facilitate a community-driven planning and design exercise to articulate a transit and pedestrian friendly vision for the redevelopment area in anticipation of an official redevelopment plan as part of New Jersey Transit's Transit Friendly Planning Assistance Program. The program offers planning and design assistance to those communities with underutilized or vacant land in close proximity to a transit facility or station that could be transformed by new, mixed-use development. This program provides the necessary expertise to help interested municipalities craft a transit and pedestrian-oriented master plan or "station-area vision" for the targeted redevelopment area.

Funding was provided by the New Jersey Department of Community Affairs' Office of Smart Growth, New Jersey Transit and New Jersey Department of Transportation. While there has been a great deal of technical work – a full market analysis, fiscal impact and traffic studies, environmental research – the centerpiece of this initiative has been the public process and the stakeholder-driven public events – the numerous Steering Committee meetings, stakeholder group meetings, public presentations and two full day community design workshops, highly interactive design and programming sessions with the general public.

The effort was designed to maximize a fundamental principle: that community-based planning must be completely transparent and allow for participation at different levels. Several tiers of involvement were created – from small stakeholder working groups to large public meetings – which collectively enabled a diverse cross section of the community to contribute. This vision accurately reflects the collective wisdom and aspirations of the Somerville community.

## Regional Setting

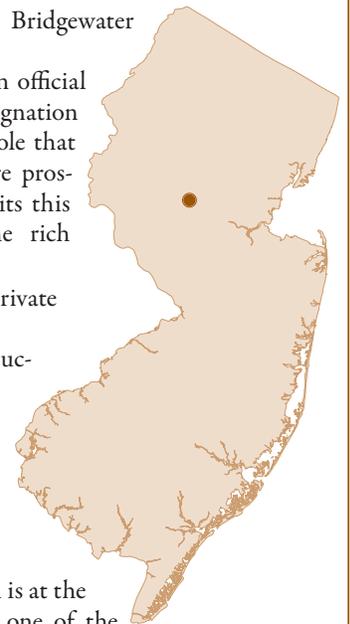
Somerville, the County seat, is at the epicenter of the larger Somerset County Regional Center which comprises the Boroughs of Somerville and Raritan and portions of Bridgewater Township.

"Regional Center" is an official New Jersey State Plan designation that signifies the strategic role that this area plays in the future prosperity of the region. It merits this designation because of the rich concentration of resources:

- Important public and private institutions.
- Transportation infrastructure – main regional highways, bus routes, Raritan Valley train line, shuttle services.
- Significant concentrations of population and employment.

The Regional Center in turn is at the heart of Somerset County, one of the most prosperous and important parts of the larger New York Metro Region.

Of the many regional-scale resources, several are particularly relevant for the landfill site. The nearby Duke Estate is a major environmental and cultural resource; there is a highly significant cluster of pharmaceutical industry business in the Route 78 and Route 22 corridors; finally, there are three NJ Transit stations including the Somerville station that attracts over 720 commuters daily, a number that will grow after the second rail tunnel under the Hudson is built, increasing Raritan Valley Line capacity.



# Executive Summary

**This document outlines a vision for the Somerville landfill and station area**, some 114 acres of surface parking lots for NJ Transit commuters and a closed municipal landfill. After years of litigation, the residents of Somerville are poised to finally take advantage of this extraordinary opportunity. Strategically located, this place has the vital potential to link a variety of resources: downtown Somerville, the train station, the South Bridge Street neighborhoods, the historic Dutch Parsonage, the Peters Brook and Raritan River Greenways and the Duke Estate.

In the fall of 2005, with funding from the New Jersey Office of Smart Growth, New Jersey Transit and NJ DOT, RPA was asked to facilitate a community-based planning and design effort to outline a vision for this place. RPA was joined in this effort by a consultant team which included Richard B. Reading Associates, Vollmer Associates LLP, Phillips Preiss Shapiro Associates, Inc., Project for Public Spaces, Inc. and Clark Caton Hintz. That process was founded on transparency and public participation involving many stakeholder meetings, two full-day community design workshops, and thousands of hours of time invested by Somerville residents. The vision presented here is the outcome of that public process.

Right from the first public meetings, citizen stakeholders were clear about their aspirations for this place: Create a plan for the Somerville landfill and train station areas that is market worthy, environmentally sustainable, transit-friendly, and supports the economy and community of the borough of Somerville. As a model of smart growth development, this initiative should create new rail ridership, strengthen the financial position of the municipality, and, most importantly, must reinforce the Somerville community.

Out of the early analysis of the constraints and opportunities a three-part planning framework emerged that would continue to shape the future of this place:

- **The Hub:** a new neighborhood, anchored by an active mixed-use station area with land uses and destinations that support both the station and the downtown. This includes loft apartments, a movie theatre, hotel and civic uses in the form of a community meeting place or new municipal hall. This neighborhood should also feel as if it is an extension of the existing South Bridge Street neighborhoods located east and west of the site. Because of ease of access and fewer environmental challenges, the Hub is a likely Phase I.
- **The Heights:** this is a new neighborhood on the landfill proper. In addition to residential uses at a lower density, this part of the site with its frontage along Route 206, is also suited for larger scale commercial or institutional uses (although Somerville residents were clear that highway commercial strip uses were not acceptable). Because of access issues and the need to clean up the landfill, this is a likely Phase II.
- **The Green Seam:** Between the Hub and the Heights is the Green Seam – the corridor of wetlands and floodplain that can become a great open space amenity and environmental asset. It is called the Green Seam because it is designed to knit the two sides of the redevelopment area together as well as to act as the nexus for several trail connections to the Peters Brook and Raritan River Greenways.



Aerial Photo



Model Photo Looking Southwest

The future development will also be shaped by the road network that emerged during this process. Three primary roads in particular are proposed:

- A new “Station Road” linking Route 206 to the station area and its associated parking.
- A new “Wetlands Parkway” linking Orlando Drive to the station area and, beyond that, to South Bridge Street.
- A new Davenport Street extension linking the station area to the Downtown by way of a new tunnel under the Railroad embankment.

Several other features of the plan include two new gateways along the Route 206 frontage, gateways that are meant to project Somerville’s regional significance: at Orlando Drive, a “Downtown Gateway” with some kind of institutional use perhaps associated with the pharmaceutical cluster in the County; and at the south end of the site, where the Green Seam meets Route 206, a “Green Gateway.” This would feature a major park and pedestrian bridge over Route 206 to the Raritan River.

Perhaps most important are the civic and open space uses. A strategic block at the meeting of the Hub and the Green Seam has been allotted for a civic use of some kind, not specified at this time. Residents suggested several possibilities including a new municipal building or community meeting space.

Of the 114 acres, fully 41 acres, or nearly 40%, are devoted to open

spaces of different kinds, from passive recreation and trails, to active playfields to neighborhood parks. The signature opportunity at this site is to rethink the environmental “constraints” – the wetlands and flood plain areas. This plan is organized around these features, setting the stage for a redevelopment that can make this a model of sustainability. In particular, the site is designed to take advantage of the wetlands as a resource for managing storm water run-off and so-called “non-point source pollution” – the contaminated water that runs off of parking lots, roads and roofs into streams.

## Redevelopment Strategies

The scale and makeup of the development program modeled in the Vision Plan reflects both the goals and objectives for community redevelopment and market realities. The market analysis by Phillips Preiss Shapiro Associates showed a strong market for residential and intermediate scale retail uses, an intermediate strength market for movie theaters, professional offices and hotel, and a weak market for conventional office space and flex industrial space.



Downtown Somerville

The Phase I program consists of 850 dwelling units, 20,000 sf of retail space, 20,000 sf of office space, a 25,000 square-foot inn with meeting rooms, and a 4-screen movie theater, as well as commuter parking. The Phase II program consists of 350 dwelling units, 25,000 sf of retail space, and 25,000 sf of office space. In all phases, passive and active recreational, open space and community facilities are viewed as important land uses to be included.

During the community design process, stakeholders suggested that the Route 206 frontage should be considered a Phase III because of the uncertainty at this time of identifying a signature use appropriate for projecting Somerville’s regional identity. For the purposes of the fiscal analysis, space equivalent land values of 115,000 square feet of research-based industrial use or institutional use of some kind were used.

Residential uses play a large part in this program, and not just because the market is so strong for those uses. Residential uses can best take advantage of access to transit and can best enliven Downtown Somerville. Research has concluded that these kinds of transit oriented, compact mixed-use developments attract few families with school-age children; and for the most part empty nesters and dual-income, young professionals who desire proximity to transit, a vibrant downtown and low-maintenance lifestyle. This new population will have a tremendous net positive impact on the Borough’s finances.

In addition, the financial performance of this devel-



Plan Detail of Station Area

opment program, when completed, is quite significant: Specifically, this development generates almost \$50 million of land value and \$ 3.3 million in annual net tax revenues, resources which can be applied to a host of community needs.

The development program also reflects the imperative that the final build-out should be in scale with the rest of Somerville. A coarse estimate of the total cost associated with all of the site improvements and amenities – from those that are mandatory, such as the landfill clean up, to those that are discretionary, such as the parks and civic spaces – is approximately \$100 million dollars. In order to not overwhelm this site, this initiative set a goal of finding a development program capable of generating roughly half of that or \$50 million, with the reasonable expectation that partners could be found for the other expenses. For example, NJ Transit is already investing \$20 million in station improvements (new high-level platforms, pedestrian tunnel, amenities) and will partner in redeveloping its portion of the development site as envisioned by this plan. New Jersey Department of Transportation will be asked to help pay for the new Davenport Street tunnel and possible pedestrian enhancements to Route 206.

This development program is a realistic benchmark that accomplishes the Borough’s objectives. The redevelopment process will involve negotiations with actual developers and may result in a development program that is different from this.

Finally, Vollmer Associates, a traffic and circulation consultant, was asked to evaluate potential impacts a new development would have on the local roadway network and pedestrian access within and to/from the site. They concluded that the proposed land uses within the site are of a low enough intensity that all of the road sections can be designed to be standard two-lane roads with on-street parking and with intersections controlled only with stop signs. A traffic analysis also revealed that during peak commuting hours there would be minimal impacts on existing conditions and with the recommended improvements would result in an improved level of service.

Traffic mitigation measures are anticipated at each of the two existing Route 206 intersections – South Bridge Street and Orlando Drive. In both cases additional or lengthened left turn opportunities are created. It is important to note that the resulting levels of service at these two intersections are better than the “no-build” alternative without mitigation. It is also important to note that because there are traffic problems at these two intersections today, the County and Borough can petition NJ DOT for mitigation today, in advance of redevelopment, thereby lifting that cost from the developer and making those funds available for some other site improvement or amenity.

This Vision Plan, the product of a tremendous amount of work by the citizens of Somerville, presents an exciting and forward looking vision. It is a roadmap, worthy of the effort put into it by the citizens of Somerville, for the redevelopment process that still has far to go, but is closer than ever to reality.



A Somerville Neighborhood

# Toward a Vision

## Goals and Objectives

The earliest meetings were devoted to analysis of past plans and studies and establishing the fundamentals of a planning framework. Simultaneously, a comprehensive list of potential land uses was developed by the stakeholders as well as a set of screening criteria, including market feasibility, that would be used to evaluate and prioritize these uses. For example, would the proposed use complement the context and character of downtown Somerville and the surrounding neighborhoods? Does the use fill a particular community need? Does the proposed activity complement or compete with existing activities in Downtown Somerville? Does the use create new transit ridership? Does it create ratables for the municipality? (See Appendix for the full list of uses and criteria). Most importantly, a set of overall goals and objectives was agreed upon.

## Evaluation of Past Plans

Over the past decade, there have been several design and development studies for this area. Three of these studies in particular were selected to see what they revealed



Downtown Somerville

about the site issues and opportunities: Transit-Oriented Development Opportunities in Somerset County (prepared for the Somerset county Planning Board by Wallace Roberts & Todd, 2005), A Vision for a Somerset Technology Center and Somerville Transit Village (prepared for the Somerset Alliance for the Future, 2001) and the Regional Center Vision Initiative (Regional Plan Association, 2000).

The three studies are quite different in many ways. In other ways, however, the three studies shared some characteristics that would remain hallmarks of the current design: a higher density mixed-use node around the station, larger scale development along the Route 206 edge, and open spaces organized around the wetlands and flood plain areas.

In terms of circulation and access, the three earlier studies also reveal the challenge, apparent in this vision plan as well, of trying to connect Route 206 directly with the site and the downtown business district. In all cases, a new access road extending from Orlando Drive to the station area is provided as well as an interior road parallel to Route 206.

## Context and Constraints

It is not surprising that many of the past plans as well as the design studies created during the community visioning workshops, share certain big ideas. Despite the initial impression that this is an unconstrained area, the fact is there are a number of strong site and context conditions – ownership patterns, environmental constraints, access opportunities – that will shape the future of this site.

**Ownership** It is advantageous that most of the property in the study area, about 70%, is already in the control of public entities – approximately 22 acres by NJ Transit, 58 acres by the Borough of Somerville. The Borough has expanded the boundaries of the redevelopment area to include Borough-owned properties on the south side of Route 206 adjacent to the Raritan River.

### Environment: Landfill

The land controlled by the Borough of Somerville is a municipal landfill, closed in 1984. Despite its contamination, it can be redeveloped into a vibrant, economically viable project. To assist the public and private sector in this undertaking, the State of New Jersey has several active brownfield reclamation programs in place and has been active in assisting these entities with this challenge. Of those projects that have successfully been built, a majority of these projects have had a

### GOAL STATEMENT

**Create a plan for the Somerville landfill and train station area that is environmentally sustainable, transit-friendly, and supports the economy and community of the borough of Somerville.**

- The plan should be a seamless extension of the Downtown area and the surrounding neighborhoods.
- The plan should ensure diverse, mixed-use redevelopment that is complementary with the municipality and can accommodate phasing over time.
- The plan should create a transit and pedestrian oriented development plan that is based on the principles of Smart Growth and appropriate urban design.
- The Somerville train station should be a catalyst to spur the redevelopment of the study area and the downtown business district.
- The design of the buildings should complement the historic character of Somerville.
- The vision plan should respect and enhance the environmental integrity of the site to the greatest extent possible and take advantage of the many opportunities this offers.
- The plan should create new roadway access (Gateway) and parking opportunities without compromising the needs of the pedestrian, cyclist or transit user.
- This document must continue to be the fundamental touchstone for evaluating this effort as it goes forward.

strong residential and mixed use component. But there are important implications:

- Cleaning up the landfill is the responsibility of the Borough. Some state grants may be available, but the bulk of the cleanup cost will be born by the developer.
- The cleanup strategy is affected by the proposed land uses. It is more expensive to clean up for residential than for commercial uses (approx. \$200,000/acre and \$100,000/acre, respectively). Also, construction on the landfill is more expensive than elsewhere for a variety of technical reasons.
- The artificial topography created by the landfill is significant and can actually be an asset.

