

NESTS Transit Planning Project

A Study for the
Ithaca-Tompkins County Transportation Council

MULTISYSTEMS

with Creighton Manning Engineering, LLP

November 18, 2002

Goal of the Study

- **Provide an attractive transit system that will support the NESTS Livability Goals**
 - Reduce use of personal motor vehicles
 - Reduce traffic on neighborhood streets
 - Improve mobility with a multimodal system
 - Enhance coordination with pedestrian and bicycle modes
 - Support land use policies and patterns

Phases of the Study

- **Market research**
- **Service planning**
- **Facilities planning**
- **Policy options**
- **Development of preferred strategy**

Market Research

- **Key issues**

- Coverage
- Hours of service
- Travel time
- Frequency

- **Non-Users**

- 59% receptive to transit, but most would ride infrequently

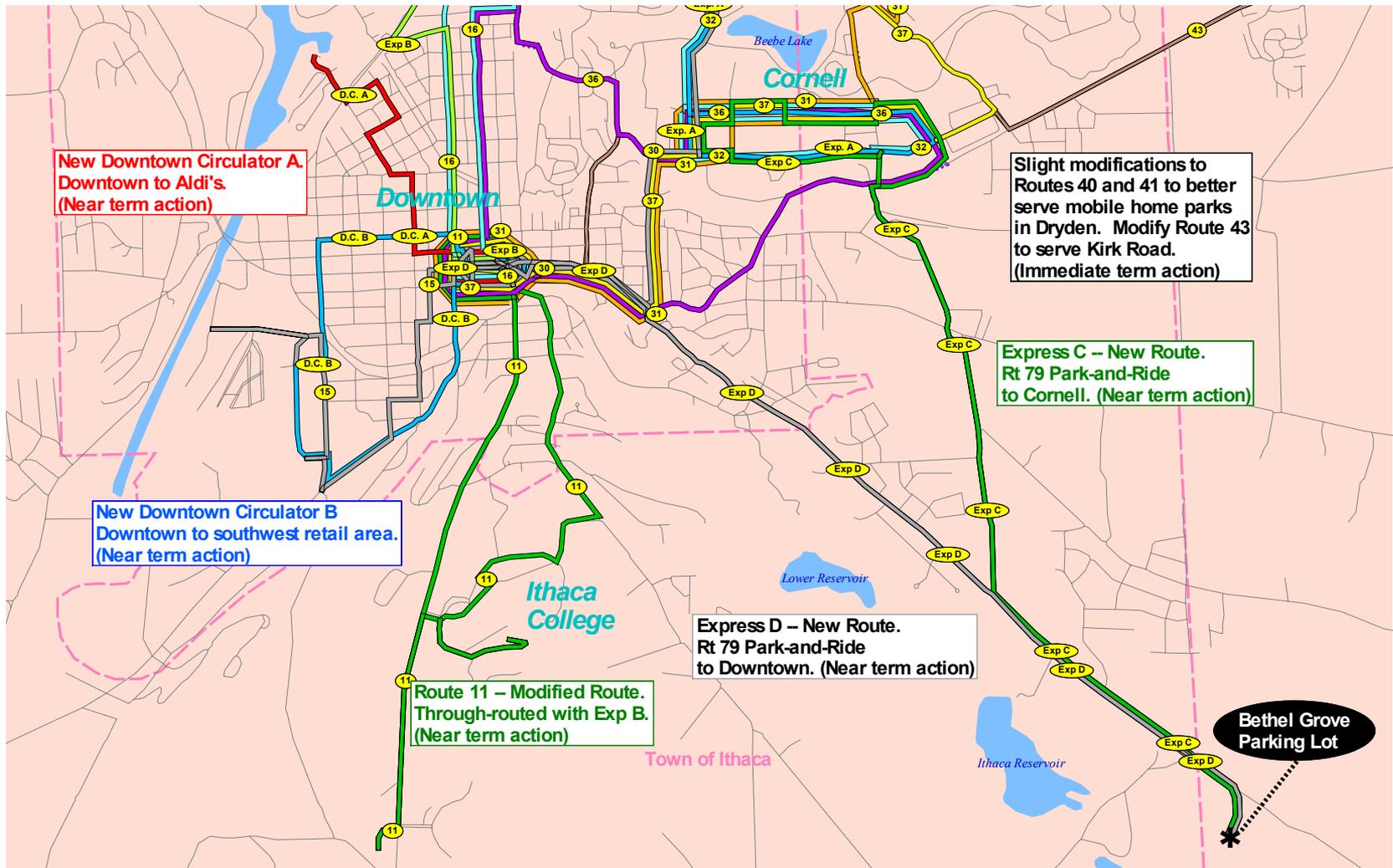
- **Users**

- 79% would ride more if buses ran more often
- 64% would ride more with later evening service

