Route 303 Sustainable Development Study

Charrette # 3

Developing the Vision

April 21, 2001

Purpose of this Charette

- Review the Results of Technical Analysis
  - ✓ Smart Growth
  - ✓ Land Use Transportation Index
  - ✓ Traffic Assignment
- Address Challenges
- Develop a Preferred Land Use Scenario
  - ✓ Trend, Open Space, Village Center, Business
  - ✓ Planning Areas

Next Steps

- Citizens Advisory Committee
  - ✓ Preferred Scenario
  - ✓ Analytical Results
- Neighborhood Mtgs.
  - ✓ Preferred Scenario
  - ✓ Transportation Improvements
- Citizen Advisory Committee

Future Development Scenarios

- Existing Conditions - Current baseline conditions
- Trend - 2020 levels based on current land use trends
- Open Space - Limitation of future development and preservation of open space
- Village Center - Three defined Village Center areas
- Business Emphasis - Large-scale business and commercial areas

Trend Scenario

- 2020 levels based on current land use trends
- Historic direction without intervention
- Spatial Distribution - Spread Rather than Focus
- Additional Residential Units - 150
- Theoretical basis for evaluation

What are the Analytical Tools?

- USEPA's Smart Growth Index
- Transportation - Land Use Index
- Traffic Assignments/Level of Service

Why Use Models?

- Compare alternative scenarios to base conditions - future trend
- Illustrate strengths, weaknesses, and applicability of each scenario
- Just one of several inputs

Analytical Assumptions

- RPC Residential Units: 400
- Base Residential Units: 5,100 (existing)
- Additional Residential Units in Village: 250
- Additional Residential Units in Trend: 150
- Lowe's Development in all scenarios

Background of Smart Growth Index (SGI)

- Smart Growth Index - US Environmental Protection Agency
- Beta-test this model for the Route 303 Study
- Trial application of this model corridor wide
- Physical condition, urban design
- Oriented to large growth development (RPC Redevelopment)

SGI - Indicators

- Land Use
  - Population Density
  - Use Mix
  - Jobs/workers balance
  - Diversity
- Housing
  - Residential Density
  - Single and multiple family housing, open space shares
  - Housing – transit proximity
  - Water Consumption
- Employment
  - Employment Density
  - Employment – transit proximity
- Travel
  - Sidewalk Directness
  - Pedestrian Route/Design
  - Street Network/Connectivity
  - Vehicle miles of travel
  - Vehicle Trips
  - Auto Travel Costs
- Residential Energy
- Environment
  - Open Space
  - Park Space Availability
  - Emissions

Preliminary SGI Results

- All scenarios ranked closely together
- Problem: Future development is a small share of total development
- Open Space produces least land use impact
- Village Center results in a better balance of housing and employment
- Village Center allows more non-auto travel to work and shop

The Transportation-Land Use Index

- Facilitate Comparison of Transportation and Land Use Strategies
- Measure the Efficiency of Land Use Forms and Patterns in Terms of Vehicle Use per Capita or per Employee
- Traffic Demand, Twenty-four Hours
- Compares Production (Residential) and Attraction (Commercial, Office, Retail, etc.)

Land Use Influence on Transportation

- A Land Use Pattern That Encourages More Vehicular Use is Less Efficient;
- Conversely, a Land Use Pattern that Encourages Less Vehicular Use Is More Efficient;
- Therefore, a Land Use Pattern that Complements the Development of Alternative Modes is More Efficient

The Transportation-Land Use Index

- In the Trend Scenario
  - Vehicle Trips produced increase 10.3%
  - Vehicle Trips attracted increase 38.6%
- For the Production Analysis (Residential)
  - Open Space and Village Center Lowest Vehicle Hours per Capita for Orangeburg & Tappan
  - Business Emphasis Fewest Trips & Lowest Index for Bradley

The Transportation-Land Use Index

- For the Attraction Analysis
  - Open Space has the lowest number of vehicle trips , but is the least efficient with an index of 1.098
  - Business Emphasis for Bradley area greater number of trips & best index (No retail).
  - Open Space and Village Center nearly equal for Tappan
  - Village Center is the most efficient for Orangeburg/ Blauvelt