### Environment: Wetlands and Flood Plain

Wetlands and flood plain areas will shape development here. The underlying philosophy in this vision is that these constraints, if they are managed creatively, can serve as significant passive recreational and open space opportunities to complement the built environment as well as a resource for managing storm water and pollution.

- There is a large portion of the site that is wetlands and flood plain. This creates a significant open space reserve in the site that, as it happens, is well located to create a greenway zone linking the station area (the “Hub”) and the Route 22 area (the “Heights”), to each other and then to other resources beyond the site. Of the total 114 acres, approximately 75 acres are buildable.
- Much of the existing wetlands is unattractive and needs to be cleaned up and restored, which will be expensive.
- It is very difficult to get permits from DEP for even modest incursions on the wetlands. Active parks – such as ball fields—are considered incursions on wetlands and also difficult to permit.
- Roads can cross wetlands. Trails and boardwalks are permitted.

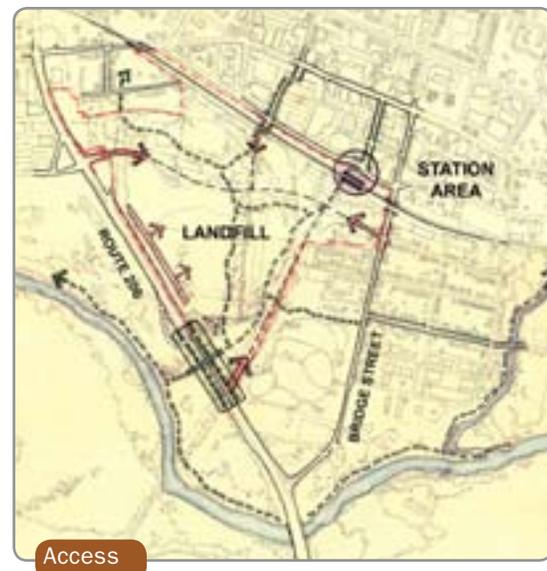
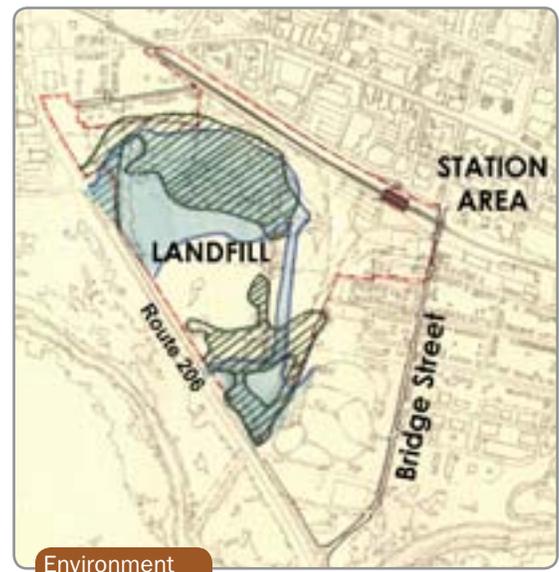
### Access

Currently, vehicular access to the site is limited to a driveway entrance from South Bridge Street and a small dirt road from Route 206 that dead ends at the center of the landfill. Pedestrian access is from South Bridge Street on the east, the Old Dutch Parsonage neighborhood to the west, and via a pedestrian tunnel that runs under the elevated tracks. Hence, a new vehicular and pedestrian circulation system that is safe, convenient and attractive is essential if the development program as envisioned by this plan is to succeed and can to be linked to the downtown and adjacent neighborhoods.

### Access: Route 206

Some new access from Route 206 is essential not only for the success of the development but to ensure that commuter access to the station area is not compromised and that a new gateway to downtown Somerville is created to supplement South Bridge Street and Somerset Street which are busy local streets. Preliminary design studies favor up to three points of access. However, access from Route 206 is a significant challenge because the road was recently rebuilt as a divided highway, with strict limitations on spacing of new access points (1/2 mile standard). Route 206 also cuts off access to the Raritan River Greenway and the Duke Estate. Several strategies have been considered.

- Connection at Orlando Drive: This is the easiest and most likely Phase I connection as there is an intersection and “jug handle” there already providing access to both north-bound and south-bound Route 206.





Landfill and Station Area

- A new intersection for a new north-south road linking 206 to the station that serves as a new Gateway utilizing an old freight railroad right-of-way.
- A new service road along the 206 edge of the site. This provides flexibility for the road network within the site, but also requires a new intersection not far from the existing Bridge Street traffic light.
- A grade-separated ramp, or “fly-over” from south-bound Route 206 to the site. This provides an opportunity for south-bound traffic to enter the site without creating a new left turn. It could be designed to include pedestrian access over the highway. The problems are cost and visual and physical impact on the wetlands and greenway along the Raritan River.
- A new pedestrian bridge. This is an important link from the site to the future Raritan River Greenway. The new pedestrian bridge over Route 22 at Mountain Avenue is a good precedent, although expensive.
- A Route 206 boulevard. Route 206 would be re-built as a tree-lined boulevard that would still handle large volumes of traffic but at somewhat slower speeds, enabling several at-grade pedestrian crossings and several new intersections. While this is the most attractive option from an urban design point of view – creating a true link to the Raritan River greenway – it is probably the least likely to be implemented because of cost and the fact that Route 206 was just rebuilt. (See Traffic and Circulation Outcomes, p 34).

#### **Access: Davenport Extension Under the Railroad.**

Every design study for the site includes a new tunnel under the railroad tracks that connects up to Veterans Memorial Highway. This has the greatest potential to integrate station-area development to downtown Somerville. The Landmark Square redevelopment project anticipates this by bringing Davenport Street south from Main Street to Veterans Memorial Drive. Challenges to constructing this tunnel include cost, physical feasibility, and potential impact on wetlands. It may be necessary to re-grade portions of Veterans Drive to get the needed clearance under the tracks. There is currently an engineering feasibility study underway to evaluate the options.

#### **Access: Other Pedestrian Access Issues and Opportunities.**

In addition to the pedestrian bridge over Route 206 dis-



Landfill

cussed above, important pedestrian access opportunities include the following:

- Improve the uninviting pedestrian experience under the South Bridge Street railroad bridge.
- Connect to, and highlight with wayfinding signage to, the historic resources in the neighborhood at the northwest corner of the redevelopment area.
- Create attractive pedestrian linkages to the residential neighborhood east of South Bridge Street and from there to the Peters Brook Greenway.
- Redesign the pedestrian crossings at Veterans Drive near the station.

## **Towards a Planning Framework:**

### **“The Hub, The Heights and the Green Seam”**

The context, infrastructure, environmental constraints, and phasing all reinforce a three-part strategy for thinking about the site, a construct validated by the outcomes of both community design workshops. It is important to remember that the planning framework extends beyond the boundaries of the site and considers the strategic relationships to:

- Downtown and supporting Main Street;
- The Raritan River Greenway and larger River environment;
- The adjacent neighborhoods east of S. Bridge Street;
- Route 206 corridor and implied regional relationship to the technology/pharmaceutical industry cluster.

#### **The “Hub”**

In the Planning Framework diagram, the Hub consists of the land on the east side of the redevelopment area bounded by South Bridge Street and to the west by the course of wetlands and flood plain that create the Green Seam.

This area has the strongest relationship to downtown. The new residential population here, and the destination uses such as theatres or a hotel, as well as the commuting activity, all can enliven the downtown. Closest to the train station, this area can support more density because of reduced car ownership.

Anchoring the Hub would be an active Station Plaza surrounded by mixed-use buildings – retail or office and retail with loft apartments above. To take advantage of the station, this part of the plan needs to be “transit friendly”: a significant residential component, parking for commuters, a pedestrian friendly environment that supports walking and biking. Because the Hub reinforces the identity of the Somerville community, a civic use of some kind is appropriate as well.

The Hub is also a likely Phase I, because, unlike the landfill proper, environmental remediation may not be necessary and because initially no major infrastructure investments are required to access this part of the redevelopment area, although the Davenport Street extension ultimately will be needed to link the Hub to the Downtown.

South of the station area is a new neighborhood that extends the pattern of the existing neighborhoods along South Bridge Street.

### The “Heights”

This part of the site needs to be connected to the Hub and, by extension, to Downtown. However, it has an equally strong relationship to the regional highway network by way of Route 206 and to the Raritan River corridor and Duke Estate. For this reason, the land use future is not as clear.

The Heights area, like the Hub, is suitable for residential development, but probably at a lower scale. It makes sense for residential uses to front onto the open space amenity of the Green Seam. And, like the Hub, the Heights should be organized around a public space of some kind. But it is also suitable for larger footprint commercial or institutional uses by virtue of its highway access.

Because there is currently no formal access to the Heights and because the landfill needs to be remediated, this is a logical Phase II.

### The “Green Seam”

The Green Seam is the corridor of open space that corresponds to the wetlands and flood plain.

Because of its location, the Green Seam has a key role to play in knitting together the overall site and its larger context. The Hub and Heights neighborhoods are both oriented towards it for this reason. It also is the nexus of numerous greenway connections to the surrounding area including the Peters Brook and Raritan River Greenways.

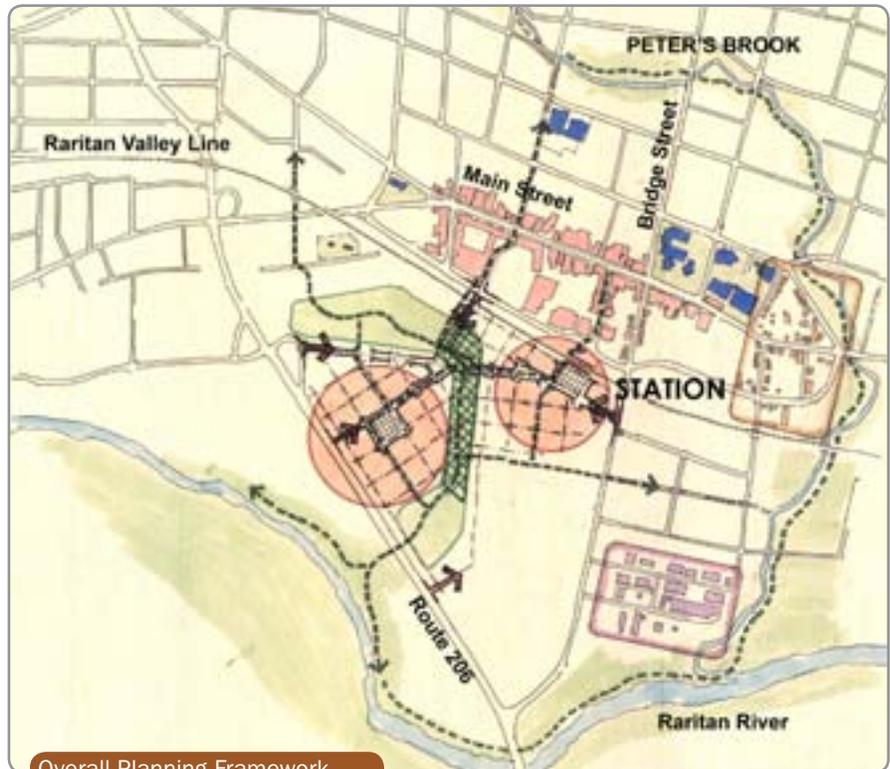
Obviously, the Green Seam it is best suited to passive open space uses, because structured recreational open space is considered encroachment on wetlands. However, active open spaces should be built on land that is not environmentally constrained as part of this armature.

The Green Seam is also the centerpiece of the “green infrastructure” strategy for the site, applying best practice storm water management, habitat and environmental stewardship. (See discussion later in this report.)

### The Road Network

More than anything else, the road network will frame future development over time. The road network must create a street-and-block network that is in scale with the rest of Somerville, allowing for flexible incremental growth. While the specific network layout depends on the final design and redevelopment plan process, the road network should have the following essential features:

- An east-west boulevard from Orlando Drive to the station and South Bridge Street, herein after called the “Wetlands Parkway.”
- A north-south road along the eastern edge of the site, herein after called “Station Road.”
- One or more north-south roads along the edges of the Green Seam.
- A Davenport Street extension and tunnel.



Overall Planning Framework

sequently, in the community design workshops, suggested an extensive array of uses and activities on this site. These included everything from ball fields to apartments, theatres to technology space. The final mix of uses and activities will be determined as the redevelopment process moves forward, and there is no need to shorten the list at this time. Nevertheless, as a way of beginning to organize the planning on this site, the uses are screened according to a number of criteria established in partnership with the community (See Appendix for the full list of uses and evaluation criteria). For the purposes of this presentation, the criteria are synthesized into four major categories:

**Location Bias:** While theoretically any of the uses could be located anywhere on the site, proximity to downtown and the train station at the Hub, versus highway access and visibility at the Heights, tends to favor certain locations for certain uses. In general, land uses well suited to the Hub can be constructed at a greater density than highway commercial uses and can both complement the train station and serve as an extension of Downtown Somerville. The concentration of activities around the train station and the proximity of this area to Downtown Somerville work to promote a mixed-use environment. Residential land uses are especially suited to the Hub because of transit use and the ability to reinforce and extend downtown. Some examples of other uses best suited for the Hub include civic uses, professional offices in mixed-use buildings, some specialty retail compatible with Main Street Somerville, and an inn or small hotel with meeting spaces.