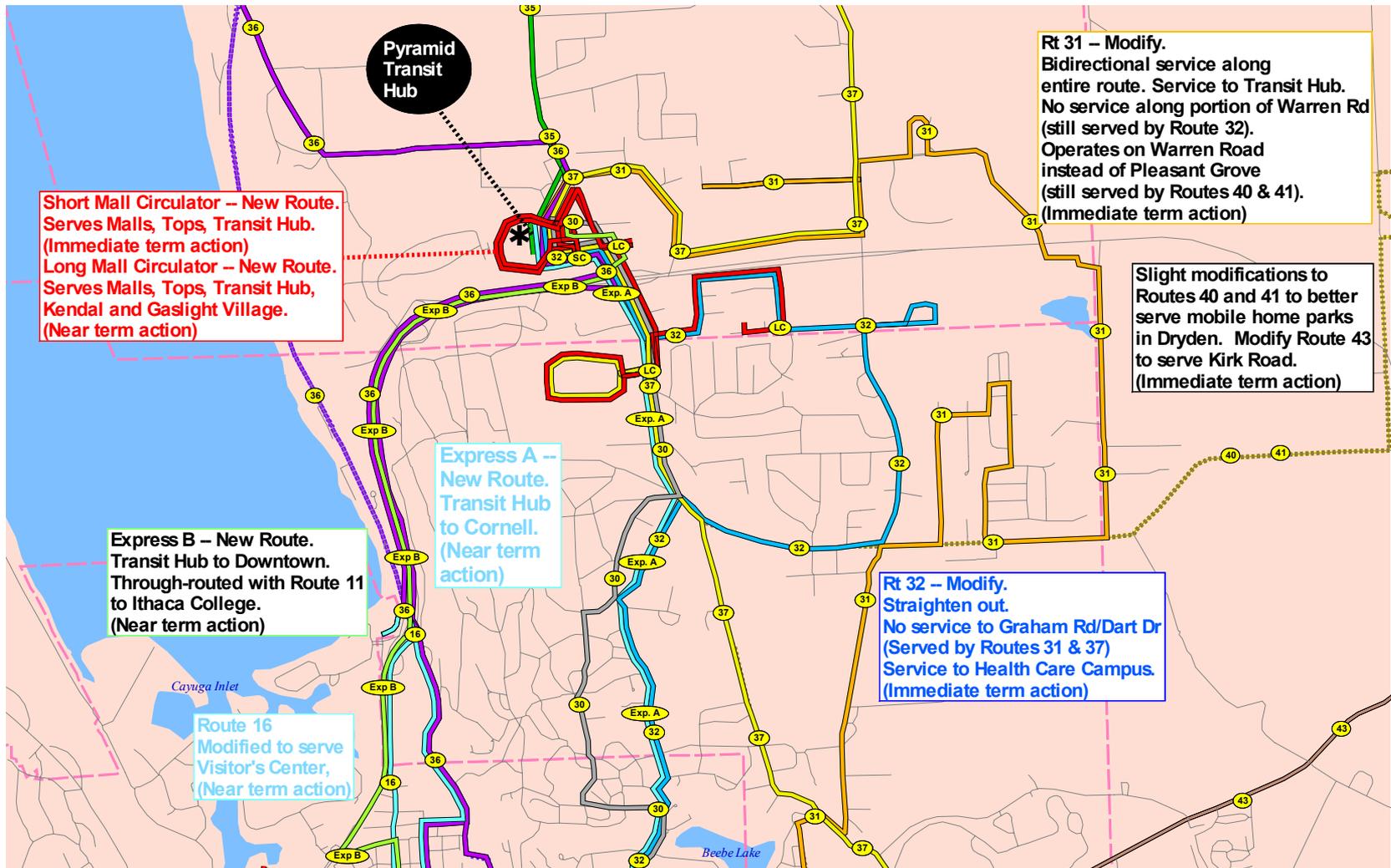
Service Enhancement Concepts

- **Improve service on current routes**
 - Make routes more direct
 - Improve connections to important trip attractors
 - Enhance frequency of service
- **Develop new routes**
 - Serve new areas
 - Offer faster and more direct service
- **Improve connections between routes**