Traffic Assignment

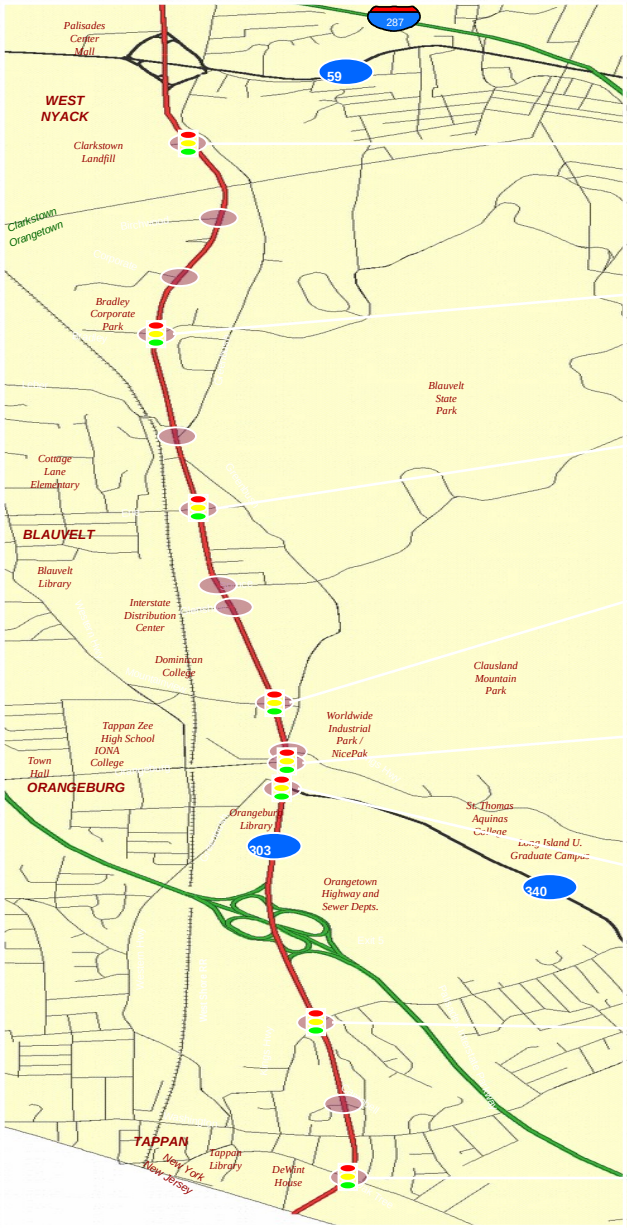
- Classic Approach to Development Analysis
- Peak Hours - AM & PM
- Considers Impacts of Regional - Pass Through Traffic
- Trip Generation and Attraction
- Pass-by Traffic & Mixed Use Credit

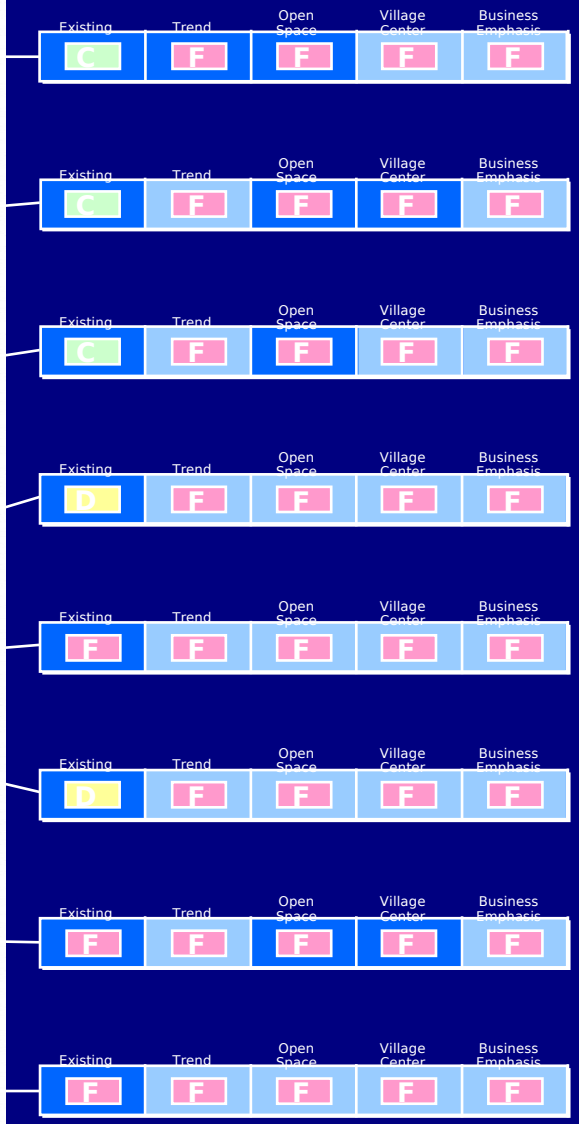
Traffic Assignment Results

- Many corridor intersections are already at or near capacity, particularly in the evening peak
- Existing Condition:
  - Signalized LOS F Intersections: Three - Oak Tree, Kings Hwy. So., and Orangeburg Rd.
- Trend Analysis:
  - Signalized LOS F Intersections: All
- Development Themes
  - Signalized LOS F Intersections: All