## Evaluating Uses and Market Conditions

Citizen stakeholders both in the early stakeholder meetings and sub-

The Heights contains land located within the southwest portion of the site and consists of both the landfill proper and that portion of the landfill property adjacent to Route 206 which the stakeholders suggested could be a potential Phase III. Through the visioning process, stakeholders suggested that most of the landfill proper should be a new neighborhood and in fact this land is suited for residential development, in particular, townhouses. The land more proximate to Route 206 can accommodate larger-scale, auto-oriented uses that require large floor plates and abundant parking. Examples are multiplex movie theaters, offices and regional retail, although resident stakeholders have been clear that they do not want big box and “strip retail” uses, or the appearance of conventional highway-oriented development. For these uses, the benefits associated with access to/from Route 206 are essential, while location near the train station is of secondary importance.

Between the two districts (almost down the middle), and creating the link between the Hub and the Heights, is the Green Seam, which consists in part of natural wetlands. The Green Seam is a likely location for passive recreational trails and greenways that take advantage of the site’s natural features.

### Transit Friendly

“Transit Friendly” as used here is a development that elicits a positive answer to all of the following questions:

- Does the proposed use promote ridership?
- Does the proposed use support “place-making” by creating an active pedestrian-oriented destination?
- Does the proposed use allow shared parking with NJ Transit?

Considering Somerville’s suburban location, residential development centered on the train station will pose the only dramatic impact on transit ridership. In respect to the overall quality of the project and the opportunity to provide a unique sense of place, a variety of land uses, ranging from civic and recreational, to retail and office, have the best ability to sustain a unique environment. In terms of potential for shared parking, the best opportunities are with civic uses, recreational uses, movie theaters, performance space and mid-size retail complementary to Main Street Somerville (30,000 to 50,000 sf).

### Community or Public Benefit

“Community benefit” is meant here to synthesize several different parameters including the ability to reinforce downtown, the ability to address some need in the community and its fiscal implications.

In terms of reinforcing downtown, uses that enhance the hub as a mixed-use destination will attract a population to downtown as well. This includes civic recreational uses, intermediate-scale destination retail and small hotel or inn. It especially includes residential uses, as they create a new population of shoppers who will want to take advantage of the many amenities offered in downtown Somerville.

In terms of filling a need, stakeholders expressed a

desire for many of the same uses that reinforce downtown – new civic spaces (library, community center), recreation center, a movies theater and inn. Residents on several occasions raised the idea of having a place to host special events and parties such as weddings.

The summary of market implications below explains the potential fiscal benefits or costs.

### Market

Does the real estate market support the proposed use? This is an essential question to ask if the vision plan is to be realistic. However, this initiative is about more than the market place: the fact that the market may be weak for a particular use does not mean that it should not be part of the plan. But it is important to recognize that it may need to be subsidized, or that the community must actively recruit a partner or entrepreneur for many of these uses. This is especially true of the “loss leaders” such as the civic uses and recreational spaces. These are uses that are not directly supported in the market but add value to the site and the other activities and add to the quality of life for all Somerville residents.



The New Livingston Town Center

Based on analysis of the market and through community and stakeholder input, the overall viability of specific land uses was identified. There is a strong market for residential development and retail development on floor plates larger than that which currently exists in Downtown Somerville. Furthermore, an intermediate niche market may exist for specialty retail, small inns and boutique office space that would complement Downtown Somerville.

These market assumptions are supported by the per acre land values and revenue values used in the workshops to develop the benchmark program and are supported as well by the more detailed fiscal impact analysis in this report.

### About Housing

New Jersey State tax structure and in particular the near complete reliance on local property taxes to finance schools creates a reflex reaction against any new residential development. To the credit of the stakeholders who have participated in this extensive public process, they have overcome the reflex to reject housing and instead have found a way to exploit the strong market for residential development, capturing the very large net revenue outcomes that can be applied to a long list of public benefit projects, from new parks to new civic spaces and in the case of Somerville, the clean-up of an environmental liability.

In doing so, they join a growing list of New Jersey communities that have discovered the huge net positive potential of compact, mixed

use and transit-oriented residential developments that do not increase substantively school expenses for the town but instead generate very high real estate taxes.

These environments also appeal to singles, couples without children and so-called “empty nesters” – older couples whose children have left home. These populations also covet access to the train and reduced reliance on owning an automobile, a huge expense estimated to be as high as the equivalent of monthly mortgage payments on a \$100,000 in housing costs, and a lifestyle choice that is not possible for families with children. (Anecdotally, two of the residents who spoke up at the October 21 presentation, a young woman and a retirement-age gentlemen, cited these very reasons). This is why the highest per-acre land values are attributed not to commercial uses, but to residential uses.

## Paying for a Plan

As with any complex and large scale town planning project, the implementation of this vision will necessarily entail a complex array of partnerships and fiscal tools. While the developers’ contribution to funding amenities and infrastructure will be significant, it will fall short of the total required funding. It is important to estimate this gap, at least to an order of magnitude, in order to understand the relationship between the gap and the scale of development.

To do this, an approximate costs for the project was created. This includes, for example, major infrastructure investments such as structured parking and the tunnel under the tracks linking the site to Downtown. It also includes the costs for various amenities and civic uses such as parks or a new municipal building.

Finally, an estimate was made of the costs associated with remediating the landfill site and the construction premium to build upon it. The costs were based on the remediation costs of comparable sites elsewhere in New Jersey (a figure of \$200,000 per acre was used.) At this time, the preliminary investigation of the landfill and adjacent properties is still underway and so the costs of remediation may increase or decrease depending on the outcome of the site investigation and on agreement

with the DEP over a remediation plan.

In broad terms, the total costs for all of the improvements including the remediation is approximately \$100,000,000. Because it is likely that partners can be found for some of the investments (the tunnel, for example, might be subsidized with state or federal DOT money; some of the open space trails could be part of County Parks network or supported by state programs) and given the goal of having a development program that is not out of scale with Somerville, a goal of leveraging private development for half of the total – approximately \$50,000,000 – was considered realistic.

“Balancing the books” or closing the cost-revenue gap is not a prerequisite for responsible planning at this time beyond some reasonable assurance that the means to closing the gap will be available. In fact, it is better to acknowledge the need for flexibility; that as the redevelopment process proceeds, choices will have to be made as how to pay for different aspects of the plan. Priorities will be set through on-going negotiations with developers and on-going discussions with the community.

In anticipation of the workshop a test program was created that generated the goal, described above, of \$50,000,000 of land value. It used the per-acre land value and tax revenue estimates for various uses determined by the market studies.

This test program was robust, significant but not out of scale with Somerville and a 114-acre site of which some 41 acres (almost 40%) will be protected open space. It consists of 850 dwelling units in Phase I, 350 dwelling units in Phase II, and about 260,000 sf of commercial space in the form of retail, office, hotel, movie theatres and technology-oriented space.

SOMERVILLE SCENARIO TESTING

Use	Conversion Factors (per acre)			Conversion Destination (per acre)				Year Scenario (per acre)			
	TOD Yield	Land Value	Annual Taxes	Program	Acreage	Land Value	Annual Taxes	Program	Acreage	Land Value	Annual Taxes
<b>Non-Residential:</b>											
Conventional retail	8,800 sf	\$ 100,000	\$ 24,000	0 sf	0	0	0				
Station retail	13,000	200,000	20,000	30,000	4*	\$ 100,000	20,100				
Professional offices	9,000	100,000	23,000	0	0	0	0				
Bio-medical	9,000	0	14,000	200,000	23	4,800,000	120,000				
Hotel / Conference	11,000	200,000	23,000	0	0	0	0				
<b>Residential:</b>											
Townhouses	12 du	300,000	7,000	0 du	0	0	0				
Stacked townhouses	24	800,000	40,000	300	13	10,400,000	320,000				
Condos (4-story)	35	900,000	110,000	600	17	15,300,000	1,870,000				
Condos (6-story)	50	1,400,000	155,000	300	6	8,400,000	930,000				
Age-restricted	30	1,000,000	12,000	0	0	0	0				
Subtotal for Private	na	na	na	na	59	28,800,000	3,660,000				
<b>Public:</b>											
Park / Amenities	na	(1,200,000)**	0	na	17	(3,400,000)	0				
Wetlands / Open Space	1	(20,000)***	0	na	69	(1,400,000)	0				
Station Garage	400 cars	(4,000,000)****	0	1,200 cars	3*	(12,000,000)****	0				
Subtotal for Public	na	na	na	na	86	(14,800,000)	0				
<b>Total (Rounded)</b>	na	na	na	na	145	\$20 million	\$3.5 million			18,000,000	2,100,000

\* While four acres for purposes of valuation and fiscal impact, the station retail would in fact be in the base of New Jersey Transit (NJT) garage (taking up three or so acres) and in Transit Oriented Development (TOD) housing, and thus will not take up additional acreage.  
 \*\* Assumption is that the development should account for the full remediation cost for park and open space, but not the cost of playgrounds, playfields, trails, etc.  
 \*\*\* Assumption is that the land sales should account for one-half of the cost of the structured parking at the NJ Transit train station.  
 \*\*\*\* Assumption is that the land sales should account for one-half of the cost of the structured parking at the NJ Transit train station.

Discrepancies between numbers in this table and those in the Sensitivity Analysis report are due to rounding, for purposes of simplifying the exercise.

# Toward a Plan

## Community Design Workshop 1

In March, the team convened a stakeholder workshop where citizen stakeholders were asked to create successful public spaces and gateways to the site and to speculate about the future mix of activities in the redevelopment area. The day began with a tour and each of the four teams were asked to do an evaluation of each of four strategic connections to the site. In addition to drawing plans of the site, participants were asked to create a collage by pasting onto a base map, photographs of different building types and activities in the preferred locations.



The synthesis of this work produced an exciting list of potential uses:

- Residential buildings of varying types and densities incorporating affordable housing.
- Community and commuter oriented retail, restaurants and cafes.
- A community center.
- Civic space, possibly including a library, a police substation.
- Commercial development, including office, hotel, movie theater, professional offices.
- Public plaza with programmed outdoor activities, including games, performances, public markets, fairs, movies, ice skating.
- Park with passive and active recreation (playing fields, bikeways, pedestrian paths, wetlands trails, etc.).



The sketches were distilled into a series of framework diagrams for how activities and circulation were distributed over the site. Several common overall themes emerged:

- Mixed residential, retail, and civic at the Hub Station Area including a focal public space.
- Commercial development along Route 206, but oriented inward to the site's road network.
- Multi-modal street and greenway network linking uses within the site and the site to surrounding uses.
- Commercial development along Route 206, but oriented inward to the site's road network.
- Multi-modal street and greenway network linking uses within the site and the site to surrounding uses.
- Tame connection across Route 206 linking site to greenway and across river to Duke Estate.
- Improved connection between station area and Downtown across the train right-of-way.
- The train station should be a central focal point in Somerville. It should be visible from a distance.

# Community Design Workshop 2



In April 2006, the team convened a second day-long workshop during which citizen stakeholders, working in groups co-facilitated by planners and designers, described the future of this part of Somerville.

The platform for this exercise was the “charter” – the statement of goals and objectives and the outcomes from the April workshop. As varied as the design solutions were, several common design themes again emerged from the session.

## Development Program Outcomes

The groups were also asked to tackle real estate market realities and the need to create value for a multitude of purposes – from remediating the landfill, to structuring parking, to creating a host of civic and open space amenities.

Armed with the per-acre land values and tax revenues generated by different uses, each of the groups was asked to describe the development program their design represented and explain the fiscal outcomes.

This exercise did not restrict the range of activities on the site, many of which would have no net positive fiscal impact or even might need to be subsidized, but which are essential for creating the kind of place desired by the residents of Somerville – the parks, open spaces, civic uses. However, it did allow the residents to tackle the realities of the market place and understand the tradeoffs between density and implementation. The essential components of this development program are

- Residential uses – anywhere from 700 to 1,200 units (1,000 du was about the average).
- A civic use of some kind – perhaps a post office or a community center.
- Commercial uses, including some retail, but favoring a hotel or conference center.
- Institutional use of some kind perhaps relating to the pharmaceutical industry cluster in Somerset County.

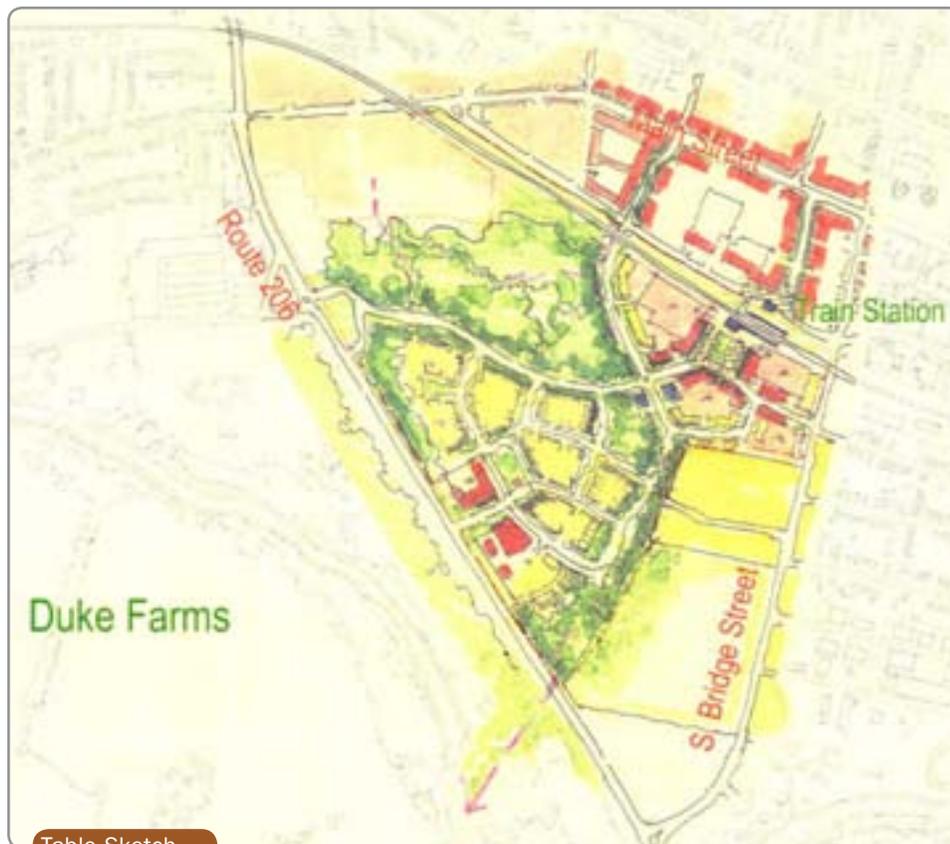


Table Sketch



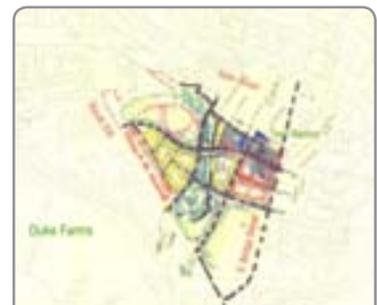
Create two new neighborhoods at the Hub and Heights.