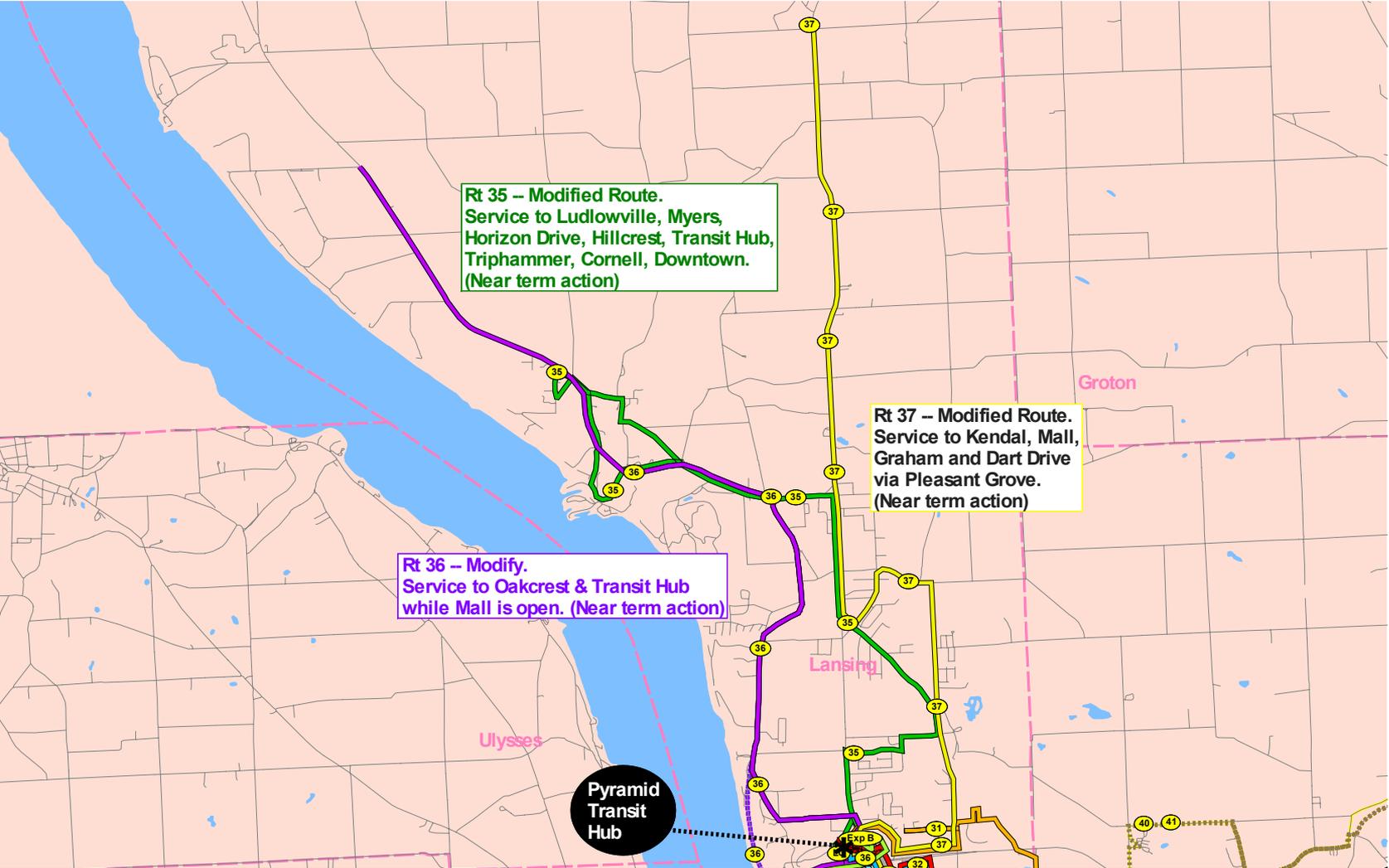
Southern Area



Central Area



Northern Area



Facility Enhancement Concepts

- **Passenger facilities**
 - Transit hub at Pyramid Mall
 - Park-and-ride lot in Bethel Grove
 - Additional bus shelters
 - Improved bicycle facilities
- **Applications of technology**
 - Real-time bus arrival information at stops
 - Automated fare collection/smart cards

Crossgates Mall Transit Center



Potential Siting at Pyramid Mall

Potential Service Levels

● Basic

- Consistent with current level of service
- 12 hours of service (7:00 AM to 7:00 PM)
- 60-minute headway (new express routes at 30 minutes)
- Limited weekend service

● Enhanced

- 14 hours of service (7:00 AM to 9:00 PM)
- 30-minute headways (new expresses at 15 and 20 min.)

● High

- 16 hours of service (6:00 AM to 10:00 PM)
- 20/30-min. peak/off-peak headways (expresses at 10 min.)

Implementation Schedule

- **Five phases devised**
 - Immediate term (1 to 2 years)
 - Near term (3 to 4 years)
 - Mid term (5 to 7 years)
 - Long term (8 to 10 years)
 - Future (11 years and beyond)
- **Phase in recommended service concept over immediate and near term periods**
- **Boost service levels during mid and longer term periods**

Immediate Term (Years 1 and 2)

- **Revisions to Routes 31 and 32**
 - Extend Route 31 to Pyramid Mall via Dart Drive
 - Eliminate “switchback” portion of Route 32
- **Short Mall circulator**
 - 5 hours of service every day (e.g., 11:00 a.m. to 4:00 p.m.)
 - Christmas shopping season only
- **Minor changes to Routes 40, 41, 43**
 - Better service to mobile home parks in Dryden
- **Annual local net cost increase: \$70,000**
- **Estimated new weekday riders: 150**

Near Term (Years 3 and 4)