Traffic Assignment Results

- Traffic increases from least to most - Open Space, Village Center, Trend, and Business Emphasis
- Traffic Improvements will relieve, but not solve congestion.
  - Left Turn Pockets North and South Bound & On Selected Side Streets
  - Trend: Four LOS F
  - Business: Four LOS F
  - Village Center: Two LOS F
  - Open Space: Two LOS D at Orangeburg Road & Mountain View

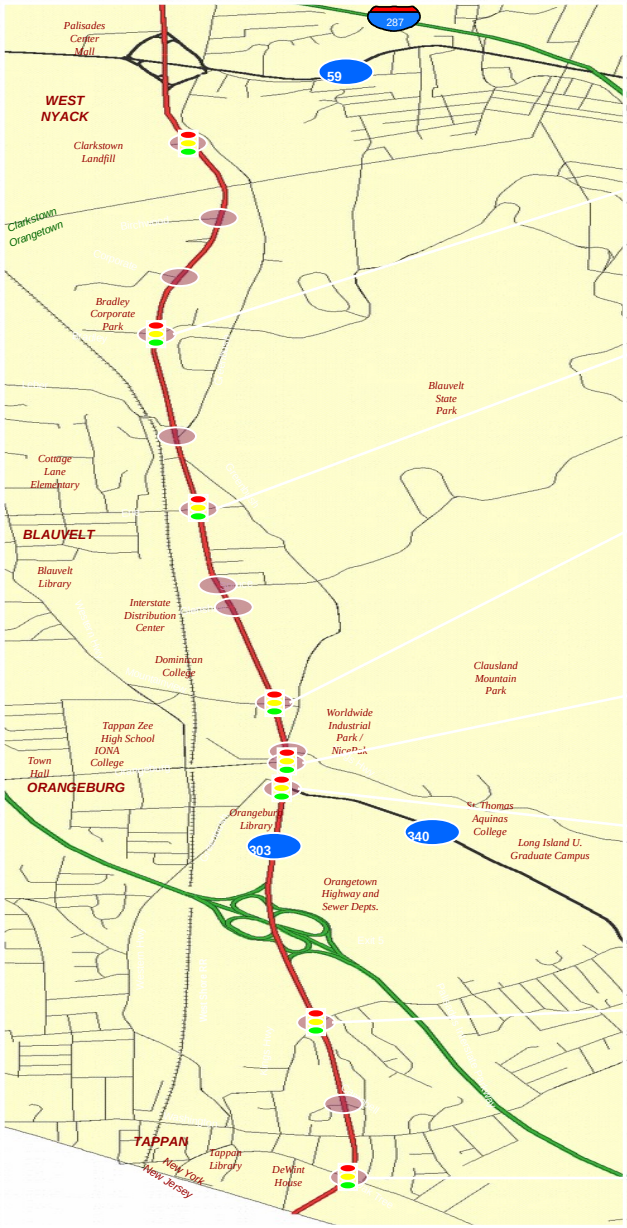




SOURCE: TRAFFIC ASSIGNMENTS, 2001

P.M. SCENARIO INTERSECTION LEVELS OF SERVICE

ROUTE 303 SUSTAINABLE DEVELOPMENT STUDY



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No Scale

Existing	Trend	Open Space	Village Center	Business Emphasis
C	E	C	C	E
C	D	C	C	D
D	F	D	E	F
F	F	D	E	F
D	F	E	F	F
F	F	E	F	F
F	C	C	C	C

LEGEND

Existing	Trend	Open Space	Village Center	Business Emphasis
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Overall LOS