Organize the site around environmental constraints.



Create a compact, mixed-use station area.



Extend into the site the existing neighborhood to the east.



Project Somerville's regional identity along Route 206.

## Alternative Plans for Phases II and III.

As noted above, the workshop designs for Phase II and III were more varied. While the land-use patterns were fairly consistent (a new neighborhood, larger-scale uses along the Route 206 edge), the proposed road networks varied a good deal, in particular in terms of the number and location of connections to Route 206 and the linkages from Route 206 to the downtown.

Half of the groups created a direct north-south connection from Route 206 to the station which emphasizes the link from the station area parking to the regional roadway network. The connection to downtown is less direct, requiring a turn onto a road with a lower design speed to minimize cut-through traffic. (This is how the current vision plan is designed).

Three of the groups had a direct north-south connection from Route 206 to Davenport Street and the downtown (sometimes in addition to the station across road described above). This emphasizes the role of the downtown as a regional destination, but makes it necessary to manage more aggressively the potential cut-through traffic.

Finally, three of the groups created a connection to Route 206 at the midpoint of the site. This makes the landfill "Heights" more of the regional destination.

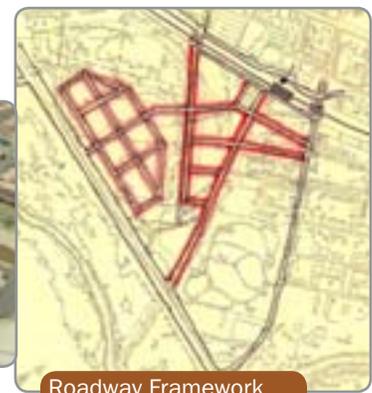
The other principal way in which the workshop designs for Phases II and III varied was the Route 206 frontage. In some cases, the street block system extends to a new marginal road parallel and proximate to Route 206. This implies that neighborhood-scale development extends right to Route 206. This is an interesting idea, but one that is hard to imagine without redesigning Route 206 as a boulevard instead of a divided highway. (See Traffic and Circulation Outcomes)

In other cases, the street and block network is set farther back from

Route 206 in order to allow larger scale uses along this edge – larger scale commercial uses (conference center, offices, perhaps destination retail if properly configured) or some institutional use.

To illustrate the design implications of these different street and block configurations, three alternative designs were developed for Phases II and III, each of which intentionally tested a particular scenario about access and development.

This analysis was presented as models and drawings to the community in June. Community stakeholders suggested that a single consensus plan for Phase II could be fashioned building primarily on the Conference Center alternative by borrowing from the "Retail Edge" alternative as well. As in both alternatives, this plan would extend the road network across the site, linking the Phase I and II areas around the "green seam." The new Heights neighborhood should have, at its center, a more clearly defined public space. Stakeholders also suggested that the zone along the Route 206 frontage should be reserved as a Phase III because while residents would like some special signature use fronting Route 206, at this time it is not clear exactly what use that will be. To reserve parcels large enough to accommodate such a use, and in keeping with the Conference Center alternative, the street grid would not extend to the Route 206 frontage.



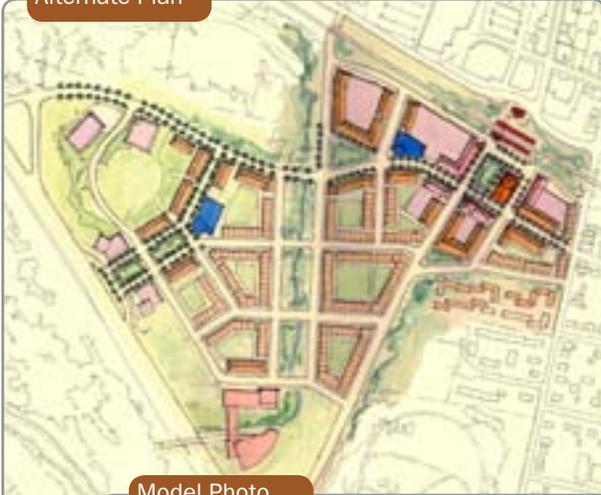
### Phase 2 Alt: The Heights Neighborhood

This study tests the implications of extending the neighborhood pattern right to the edge of Route 206 where a new connection is made at the middle of the site.

The Route 206 frontage would be primarily residential, and that would be the identity Somerville would present to the region. A neighborhood-scale commercial and mixed-use area would mark the connection to Route 206 and the beginning of a new road extending to Phase I and the station area.

Somerville stakeholders liked the scale of the neighborhood center but found the connections to the Hub to be too tenuous, creating a sense of an isolated neighborhood.

Alternate Plan



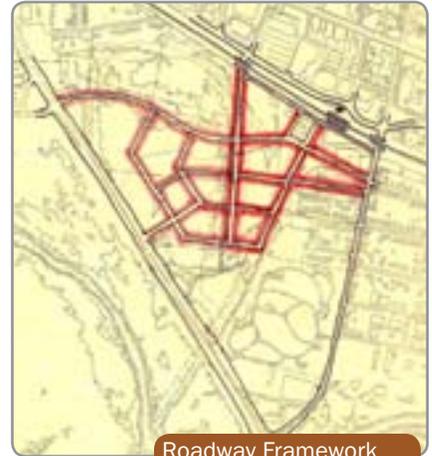
Model Photo



### Phase 2 Alt: The Retail Edge

This study extends the existing street and block in the east neighborhood across the site, knitting together Phases I and II. It also tests a direct connection from Rt. 206 to Davenport Street and Downtown and creates a new marginal road parallel to Route 206. This design facilitates commercial development along the Route 206 frontage. Because community stakeholders do not want a “strip retail” identity for this edge, the retail and office uses are sited so that the parking areas are on the sides or behind the buildings. At the center of the site, one of these new buildings would be a mixed-use building to frame one side of a new neighborhood center.

Community stakeholders liked the fact that Phases I and II are integrated by the extended street and block system, and appreciated the scale of the new neighborhood center. However, there was legitimate concern that this commercial edge would just end up being too much like typical highway commercial uses.



Roadway Framework

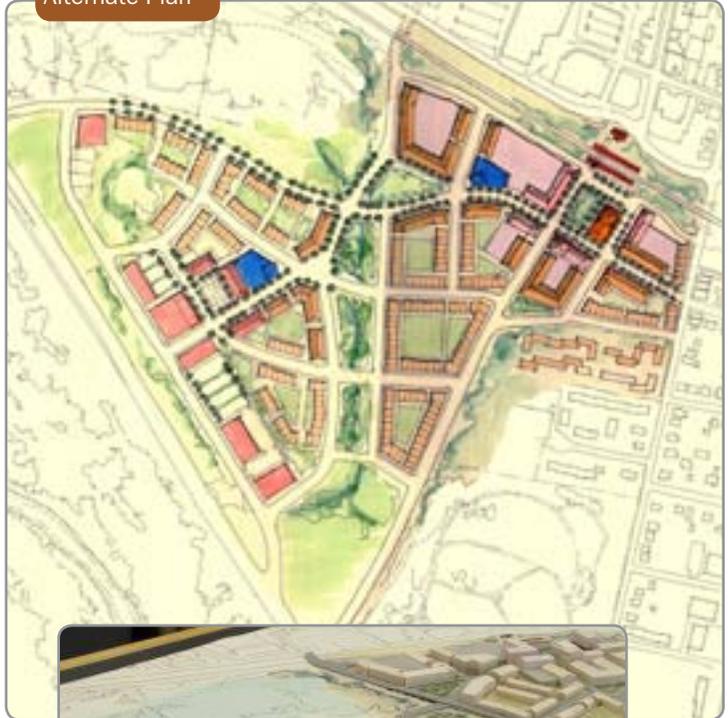
### Phase 2 Alt: Conference Center

This design study tests the implications of connecting to Route 206 at Orlando Drive and at the middle of the site, but with no direct connection from Route 206 to the station area.

As in the previous study, Phases I and II are knitted together not only by extending new east-west streets but by a new neighborhood around the green seam, framed by the edges of Phases I and II. Here, rather than extending the street and block network all the way to Route 206, a new loop road frames the edge of the Heights neighborhood. This leaves a deep zone along the Route 206 frontage with larger parcels that could accommodate a conference center, a research facility or some other signature use. In this study, because there are no roads where the green seam reaches Route 206, a conference center is shown.

Community stakeholders favored this alternative because it created a regional identity for Somerville. However, the neighborhood center in this study did not have a clear relationship to either the highway or the new neighborhood.

Alternate Plan



Model Photo



Roadway Framework

# A Vision for Somerville

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Aerial Rendering Looking Southwest



Illustrative Plan



# Major Features of the Plan

## Open Space Uses

More than 41 acres, almost 40% of the site, is devoted to open space uses of different kinds. There are large areas of wetlands that can be enhanced to create a great passive amenity for the community. This is suited for trails, meadows, and habitat.

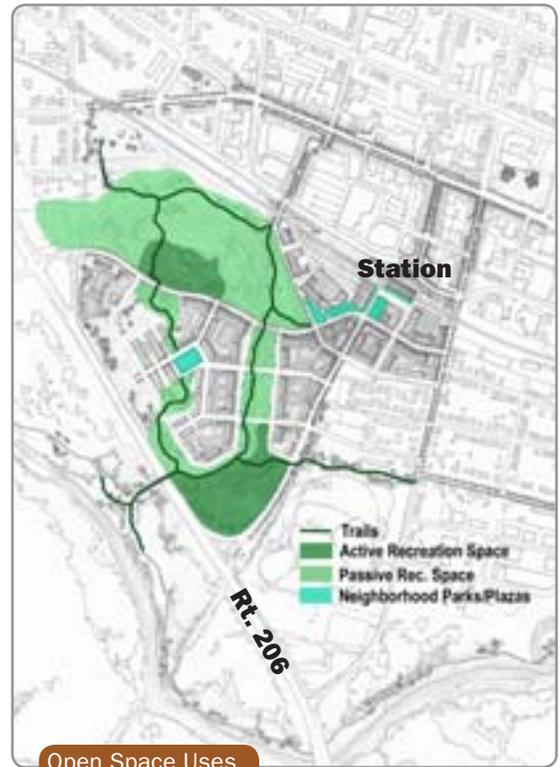
In addition to passive open spaces, there are two active recreation areas. The first is a park midway along the proposed Wetlands Parkway. Together with the wetlands, it provides the most centralized park space, visible from each of the major gateways to the area. In this design study, a destination use of some kind is shown – perhaps a small “Tavern on the Green” type of restaurant as well as a small ball field. The other active recreation area is a major park at the south end of the green seam (this is part of the “Green Gateway” to the site described elsewhere). It is large enough to be a shared resource with other municipalities.

There are also more formal open spaces in each of the neighborhoods.



In the “Hub” neighborhood, it is the Station Plaza (described elsewhere). In the Heights neighborhood, it is a neighborhood “green” – a traditional neighborhood scale park surrounded primarily by residential buildings.

The open spaces are described further in the Green Infrastructure discussion.



Open Space Uses

## The Civic Center

Residents were clear that there should be a strong civic presence in this part of Somerville. During various working sessions different ideas were suggested: a new village hall, multipurpose assembly space, new police headquarters, and library. There was universal support for a community meeting place of some kind.

In this vision plan, there is no commitment to any one of these uses, and indeed, it may be possible for there to be several of these uses. What the plan does do is commit to reserving a strategic block for these kinds of uses. The block is located where residents suggested it made the most sense – at the edge of the station area and the green seam, where it can act as a kind of bridge between the Hub, the Green Seam and the Heights. Even more, this block is strategic because it is bounded by each of the three most important roads leading into the site – the new station access road, the Davenport Street extension and the proposed Wetlands Parkway. As such it acts as a kind of “knuckle,” a pivot point between the different parts of the plan. It can function in this way, even if it remains an open space, as shown in the alternative design for this block.



For the purposes of this design study, the civic structure is shown as a special building type. As with the “technology buildings” at the Orlando Drive gateway (described elsewhere), the final building form will be determined when a decision about the program is made. Suggested here is a mixed-use building that on the eastern side holds the street wall of the new station access road. On the west side the building has a more sculptural form, providing a visual landmark from the wetlands and from the approaches from Davenport Street and the Wetlands Parkway.

For the purposes of this design study, the civic structure is shown as a special building type. As with the “technology buildings” at the Orlando Drive gateway (described elsewhere), the final building form will be determined when a decision about the program is made. Suggested here is a mixed-use building that on the eastern side holds the street wall of the new station access road. On the west side the building has a more sculptural form, providing a visual landmark from the wetlands and from the approaches from Davenport Street and the Wetlands Parkway.