- **Implement 4 express park-and-ride shuttles**
 - Express A from Pyramid Transit Hub to Cornell
 - Express B from Pyramid Transit Hub to downtown Ithaca
 - Express C from Route 79/Bethel Grove to Cornell
 - Express D from Route 79/Bethel Grove to downtown Ithaca
- **Implement 3 circulators**
 - Long Mall circulator
 - Downtown circulator A (Albany and Third to Aldi's)
 - Downtown circulator B (SW retail area, Meadow, Buffalo)
 - Revise Route 16 to serve Visitors' Center
- **Revisions to Routes 35, 36, 37**
 - Service to Pyramid Transit Hub

Near Term (continued)

- **Most new routes introduced at Basic level**
 - **Except for Pyramid Transit Hub shuttles**
 - **Express A: 15 minutes peak / 30 minutes off-peak**
 - **Express B: 20 minutes peak / 30 minutes off-peak**
- **Current Route 13 replaced**
 - **By Express B and Downtown Circulator system**
- **Route 80 eliminated**
 - **Due to reduced demand at A Lot**
- **Annual local net cost increase: \$407,000**
- **Estimated new weekday riders: 600**

Mid Term (Years 5 through 7)

- **Off-peak service on Express C/D (60 min.)**
- **Full-year service on short Mall circulator**
- **Downtown circulator system improved**
 - 30-minute frequency instead of 60-minute
- **Route 32 improved**
 - 30-minute frequency instead of 60-minute
- **Annual local net cost increase: \$620,000**
- **Estimated new weekday riders: 900**

Long Term (Years 8 through 10)

- **Express C and D improved**
 - 15-minute frequency in peak / 40-minute in off peak

- **Route 15, 30, and 31 improved**

	Peak	Off Peak	Saturday	Sunday
Route 15	30 (60)	60	30 (60)	60
Route 30	20 (30)	30	20 (30)	30
Route 31	30 (40)	60	90 (none)	none

- **Annual local net cost increase: \$940,000**
- **Estimated new weekday riders: 1,300**