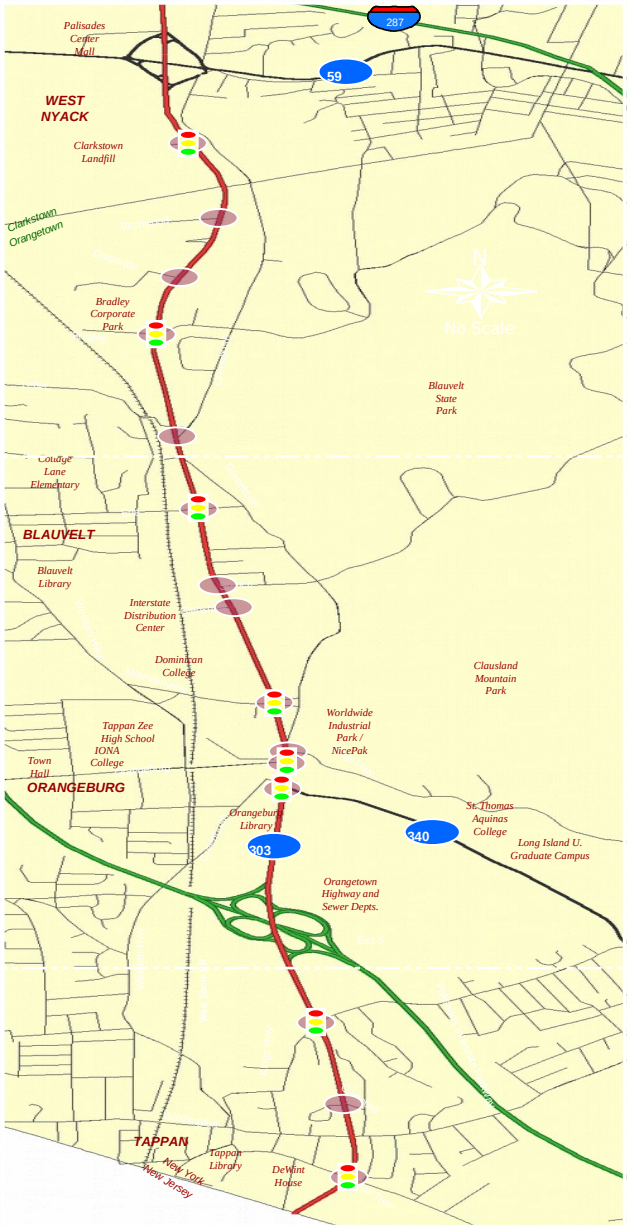
* -Existing Unimproved

SOURCE: TRAFFIC ASSIGNMENTS, 2001

Note: Generally, improvements include north and south left turn pockets, and left turn pockets at selected side street locations.

P.M. SCENARIO LEVELS OF SERVICE WITH IMPROVEMENTS

ROUTE 303 SUSTAINABLE DEVELOPMENT STUDY



SMART GROWTH INDEX (BEST SCENARIO)	LAND USE TRANSPORTATION INDEX (MOST EFFICIENT)	TRAFFIC ASSIGNMENTS (LEVEL OF SERVICE)
LAND USE: OPEN SPACE	**ATTRACTION ANALYSIS:** BUSINESS EMPHASIS	
HOUSING: TREND	**PRODUCTION ANALYSIS:** BUSINESS EMPHASIS	**NO LEVEL OF SERVICE F**
EMPLOYMENT: BUSINESS EMPHASIS		
TRAVEL: VILLAGE CENTER	**ATTRACTION ANALYSIS:** VILLAGE & TREND	**OPEN SPACE:** NO LEVEL OF SERVICE F
RESIDENTIAL ENERGY: VILLAGE CENTER	**PRODUCTION ANALYSIS:** OPEN SPACE & VILLAGE CENTER	**VILLAGE CENTER:**
ENVIRONMENT: VILLAGE CENTER		
OVERALL: VILLAGE CENTER	**ATTRACTION ANALYSIS** OPEN SPACE	**OPEN SPACE:** NO LEVEL OF SERVICE F
	PRODUCTION ANALYSIS: OPEN SPACE & VILLAGE CENTER	**VILLAGE CENTER & BUSINESS EMPHASIS:**

EVALUATION RESULTS

ROUTE 303 SUSTAINABLE DEVELOPMENT STUDY

What Does It All Mean?

- No one scenario is the perfect answer
- Results vary by corridor region
- Control of development
  - ➔Reduce future travel and traffic congestion
  - ➔Will not change basic travel patterns
- Village Center development
  - ➔Greater use of transit
  - ➔Enhance existing residential and commercial neighborhoods

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Scenario Performance Summary