Civic Center



Civic “Knuckle”



Open Space Alternative



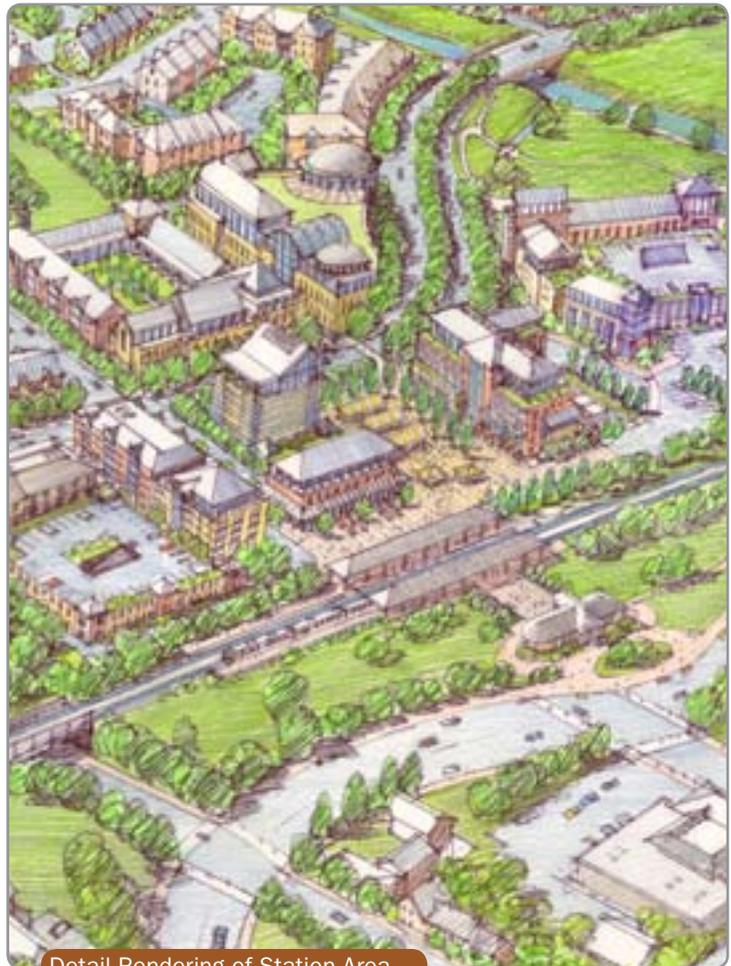
Station Plaza Rendering

### The Station Area: “Hub” and Neighborhood

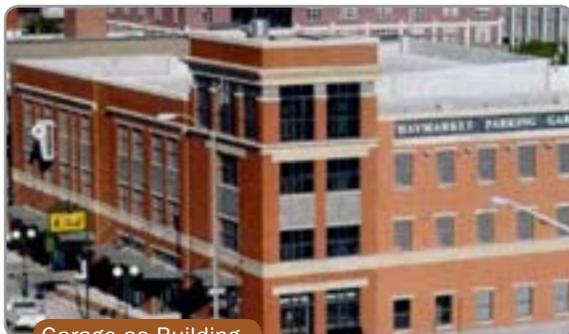
The heart of the first phase of the plan is the station area. This is conceived of as a compact, active public space animated by a diverse mix of uses and the activities associated with the comings and goings of transit users and residents. While there are variations in the exact configuration of the station area, there is universal support for this idea, which builds on a strong tradition of wonderful town centers throughout New Jersey.

This part of the plan has the greatest variety of uses. While there will be a small amount of convenience retail for commuters (a dry cleaners, coffee shop, news stand), the uses around the station would be destination uses that would not fit on Main Street and that are complementary to the Main Street businesses. This includes a “boutique” movie theater, a 100 room hotel and perhaps one or two intermediate scale retail outlets (for example, a Borders book store).

In this design study for the station area, the hotel is conceived of as a small footprint, mid-rise tower, perhaps



Detail Rendering of Station Area



Garage as Building

eight to ten stories . This is in response to the community design workshop, where several groups suggested that a visible vertical element in this location seemed appropriate as a kind of point of reference visible from a distance from any of the approaches to the site whether it is the view to the station from Main Street along Division Street, the approach along the Wetlands Parkway, or north from Route 206 along the new station access road.

In keeping with the community discussions, the station area is also the highest density part of the plan. The logic is clear – housing near the train station will attract residents who want transit access. This same population – singles, professional couples without children, “empty nesters” - is also the population that enlivens both the station plaza and the Somerville downtown restaurants, bars and shops.

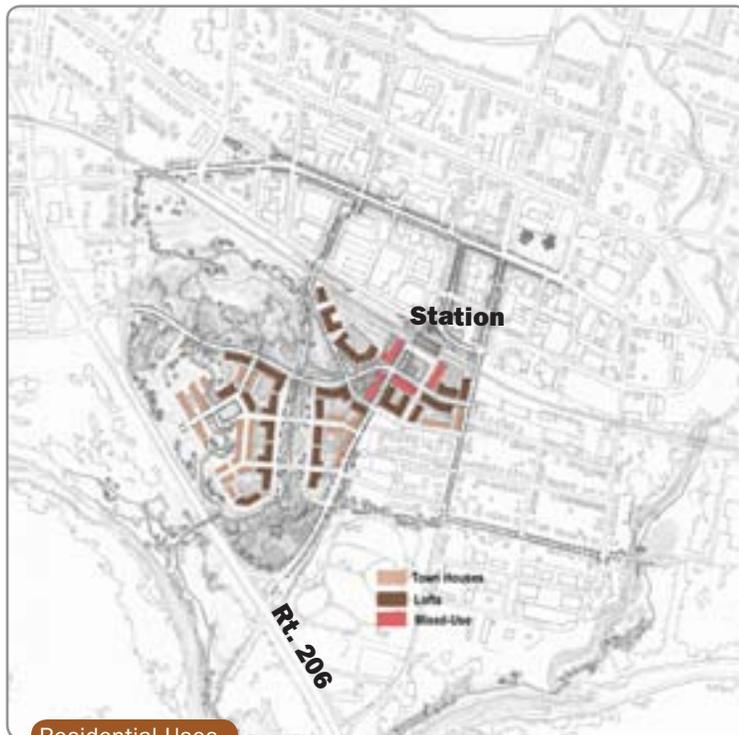
This is also the one place where building heights exceed four stories (elsewhere, two and three story buildings predominate). The buildings that surround the station plaza are six stories. Significant setbacks at the fourth floor elevation will reduce the overall bulk apparent scale of these buildings. As described above, the block with the civic uses is close enough to the station area to be a part of the life of the Hub.

As discussed in the Circulation and Traffic Outcomes summary, typically parking is handled on a block-by-block basis to simplify phasing and relationships among what may be different developers. The station area is the exception to this strategy. Parking for the hotel block and the



Orenco Station in Oregon

civic use block is shared with the surplus of parking created by the several new parking decks in the northern most blocks along the tracks. The parking decks in these blocks are “wrapped” by residential buildings in order to mask their presence on the streets and public spaces.



Residential Uses

### Two New Neighborhoods

What is the difference between a housing project and a neighborhood? This question informs the design of the two new neighborhoods in the redevelopment – the east neighborhood south of the train station, linked to the existing Bridge Street neighborhoods (Phase I), and the Heights neighborhood (Phase II) over the former landfill. The real key to the design of these neighborhoods are the existing neighborhoods of Somerville:

- Pedestrian-friendly, bike-friendly streets and sidewalks.
- Tree lined streets.
- Buildings/houses with a “friendly face to the street” – that is, well-scaled streets that encourage interaction among Somerville residents because windows and entrances face the street.
- Neighborhood-scale parks and open spaces.

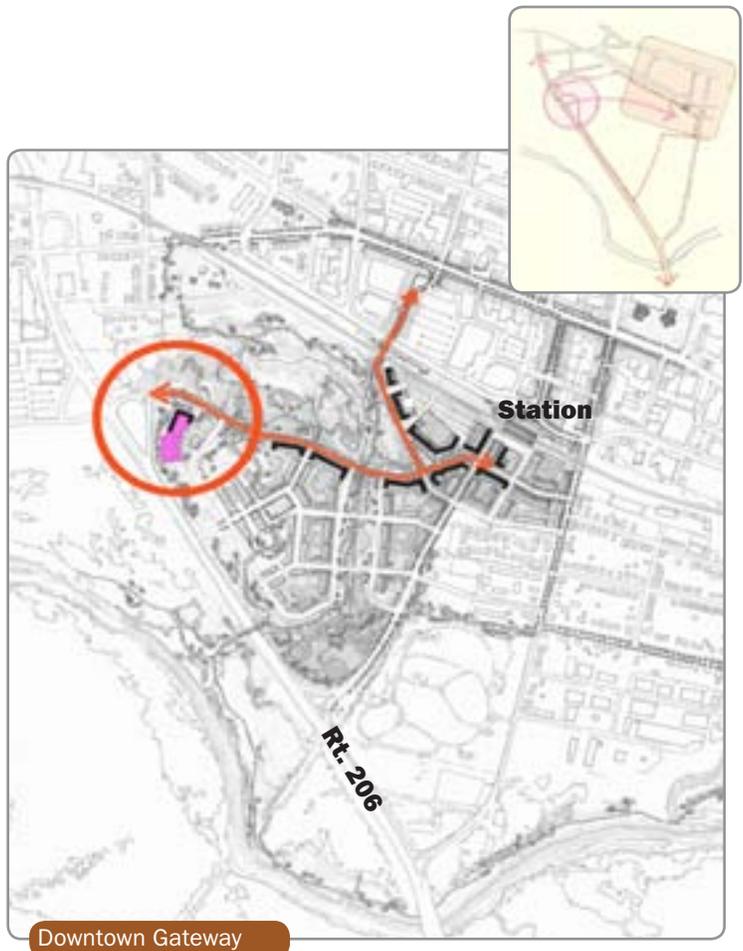
The neighborhood residential buildings are primarily two and three story townhouses with some three- and four-story loft buildings framing the larger open space amenities like the “Wetlands Boulevard” and the “Green Seam.”

## Two Gateways and the Route 206 Edge

### The Downtown Gateway

Residents were clear that the Route 206 frontage was an opportunity for Somerville to project an identity that is bigger than the site and that reflects the regional significance of Somerville. In this design study, the two primary gateways to the site – Orlando Drive to the north and the new Station Road at the south – are the primary opportunities to do this, but in two very different ways. The gateway at Orlando Drive is the “Downtown Gateway,” reflecting the fact that it is already at an urbanized section of Route 206. (A study will soon be underway to make Orlando Drive a road with real identity beyond just a commercial “strip.”) More importantly, this gateway leads to the Wetlands Parkway, which provides the best visual and physical access to Downtown Somerville because of its connection to the Davenport Street extension and South Bridge Street.

As the Downtown Gateway, it also makes sense for this gateway to be defined by new buildings which are meant to project Somerville’s connection to the regional economy. During the visioning sessions, several ideas surfaced, including the idea of relating to the pharmaceutical industry cluster in the County. This is highly speculative and it is not clear exactly what these signature buildings might house – a conferencing facility, offices, a technology or research center of some kind. For the purposes of this design study, no commitment is made to a particular use, but as a placeholder a kind of technology campus is imagined with special buildings. (In the fiscal performance study, land values comparable to light industry were used.)



Downtown Gateway



Rendering of Downtown Gateway looking Southeast

## The Green Gateway

In contrast to the downtown destination gateway is the Green Gateway at the south end of the site. Here the signature use is not a group of buildings but a large park for use by both the residents of Somerville and by special arrangement neighboring municipalities. (It was explained that Somerville and several of the adjacent municipalities share access to recreational facilities.)

An open space use is most appropriate here, as this is also where the Green Seam reaches the edge of the site and continues, on the other side of Route 206, in the form of the Raritan River Greenway. This is also where several trails converge before crossing Route 206 as a pedestrian bridge.

## The “Green Seam”

The corridor of wetlands and floodplain that extends south between the east and west sides of the redevelopment area has been branded the “Green Seam.” This term expresses the goal of designing the corridor in a way that knits together the two parts of the redevelopment area around a new open space amenity. The roadway network in this location is meant to reinforce this: in addition to the Wetlands Parkway, two roads extend east to west across the wetlands, linking the blocks on either side of the wetlands and, in keeping with Somerville residents’ suggestions, extending the fabric of the neighborhood to the east.

To further unify the area, the Green Seam and the edges of the Hub and Heights neighborhoods are designed as one integral public space. The buildings on either side of the Green Seam are of similar scale and configuration, creating a strong relationship across the space of the Green Seam between the two phases of the redevelopment area.

Pedestrian paths will be woven through the edges of this open

Cross Section Through Green Seam



space, connecting to the larger path system and the street network. Given the propensity for storm runoff to run towards the stream, the plan envisions the incorporation of storm water basins within the corridor to capture runoff from adjacent streets and development sites.

Native plantings of trees, shrubs and grasses will be utilized to blend the landforms into a series of rational elements. As the plantings mature, they will blend with the existing vegetation of the stream corridor to create a substantial stretch of wildlife habitat which will buffer the stream itself and also facilitate wildlife movement within the site.

The neighborhood blocks, particularly those that frame the Green Seam are designed with green infrastructure strategies in mind (see discussion elsewhere). As shown in these studies, the parking is consolidated into small lots within the blocks in order to create a rain garden in the center of the block. Paved surfaces are designed without curbs to allow water to run off in sheets into swales which can themselves be planted in ways that makes them a visual amenity as opposed to a concrete trough or culvert. Finally, the block frontage facing the Green Seam is then opened up to allow storm water flows from the block interior (the roofs, the curbsless parking areas) into the gently sloped surfaces of the Green Seam before recharging the wetlands.

Rendering of Green Seam Looking South





Roadway Hierarchy

### Roadway Hierarchy

In keeping with the strategy of providing a flexible framework, this diagram describes a hierarchy of roads – not in terms of vehicle capacity, but in terms of implementation, from roads that should be built with certainty versus those where there can be more flexibility.

Primary roads are those that should be mapped in any future plan. Indeed, some variation of these roads can be found in almost any of the earlier plans. These are the Station Road from Route 206, the Wetlands Parkway from Orlando Drive and the Davenport Street extension.