Future Period (Year 11 and beyond)

- **Express A and B improved to 10 minutes in peak (from 15)**
- **Downtown circulators improved to 20 minutes all day on weekdays (from 30)**
- **Annual local net cost increase: \$1.18 million**
- **Estimated new weekday riders: 1,500**

Net Cost Per Diverted Rider

- **Nets out fare revenue and State assistance**
- **Assumes all circulators are free**

Phase	Incremental	Cumulative
Immediate term	\$ 2.27	\$ 2.27
Near term	\$ 2.90	\$ 2.77
Mid term	\$ 2.22	\$ 2.56
Long term	\$ 2.17	\$ 2.41
Future	\$ 4.36	\$ 2.65

Benefit: Time Savings

- **Time savings mainly result from**
 - More direct routings for Routes 31 and 32
 - Express A and B faster to Cornell and downtown than Routes 30 and 13
 - Higher frequency on Express A and B means less wait time
- **Total time savings for existing riders**
 - Immediate term 18,600 person hours / year
 - Near term through Long term 24,000 person hours / year
 - Future period 27,000 person hours / year
- **No time savings found for new riders**
 - Still faster to drive

Benefit: Traffic Reduction

NEW TABLE BEING DEVELOPED SHOWING
IMPLEMENTATION PHASES INSTEAD OF 3,5,10%

	PM Peak Hour Two-Way Screenline Volumes							
	1997				2017			
	Base	Mode Shift Scenario			Base	Mode Shift Scenario		
		3%	5%	10%		3%	5%	10%
North of Route 13 (NY 34, Triphammer, Warren and Hanshaw)	4,550	4,400 3.3%	4,300 5.5%	4,050 11.0%	5,050	4,925 2.5%	4,800 5.0%	4,550 9.9%
Between Route 13 and Community Corners (NY 34, Triphammer and Warren)	1,950	1,900 2.6%	1,825 6.4%	1,675 14.1%	2,875	2,850 0.9%	2,775 3.5%	2,600 9.6%
Between Community Corners and Cornell (Cayuga Heights, Triphammer, Pleasant Grove, Warren and Freese)	1,425	1,325 7.0%	1,225 14.0%	1,025 28.1%	2,050	1,950 4.9%	1,850 9.8%	1,650 19.5%
South of Cornell (Pine Tree and Thomas)	750	725 3.3%	700 6.7%	675 10.0%	1,025	1,000 2.4%	1,000 2.4%	975 4.9%

Benefit: VHT/VMT Reduction

NEW TABLE BEING DEVELOPED SHOWING
IMPLEMENTATION PHASES INSTEAD OF 3,5,10%

- **Vehicle hours/miles of travel reductions**

	Hours (annual)	Miles (annual)
– 3%	88,000	3.2M
– 5%	160,000	5.1M
– 10%	310,000	10.2M