Secondary roads are those that frame the neighborhoods and reinforce the overall distribution of uses and densities suggested by the Hub, Heights and Green Seam framework. These roads also ensure overall connectivity. Included here are the two north-south roads that frame the wetlands and which are part of the overall green infrastructure strategy for the site. (See discussion elsewhere)

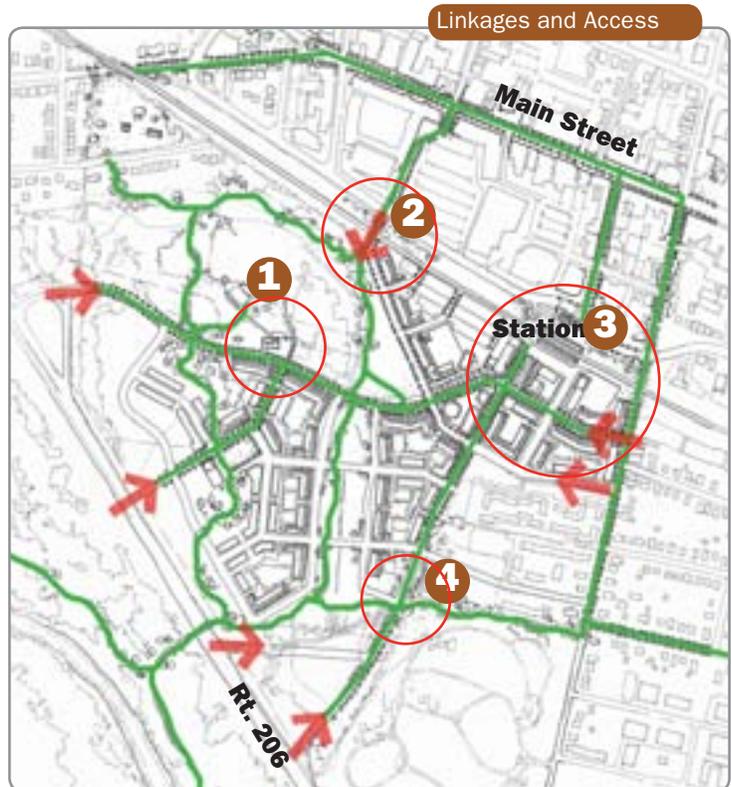
Finally, there are the minor roads that are more closely calibrated to the specific designs of the neighborhoods – the building types, parking strategies, etc. Here the developers and their designers may want some flexibility.

### Linkages and Access

Somerville residents articulated the goal that the redevelopment area should feel like a “seamless extension” of downtown Somerville. The vision plan suggests that it should feel like a seamless extension of all of Somerville including the surrounding neighborhoods and greenways.

Linkages to the site are of various kinds and are meant to accommodate pedestrian and bicyclists as much as automobiles. The primary roadway access points are from Orlando Drive, Bridge Street, Route 206 and the Davenport Street extension. These are supplemented by potential extensions of the street and block network of the South Bridge Street neighborhood and, perhaps in the future, an additional connection at the middle of the Route 206 frontage.

To this are added any number of greenway connections including a pedestrian overpass to the Raritan River, a pedestrian connection to the historic Old Dutch parsonage and a connection, via Southside Avenue and other streets, to the Peters Brook greenway and parks.



Linkages and Access

### Veterans' Memorial Drive and the Station Area

Pedestrian access to the train station and to the new development from the downtown should be improved through street improvements to Veterans' Memorial Drive and South Bridge Street, and safer pedestrian crossings at all major intersections. To help integrate the new development into the surrounding neighborhoods, traffic speed on the perimeter roads should be reduced by narrowing the roadways and widening the sidewalks.

The station area should be a highly walkable neighborhood with active ground floor retail and lively outdoor uses on the sidewalks and plaza. Wide crosswalks, special paving on the streets, benches and street trees will make the area comfortable for pedestrians.

#### Pedestrian Improvements to Veterans Memorial Drive:

- Reduce to two 11' lanes with a planted median and left turn pocket
- Widen sidewalks on Veterans' Memorial Drive to 10'-12'
- Street trees in 3' planting strip
- Pedestrian-scale street lights
- On-street parking on both sides where width allows
- Three-way stop signs at Division Street, special paving in the intersection and sidewalk bump-outs to improve safety for pedestrian crossings
- Sidewalk bump-outs at signalized intersection with Davenport Street
- Enlarge commuter waiting areas: the plaza at the drop-off area would be enlarged and a canopy or shed added for shade and weather protection, while the area at the base of the stair would include a small sitting area and information kiosk.

#### South Bridge Street Improvements:

- Active retail uses on the ground floors
- Add street trees
- Add pedestrian-scaled lights
- On-street parking

### The Park Edge

A restaurant with outdoor dining and a small outdoor coffee bar will help to energize the wetland park. Adjacent to the outdoor dining will be a playground and game area. Parents can enjoy a coffee while watching their kids play. This area will also serve as the trailhead for a path that meanders through the wetland. On-street parking will line the park edge to avoid surface parking lots.

1



3

### Station Street and the Trail Crossing

A planted median and angled parking along the park edge will help to slow traffic coming off of Route 206. At the trail crossing on Station Street, an unsignalized intersection, short planted medians will reduce the travel lanes from 11' to 9' (with roll curbs for larger vehicles) to warn motorists that they are approaching a pedestrian crossing.



4

2



## Development Program

Using the outcomes of the screening analysis and the community design workshops as a platform, a test program or “benchmark program” is the basis for this design study. This program is broken down into the phases suggested by the Planning Framework and the community’s suggestion that there should be a separate Phase III for the two “gateway sites” and the Route 206 frontage.

It is important to understand that as the redevelopment process proceeds, the exact program mix will probably change. Indeed, the market screening we have done for this report is a snapshot of conditions today. Because the long-term build-out of this place will take place over several business cycles, the market for office space, for example, may rebound and Phases II and III may have less housing and more office space (significant amounts of office space would not make sense in Phase I in any case, as this is not a transit-friendly and downtown-supportive use). The important thing is to create a flexible framework for development – an armature of major streets and open spaces that can accommodate change over time while preserving the core goals and objectives.

### Alternatives

Suppose for example, there is a rebound in the commercial real estate market and a redeveloper wants to build approximately 200 fewer dwelling units and add to the development program for Phases II and III more office and convention center space. He also decides to build more specialty retail at the Hub, the kind of intermediate size destination retail that would complement, but not compete with existing downtown businesses. Applying the same land value factors used for the current vision plan program, approximately \$66 million of value in housing of different kinds would be swapped for commercial development in the quantities described in the Alternative rendering below.

Applying conservative coverage assumptions for the office and convention center (.4 FAR) with surface parking, the hotel and convention center would require approximately 15 acres of land. As the Partial Plan illustrates, there are 17 acres of land available even if the residential blocks along the Green Seam and the Wetlands parkway are left intact, preserving the community goal for a neighborhood on the Heights. At the station area, two 20,000-square-foot stores are provided: one in the footprint of what was the hotel tower (this hotel would not coexist with the large hotel and convention center in this alternative program) and one in the footprint of the building that frames the west side of the station area where the movie theater is located. The one real change to the station area is that the additional parking required for the 40,000 square feet of retail would require a larger parking deck, perhaps one added level.

An even more aggressive commercial program, applying the same process of substituting commercial values for lost residential values, could generate a program like the following:

In terms of urban design and land allocation, the impacts at the Hub are the same – some increased parking for the 40,000 square feet of destination retail. However, the rest of the commercial program will consume much more of the Phase II land than in the previous alternative - approximately 22 acres - which will impact the residential blocks along the Green Seam and the Wetlands parkway. The overall FAR of .4 is probably too high for the retail uses, suggesting that some of the parking will have to be structured.



### Phasing Program, in Sq feet

#### Phase 1:

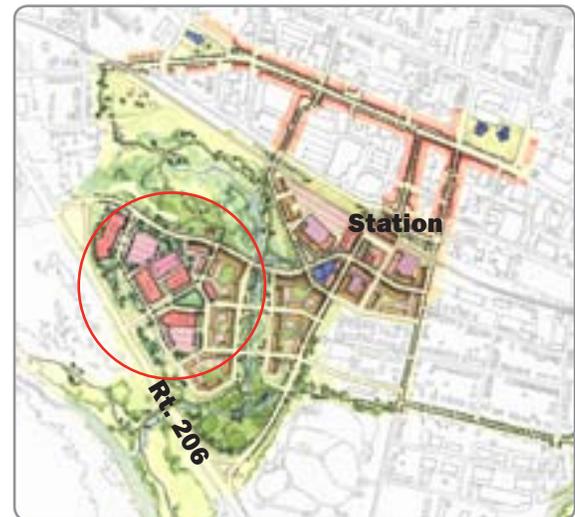
Retail: 20,000  
Office: 20,000  
Inn with Meeting Rooms: 20,000  
Civic Space: 30,000  
850 Dwelling Units

#### Phase 2:

Retail: 25,000  
Office: 25,000  
350 Dwelling Units

#### Phase 3:

Research/Institutional  
115,000



### Alternate Programs, Phases 2 & 3 , in Sq. feet

#### Alternate 1:

Retail: 40,000  
Office: 145,000  
Hotel/Convention: 150,000  
Civic Space: 30,000  
1000 Dwelling Units

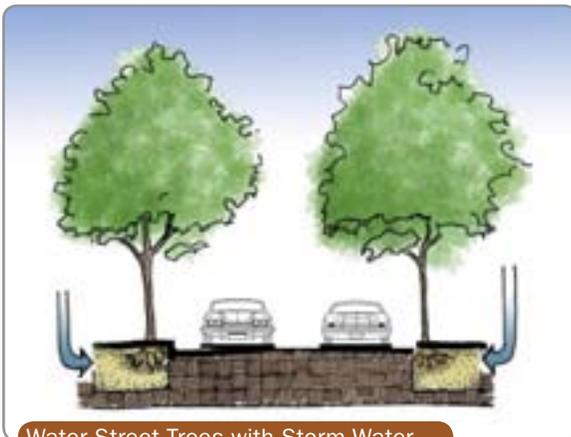
#### Alternate 2:

Retail: 60,000  
Office: 250,000  
Hotel/Convention: 150,000  
Civic Space: 30,000  
800 Dwelling Units

## Green Infrastructure

As the planning framework diagram shows, this is a site with significant environmental challenges – the landfill is a polluted brownfield site, there are wetlands and flood plain considerations affecting almost half of the area. Green infrastructure within the redevelopment area includes open space, recreation, storm water management and wildlife habitat. The plan objectives include the creation of a series of public spaces that integrate all of these elements together in order to produce a community framework that embodies sustainable principles of community development. These components will be comprised of existing natural areas as well as built areas.

In this vision plan, the environmental constraints are seen not as an obstacle but rather as the signature opportunity which informs this vision plan in so many ways, making this redevelopment project a model of sustainable design. The plan will take a liability that is degrading the environment around the Raritan River and turn it into a demonstration project for best-practice storm-water management and environmental stewardship. In so doing, this project will add value to all of Somerville and to the region.



Water Street Trees with Storm Water

### Dimensions of a Green Plan for Somerville

The signature opportunity at this point is to take what in conventional development practice is thought of as a liability – areas of wetlands and flood plain – and turn it into a multifaceted asset: for the wetlands to become not only a passive open space amenity, but a strategic part of a sustainable habitat and storm water management strategy.

Conventional storm water management is organized around “grey infrastructure” the gutters and pipes that collect the storm water off of hard surfaces like roofs and parking lots which is tainted with so called “non point source” (NPS) pollution (the particulates from car exhaust, the oils that drip off of the bottoms of cars) and expresses that polluted water to streams and rivers like the Raritan River. In addition to being polluted, this water is often warmer than the watershed further compromising the livability for plants and wildlife.

Contrasted with this is a “green infrastructure”

strategy. This is a more passive form of storm water management that attempts to slow down surface water flows to maximize infiltration before the water discharges into a water course such as a stream or river. Non-permeable surface area is reduced as much as possible, the ground plain is graded to allow water to move slower in sheets rather than higher speed channels, and plants are used that can absorb pollutants and break them down in a process called “bioremediation.” These strategies can also reduce development and maintenance costs.

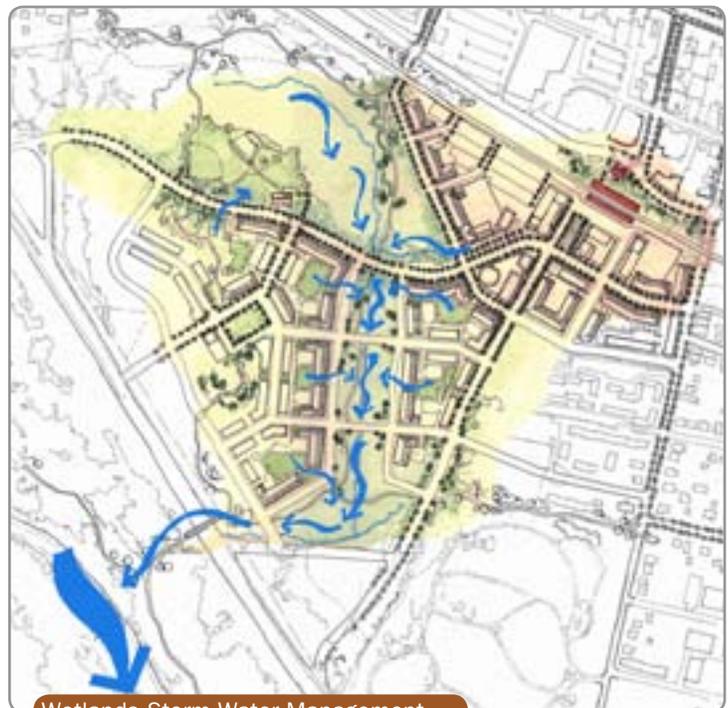
This plan is organized around the wetland and flood plain resources in order to take advantage of these strategies wherever possible.

The neighborhood blocks, particularly those that frame the Green Seam, are designed with these green infrastructure strategies in mind. As shown in these studies, the parking is consolidated into small lots within the blocks in order to create a rain garden in the center of the block. Parking lots and other paved surfaces are designed without curbs to allow water to run off in sheets into swales which can themselves be planted in ways that make them a visual amenity as apposed to a concrete trough or culvert. Finally, the block frontage facing the green seam is opened up to allow storm water flows from the block interior (the roofs, the curbsless parking areas) into the gently sloped surfaces of the Green Seam. Another best practice for storm water management is to have roof drains empty into the tree pits for the landscaping elements.

### Urban Forest

The primary component of the open space, or green infrastructure, is the public street system. Streets will serve as routes for vehicles, pedestrians and cyclists, accommodating these modes within roadways and sidewalks. The dimensions of streets may vary based on traffic demands, hierarchy and overall function. Regardless of the street type, the plan for the Somerville Landfill Redevelopment Area envisions the establishment of an urban forest within the public street system.

The urban forest will be comprised of an allee of shade trees that will create a continuous canopy of deciduous foliage along these linear open spaces. Shade trees will be placed between the vehicular roadway



Wetlands Storm Water Management

Passive trail/boardwalk through meadows/stream corridor

Maintain stream corridor as open space and habitat for wildlife.

Meadows habitat & native grasses

Active recreation community facility

Parkway Meadow Edge

Establish continuous urban forest canopy – drought tolerant trees, recharge stormwater for irrigation of trees

Station

Stormwater wet meadow

Passive open space neighborhood park

Integrate stormwater elements in landscape. Link it to the stream corridor.

Green edge, unify with Duke Estate

Active recreation

Develop stream corridor for passive recreation, stormwater management, wildlife habitat and open space amenity.

Native trees & grasses

Rt. 206

Open space/recreation connection to Duke Estate Greenway

Greenway

River

Green Plan





Bio Swale and Curbless Parking

and the pedestrian sidewalks in order to create a separation between the two modes. In residential areas, trees may be located within

grass strips. In areas containing a larger concentration of non-residential uses, and therefore higher pedestrian traffic, trees may be planted within wider sidewalks.

Street trees will be comprised of those species that are tolerant of conditions typically found in urbanized areas: low soil moisture, high soil compaction and pollutant-rich. The tree species will also exhibit growth characteristics that will result in a dense canopy and large spread, ensuring that the streets within the redevelopment area maintain a character of a linear park.

### Stormwater Recharge and the Urban Forest

In order to promote a more viable canopy of trees within the street network, and to advance sustainable stormwater management practices, construction methods will be adopted that will result in a more direct integration of rainwater with street tree plantings.

One alternative is to physically connect roof drains to the planting beds within which street trees are planted. Stormwater runoff from roofs is, in general, free of pollutants. Roof drains can be run down from a scupper, under the sidewalk and be dispersed within a network of pipes that run throughout the planting beds.

Another alternative is to create large, pervious catchments that can retain stormwater gathered from the surface runoff within areas of the street rights-of-way. Using this method, gaps in the sidewalk surface can be created using granular materials, tree grates scuppers that convey water to the planting beds. With an average of roughly 40 inches of rain each year, a significant amount of irrigation may be provided to nourish the trees within the streets and sustain a thriving canopy.

### Stormwater Recharge within Parking Facilities

Sustainable stormwater management practices will also be advanced through the incorporation of bio-swales and bio-retention basins as adjuncts to surface parking lots. Off-street surface parking is one of the largest contributors to stormwater runoff. Through the incorporation of bio-retention structures, stormwater runoff from parking areas can be retained and recharged back into the groundwater. Plantings of native herbaceous and woody plant material will help to cleanse pollutants from runoff. In addition to the functional aspects of the plantings, the plantings will also provide pockets of wildlife habitat that can serve as shelter and food for birds and small mammals.

### The Parkway and the Wetlands

The redevelopment plan will capitalize on the extensive existing wetland that lies adjacent to the railroad right-of-way to advance the sustainability objectives of the village. Since development, other than limited linear development, is essentially prohibited by the NJDEP, the plan will incorporate the wetlands and fringe areas as the primary open space within the network of green infrastructure.

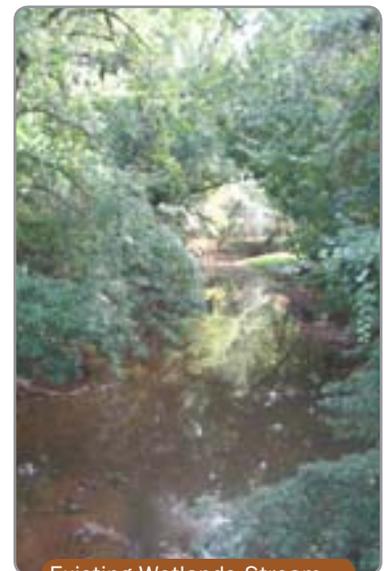
The character of the street that abuts the wetlands will be that of a single-loaded drive or parkway. Development sites on the south side will look out over the open space to the north. Stormwater meadows will be incorporated adjacent to the low-lying wetland buffer areas. These will be planted with native shrubs, trees and grasses to help cleanse stormwater runoff and also provide substantial habitat for wildlife. Since linear boardwalk development is permitted by the NJDEP (pursuant to general permits), the plan envisions the extension of the pedestrian and bicycle network through the wetlands within a boardwalk. This boardwalk will provide a substantial recreational asset and also facilitate interactions with wildlife and their habitat.

In order to provide for some level of active recreation, an upland area will be reserved adjacent to the wetlands and accessible via the parkway and boardwalk. This area may contain athletic fields, performance area, clubhouse facility and play structures.

### Sustainability Building Practices

If sustainability is the ultimate objective of the green infrastructure strategy, then building practices are also important. Through the United States Green Building Council there is now a well established program – Leadership in Energy and Environmental Design or LEED – that can guide energy efficient, cost effective design. The proposed site plan already embraces many of the LEED strategies – for brown-field reclamation, best practice storm water management, heat island reduction. The redevelopment plan should also promote and evaluate levels of LEED certification for building practices – use of alternative energy sources (photovoltaics), use of local materials and renewable resources, excellence of indoor environment and innovative design.

These practices do add to first costs, sometimes estimated as a 2% premium on the 11% of total project costs assigned to construction. It is well documented that over the life cycle of a facility, sustainable architecture amortizes this premium in energy and maintenance savings. But the real pay off is in performance: when life cycle costs are accounted for in a truly comprehensive way, salaries amount to 92% of total life-cycle costs, reducing the share of construction costs to 2% on top of which the sustainable building practices premium becomes negligible. This means that even a small increase in user performance – say a 2% to 16% increase in worker productivity or a 15% to 20% increase in school test scores, both of which are documented – completely overwhelms the first cost impacts of LEED design and building practices.



Existing Wetlands Stream

# Technical Aspects of the Consensus Plan

## Circulation and Traffic Outcomes

Somerville residents are concerned – as are most communities in the suburbs – with escalating congestion and traffic. The question is: what impacts will the redevelopment of the landfill site have on local traffic conditions? There are several strategic things to consider.

**Reduced Car Ownership** First, transit access is a significant mitigating influence. Based on experience elsewhere in New Jersey, car ownership for the residential component nearest the train station will be lower, as buyers who want to be spared the burden of owning two cars will self-select to live at the Hub. With the annual cost of owning a car climbing, transit access is becoming a significant incentive. For the buildings immediately surrounding the station area, parking ratios can be as low as 1.5 cars per household. In the other blocks adjacent to the core station area, ratios can be 1.75 cars per household. Elsewhere to be conservative, the standard ratio of 2 cars per du was assumed, although this may well overstate the need, especially for the remaining blocks in Phase I.

**Shared Parking** One of the great opportunities at any transit station is for shared parking. Spaces that are used by commuters during the day are available in the evenings and weekends. Some of this space can be shared parking for the residential component of the mixed use buildings immediately surrounding the station. Shared parking scenarios are even more viable with activities that are primarily evening and weekend activities. In this plan, these include the movie theater, restaurants and any meeting activities associated with either the hotel or the civic spaces.

**Alternative Modes of Access** An essential strategy for managing traffic is full provision for alternative modes of access. This includes designing the station area pick-up/drop-off to accommodate shuttle buses with all of the associated amenities (weather protection, signage, reserved space for queuing and waiting).

Equally important is biking and walking to the station. All roads and intersections within the site shall be pedestrian friendly, clearly marked with bike lanes and with minimum crossing distances. At the core of the site, other traffic calming measures can ensure a balance of pedestrian bicycle and vehicle needs. This can include raised intersections, bulb-outs and changes in materials. At the station area provisions will be made for secure and sheltered bicycle parking.

**Connectivity** An underlying principle for the road

network design is that multiple points of access to the site together with a highly interconnected network within the site will distribute traffic in ways that prevent congestion conditions in and around the site. Bottle-necks are avoided and no one road becomes overwhelmed with traffic.

## About Route 206

Unfortunately this visioning process is taking place not long after the reconstruction of Route 206. When the road was widened and divided, one implication of the Route 206 classification was that highway standards required intersections to be separated by at least one quarter to one half mile. This limits connectivity and precludes a third connection to Route 206 at the center of the site as suggested in the Phase III design study.

On the one hand, Route 206 divides the redevelopment area from the Raritan River corridor which, in turn, is a linkage to the Raritan River and D & R Greenways as well as the Duke Estate, a wonderful open space and cultural amenity. On the other hand, Route 206 can be thought of as an asset providing regional access to the study area and, in particular, to the train station. For the purposes of this study, it is presumed that the Route 206 configuration does not change and that pedestrian and bike linkages to the Raritan River corridor are accomplished by a non-vehicular bridge somewhere at the southern end of the Green Seam. (The cost of this bridge was one of the cost inputs for the financial analysis.) In terms of vehicular access, combined north-bound and southbound access to Route 206 will take place only at Orlando Drive. The new Station Road will have a right-on / right-off connection only from the northbound side of Route 206. There has been discussion of providing an “urban flyover” – a grade-separated access road, connecting southbound Route 206 to the site. This construction could also include pedestrian and bike access. This idea is not incorporated here for several reasons: it would be very expensive and it would have impacts on the wetlands and the Raritan River Greenway areas as well as view-shed impacts. Most importantly, the traffic volumes do not justify the expense. The traffic study indicates that site access works very well without this additional connection.

At some point, Route 206 may be reconceived as a landscaped “bou-



Pedestrian-Friendly Environment



High Volume Road as Boulevard

levard” – a high volume / high thru-put road but at speeds enabling more frequent and pedestrian-friendly intersections. This would have the particular advantage of linking the “green seam” to the Raritan River corridor and the Duke Estate – with a wide, at-grade crossing, rather than a pedestrian bridge. Because Route 206 has been rebuilt so recently, this is not seriously entertained in this vision plan. However, the design of Phases II and II would be able to take advantage of a reconfigured Route 206 boulevard should that come to pass some day.

#### Key Findings of Traffic Study

Vollmer Associates was retained to evaluate the proposed road network and to undertake a traffic analysis for key intersections surrounding the study area to understand what impacts future development would have

on the local road network.

**Existing Conditions** Peak-hour traffic counts were completed for nine intersections around the site to determine existing levels of services. Not surprisingly, the study reveals that three intersections along the Route 206 corridor adjacent to the site have a poor level of service.

**US Route 206 & Somerset Street** While there are double left turn lanes for both the eastbound and westbound approaches, the turning lanes are not fully utilized since the eastbound and westbound approaches to the intersection do not provide adequate queuing space and lanes typically back up preventing vehicles from accessing turning lanes.

**US Route 206 & Orlando Drive** The westbound approach to Orlando Drive consists of a shared left/through lane and a shared through/right lane. Immediately west of the Route 206 intersection, the roadway reduces to a single lane, causing vehicles to merge into one lane in a short distance.

**US Route 206 & South Bridge Street** Similar to the condition present at US Route 206 & Somerset Street, there is insufficient storage for the westbound double left turn movement. This results in a reduction in the number of vehicles which can be processed by the double left turn operation.

#### Future Conditions

Future traffic conditions in and around the redevelopment area are affected by four factors:

**Background traffic growth** Independent of any



Garage Wrapped by Housing

future redevelopment at this site, traffic volume will increase as a result of projected population and employment growth in Somerset County - about a 5 ½% increase by 2011 (Phase I) and 9 ½% by 2015 (for Phase II).

**Site Specific Developments** The only project on the horizon with a direct impact is the Somerville Towne Center project and the associated Davenport Street extension.

**Planned Roadway Improvements** The Borough is considering modifying the cross section of Veterans Memorial Boulevard, narrowing it down to a three-lane cross section with center turning lane. The County is also working with the Borough of Raritan on a study of the Orlando Drive corridor although no specific information about this is available at this time.

**Impacts of the Redevelopment Plan** ITE trip generation rates were applied to the test redevelopment program. Residential trip generation rates were reduced by 16% to account for transit use (from NJ Transit). Additional trips generated by the station itself were based on projections of current use, adding 120 trips in the morning peak, and 70 in the evening peak.

To determine impacts around the site, assumptions were also made about the distribution of trips to and from the site from the adjacent network. The two single largest volumes (20% each) are to and from northbound Route 206 and to and from southbound Route 206.

**Commuter Parking Strategies** NJ Transit's forecasted long term needs are for approximately 800 parking spaces. The strategy at the station area is to meet this need in the deep block bounded by the tracks and the Davenport extension which follows the edge of wetlands. Because the Phase I development cannot support the cost of building an 800-car parking deck, and because such an enormous structure would appear to be out of scale with the rest of the station area, the strategy is to phase the deck construction. In Phase I, a 600-space deck is proposed that will be wrapped with new residential buildings. That deck will meet half of NJ Transit's long term needs (400 spaces) as well as the parking needs of the residential buildings that line it. In the same block, adjacent to the tracks, in approximately the same location as NJ Transit's existing surface lot, will be a new surface lot with space for approximately 270 cars. This lot is sized so that it can accommodate a second parking deck in a subsequent phase when the demand is there and the development can help subsidize its construction. The surface lot also provides parking for NJ Transit during redevelopment.

## Results

**On-Site Circulation** As designed, the roadway plan provides for rational distribution of car trips to and through the site. There is clear, direct access to the station area, with its associated pick-up, drop-off and parking activities. The traffic volumes from the full development program are modest so that all of the road sections can

be standard two-lane roads with 11' travel lanes and on-street parking. No traffic signals are required within the site. Intersections can be controlled with stop signs.