- **Annual user cost savings (based on miles)**

– 3%	\$1.2M
– 5%	\$1.8M
– 10%	\$3.7M

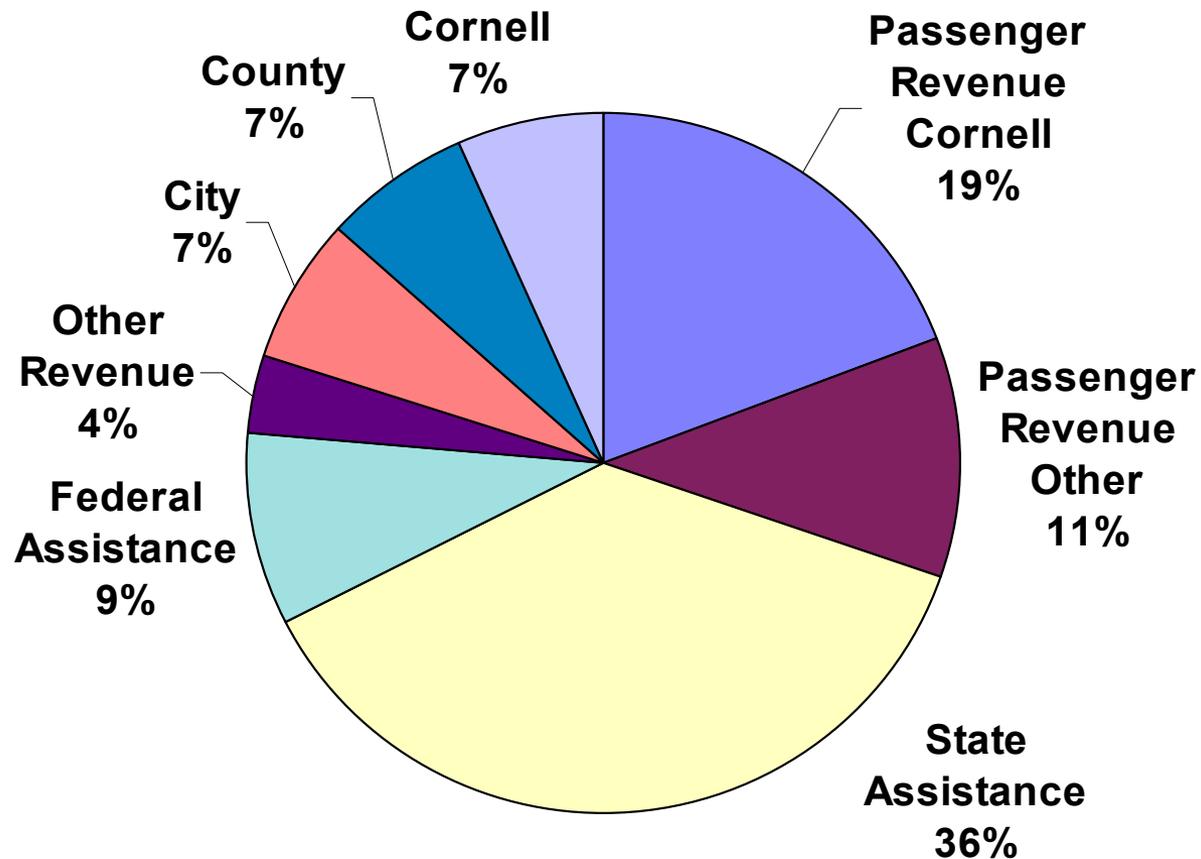
Policy Options

- **Incentives to use transit**
 - UPASS program at Cornell would not reduce auto traffic significantly
 - Little interest among employers for Eco-pass
- **Parking fee increases**
 - City plans to increase supply; may raise fees to fund expansion
 - City could refine 2-hour-free policy
 - Given Cornell's fee structure (annual permits), raising fees by even \$1 per day is infeasible

Alternative Parking Fee Structure

- **Annual permit program encourages driving every day**
- **Daily parking charge changes incentives**
- **ITS technology can make daily parking charge as convenient as a permit**
 - **Smart card or transponder in car**
 - **“Toll booth” type entrance to parking facilities**
 - **Easy-to-use payboard at open access lots**
- **Could be combined with transit pass**

Current TCAT Funding



Potential New Funding Sources

- **Additional mortgage recording tax**
 - Used by all other upstate transit districts
 - Up to \$750,000 per year
 - Could be used for capital or operating
- **Local community contribution**
 - Direct support from additional towns and villages
- **Private sector contribution**
 - In kind service: maintenance or land donation

Less Likely New Funding Sources

- **New dedicated taxes**
 - Sales tax
 - Property tax
 - Payroll tax
 - Utility tax
 - Gasoline tax
 - Commercial parking tax
- **Municipal parking revenue**
- **Advertising revenue**
- **Development Related**
 - Transportation impact fees
 - Benefit assessment district
 - Joint development
- **Human service agency contributions/contracts**
- **Private sector**
 - Sale-leaseback or certificates of participation
 - Employer subsidy

Conclusions

- **Recommended service concept would remove over 1,000 weekday auto trips from NEST area roads by 2010**
- **Transit hub at Pyramid Mall and park-ride lot on Route 79 could reduce traffic in key areas**
- **Change from permits to daily parking fee at Cornell could have significant impacts**
- **Plan is financially feasible, assuming no drastic reduction in State assistance**

Open House Stations

- **Recommended Service Concept**
- **Implementation Phases**
- **Recommended Facilities and Technology**
- **Your Comments**