All of the intersections will operate at exceptional Levels of Service. This is predominately due to the large number of access points to the site, which disperse the traffic into a number of locations.

Existing problems at two intersections on Route 206 – Orlando Drive and South Bridge Street – are impacted by new development in the study area. However, because traffic conditions will worsen as a result of regional growth outside of the study area, the mitigation measures described here result in levels of service that are better than the existing and future conditions without development and the associated mitigation measures proposed here.

In fact, because the existing problems at these intersections have nothing to do with the landfill redevelopment, the County and Borough should petition DOT for remediation now and relieve the redevelopment project of this additional financial burden.

### Recommended Offsite Roadway Improvements

To improve traffic conditions in and around the project site and to mitigate potential traffic impacts associated with the development, the following roadway improvements are recommended in and around the project site:

**US Route 206 and Somerset Street** To improve operation of the intersection, and eliminate the need for a split side street phasing, Vollmer recommends eliminating the second left turn lane in each direction on Somerset Street and modifying the traffic signal operation to include a three-phase operation with concurrent lead left-turn phases. This operation will improve traffic flow on Somerset Street without requiring costly right-of-way.

**US Route 206 & Orlando Drive** This intersection will require significant modification to provide for safe and efficient operation with the addition of the access to the proposed site. By shifting the centerline of the eastbound approach to provide three approach lanes and one receiving lane, odd site right-of-way taking can be minimized.

**US Route 206 & South Bridge Street** To improve the operation of this intersection, it is recommended that available storage for the westbound double left turn be extended and the timing at the traffic signal modified to allow additional vehicles to make the westbound left-turn movement to go south on Route 206.

**Veterans Memorial Drive and Davenport Street** As part of the construction of the Davenport Street Tunnel into the site, it will be necessary to provide a traffic signal at the intersection of Veterans Memorial Drive and Davenport Street.

**Next Steps** Many of the deficiencies identified in the study area are existing problems independent of the proposed development. Vollmer recommends the Borough of Somerville and Somerset County petition NJDOT to review the some of the existing problems, particularly at US Route 206 and Somerset Street and US Route 206 and South Bridge Street, and determine if improvements such as those recommended herewith can be implemented in advance of the proposed project.

US Route 206 is under the jurisdiction of the New Jersey Department of Transportation and is subsequently governed by the New Jersey State Highway Access Management Code. As the development process continues, it will be necessary to prepare and submit an NJDOT Highway Access Permit Application for the project. Additional study locations on Route 206 may be necessary as part of the Access Permit process.

## Fiscal Outcomes

The development program analyzed here represents the intersection of public process and market research. The major components of the development program – new residential neighborhoods, a mixed-use station area, theaters, hotels, civic spaces, institutional / research uses and parks and open spaces – reflect the input of a robust, year-long public process. It also represents a realistic assessment of current market conditions. As described earlier, this development program passes the most important test: it will support the community’s goals for place-making, reinforcing downtown, and, as detailed below, improving the fiscal position of the Borough. But it is only a bench mark and a snapshot of current real estate conditions. The final as-built development may be different.

### OAT Revenues and Service Cost Estimates

	Est. Value	Assesment (0.5968)
Residential :1216 DU	\$308,330,000	\$184,011,300
Non-Residential: 260,000SF	\$ 36,850,000	\$ 19,306,500
Total	\$345,180,000	\$203,756,800

### Ordinary Property Tax Revenues and Allocated Service Costs

	Local Use	School District	Somerset County	Total
Added Revenue	\$2,466,250	\$5,609,540	\$1,114,180	\$9,189,970
Added Costs	\$ 857,250	\$ 850,550	\$ 820,500	\$2,528,300
Surplus (Deficit)	\$1,609,000	\$4,758,990	\$ 293,680	\$6,661,670

### Landfill - Transit Redevelopment Area Program Assumptions

Residential	Number of Units	Estimated Assessment (\$,millions)	Estimated Land Value (\$,millions)
Townhouse	245	52,637,800	13,230,000
Condominium	613	106,093,100	26,665,500
Apartment	256	20,167,100	5,068,100
Affordable	102	5,113,400	-4,896,000
Total	1,216	\$184,011,300	\$44,963,600
<b>Non-Residential</b>			
Retail	45,000	6,714,000	1,687,500
Office	25,000	2,984,000	750,000
Hotel / Conf.	25,000	2,685,600	675,000
Movie / Art	20,000	1,432,300	360,000
Technology	115,000	5,490,600	1,380,000
Civic	30,000	0	-4,500,000
<b>Total</b>	<b>260,000</b>	<b>19,306,500</b>	<b>352,500</b>
<b>Total (Gross)</b>		<b>203,317,800</b>	<b>45,316,100</b>

If this redevelopment project is to achieve the goal of being a seamless extension of the physical and social fabric of Somerville, then it must be in scale with the existing Borough. This consideration has also shaped the development program. The early design studies and visioning sessions showed that it was not realistic to model a development program that was so ambitious that it could create the \$100,000,000 of land value needed to pay for all of the improvements and amenities that the residents identified – both mandatory, like the clean up, and discretionary, like the parks and civic spaces. Instead, a target of \$50,000,000 of private development land value was set, with the realistic expectation that other partners and public sources would be found for the balance. Obviously, several different program mixes might achieve this goal. Analyzed in detail here is the program that best synthesizes the work of the public process. Two alternative programs are offered although these are not analyzed to the same level of detail.

### Program Parameters and Summary of Land Value Outcomes

The overall plan, as detailed in the table to the left, includes a total of 1,216 residential housing units consisting of market rate rental apartments, condominiums and townhouse units and includes a full complement of “affordable” housing units to satisfy the “growth share” obligations generated by the redevelopment program. The redevelopment concept also includes approximately 260,000 square feet of non-residential space, a mixture of retail and office space along with space for hotel, movie house, technology center and civic uses. The portion of the redevelopment area owned by New Jersey Transit is also planned for a major (\$20 million) station renovation, a 400-space parking deck with the ability to expand to a total of 800 spaces and the construction of an underpass that will link the landfill redevelopment with the planned extension of Davenport Street though the adjoining Somerville Towne Center redevelopment area.

The private sector uses within the redevelopment program have an estimated completed value of \$340.7 million, the majority of which are represented by residential uses. At the Borough’s current (2006-07) assessment ratio of 59.68 percent, the completed redevelopment would represent an added assessment of \$203.3 million. As further detailed in the table to the left, the estimated project value would be expected to represent a gross land value of \$45.3 million, just below, the \$50 million target, although this is because the assumptions used are conservative. As described earlier, as the process moves forward, decisions need to be made as to what to apply these revenues to. For the purposes of this table, expected environmental remediation costs, site condition expenses and affordable housing costs are subtracted yielding a net value of approximately \$27 million. As the following analy-

sis shows, this will have a significant positive impact on the revitalization of Somerville which, since 1970, has lost almost 13,000 residents, and since 1989, has lost over 5,000 private sector jobs. Assuming the full occupancy of the non-residential space, it is estimated that the 260,000 square feet of non-residential space included within the redevelopment program could generate a total of 460 on-site, permanent full-time equivalent (FTE) jobs.

## Fiscal Implications

The construction and occupancy of the residential and non-residential components of the redevelopment program will generate added revenues and service costs.

**Ordinary Property Tax Revenues** With ordinary applicable tax revenues represented by the Borough's current (2006-07) property tax structure, the added property tax revenues generated by the completed redevelopment program with an assessed value of \$203.7 million would amount to \$9.1 million annually. The tax-supported costs attributable to the redevelopment program, that is, the additional burden on municipal services and the school district, is about \$2.5 million. It leaves an overall surplus of \$6.6 million of which the Borough of Somerville would receive \$1.6 million revenue surplus. This was calculated as follows: 260,000 square feet of non-residential space with 460 employees, 1,216 housing units with 1,898 residents including 83 public school children, utilizing the current per capita, per student and per employee service cost factors would amount to \$2.5 million and yield an overall surplus of revenues over costs amounting to \$6.6 million.

**Tax Abatement and PILOT Revenues** Because this is a redevelopment area, it is expected that a prospective redeveloper may request tax exemption and abatement under the provisions of the Long Term Tax Exemption Law (N.J.S.A. 40A:20-1) and enter into a Financial Agreement for the payment of Annual Service Charges as Payment In Lieu Of Taxes (PILOT Payments). The Financial Agreement may establish the Annual Service Charges as either a percent of Gross Annual Revenues or as a percent of the Redevelopment Cost.

The added costs and added revenues attributable to the redevelopment program with 260,000 square feet of non-residential space with 460 employees, 1,216 housing units with 1,898 residents including 83 public school children has an estimated assessed value of \$203,756,800.

The utilization of tax abatement and PILOT payments would yield Annual Service Charges of approximately \$4.4 million, of which approximately \$4.2 million would accrue to the Borough, well in excess of the Borough's estimated Ordinary Applicable Taxes revenues of \$2.5 million. After deducting the allocated municipal service costs of \$0.9 million, the Borough would be expected to receive an annual revenue surplus of approximately \$3.3 million compared to a sur-

plus of \$1.6 million with ordinary taxation.

**Economic Impacts**  
In addition to the anticipated impact on the public sector (municipal, school district and County) operations, the mixed-use redevelopment program may be expected to impact on certain private sector operations both during construction and after completion. These economic impacts include temporary (construction) and permanent employment, expenditure impacts for goods and services, the generation of personal disposable income and the accompanying personal consumption expenditures. Utilizing the ULI/CUPR input/output model, the proposed redevelopment is calculated to have the following impacts during both the construction phase and operational phase.

**Construction Phase Impacts** Estimates of the construction stimulus to local economies may be calculated as a derivative of project value. The employment-generating effects of construction may be assessed in order to estimate the effects of private construction expenditures on jobs and materials.

The proposed mixed-use redevelopment program can be expected to directly and indirectly result in 2,502 jobs during the construction phase. This construction phase employment is expected to generate payrolls of \$140.1 million, a disposable personal income of \$123.3 million, and personal expenditures of \$113.4 million. The construction of the mixed-use redevelopment plan can also be expected to result in the purchase of \$25.3 million of construction materials from within the region and \$76.1 million from outside the region.

**Operational Impacts** The economic effects of the "steady state" or completed and occupied mixed-use redevelopment plan, are measured by a derivative of input/output analysis that interprets the effects of the new development on other service providers in the local market area. For the long run, there are direct, indirect and induced effects, including the significant induced effects which emerge because households positively impacted by growth have increased wealth to distribute throughout the economy. For the purposes of this analysis, the secondary and tertiary "induced" effects, which are most significant to the macro state economy, are not calculated. In the operational phase, the direct effects consist of permanent jobs created, and spending associated with both the operation of the completed redevelopment plan and spending by its employees and residents. This will lead to more sales by businesses and more revenue due to the taxes levied on sales as well as corporate profits.

The completion of the redevelopment plan is expected to generate employment for 460 employees with net (post-tax) payrolls of \$20.4 million, contain 1,216 households with an aggregate disposable personal income of \$76.0 million. Economic ratios per \$1,000 of disposable personal income indicate that the operational (occupied) phase of the new development will generate \$88.7 million in annual personal expenditures including expenditures of \$15.1 million for shopping goods, \$20.5 million for convenience goods and an additional \$52.9 million in consumption expenditures.



# APPENDICES

## Design Workshop Summary: Groups 1-4

Design Poster

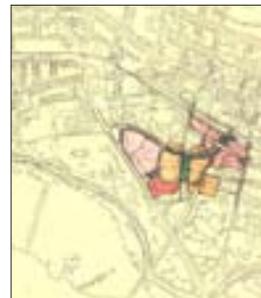
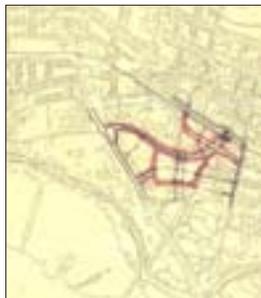
Street Network

Open Space

Land Use

1

Workshop Group



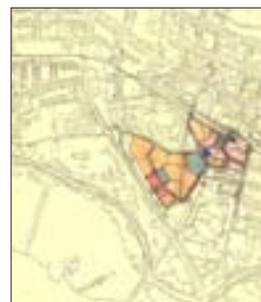
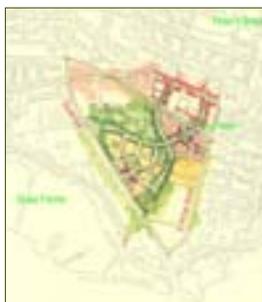
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Workshop Group



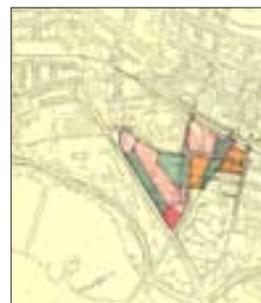
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Workshop Group



4

Workshop Group



### Somerville Landfill and Station Area Study

Somerville, NJ

Spring 2006

# Design Workshop Summary: Groups 5-8

Design Poster

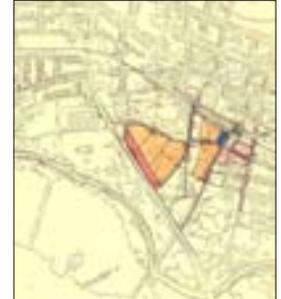
Street Network

Open Space

Land Use

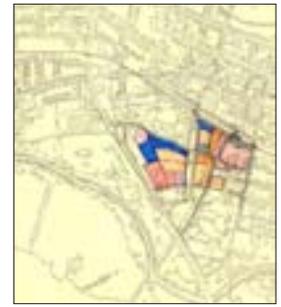
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Workshop Group



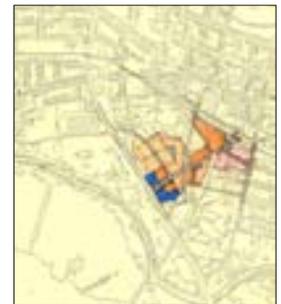
6

Workshop Group



7

Workshop Group



8

Workshop Group



## Somerville Landfill and Station Area Study

Somerville, NJ

Spring 2006

