

Swedish Service Routes, American Style: Local Bus for the Suburbs

**NYCDOT Mobility Management Conference
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Swedish Service Route Model

- Response to growing expense of Special Transportation Service (STS) in early 1980's
- Service route concept developed in Boras, Sweden in 1983
- Grew out of need to balance costs and providing greater accessibility

Service Route Elements

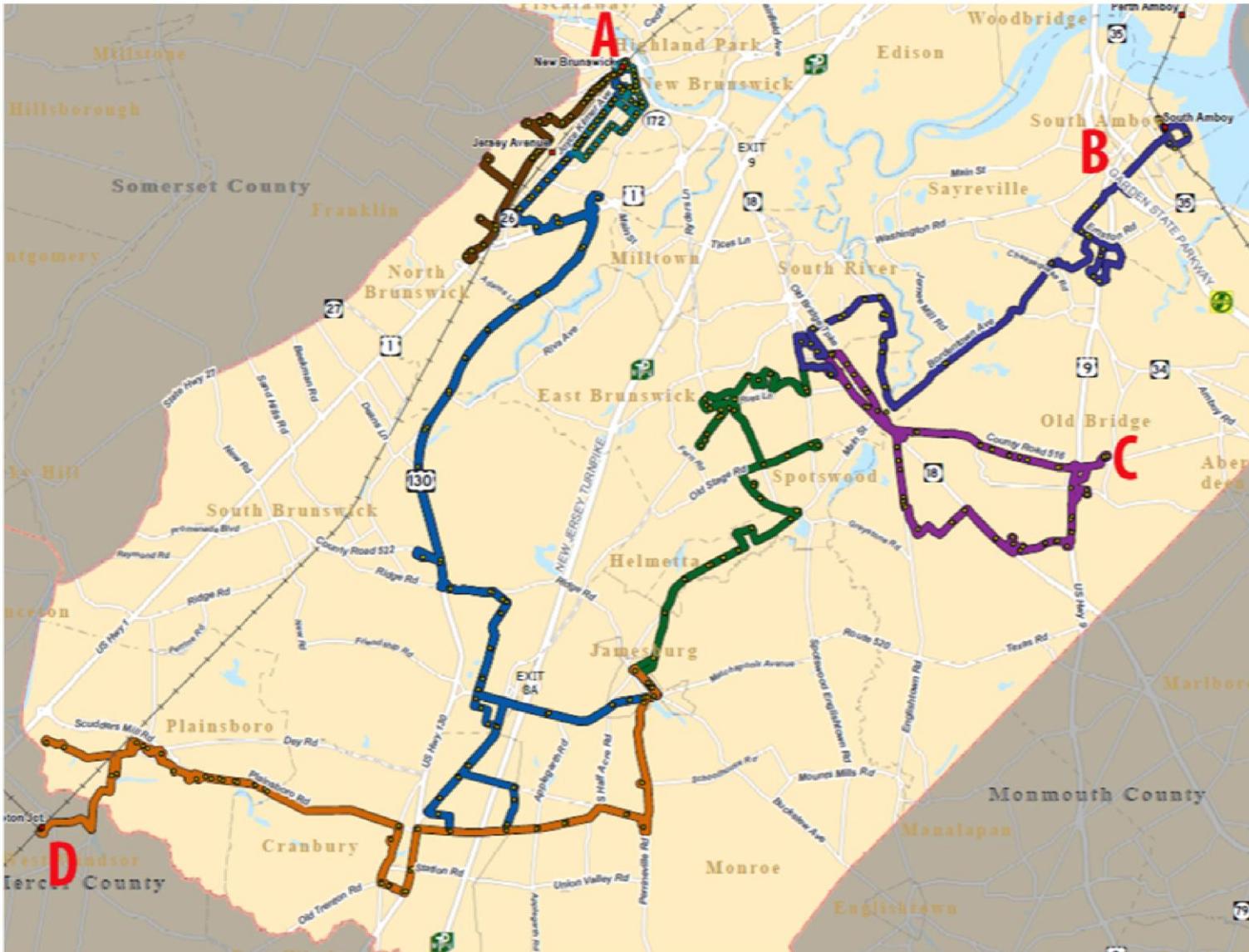
- One component of a family of transit services
- Routes travel through residential neighborhoods
- Schedule with fixed trip intervals
- Routes are open to the general public
- Timetables allow extra time for passenger boarding, paying fare, finding a seat
- Provides connections to traditional bus and rail stations
- Uses small, accessible vehicles to navigate local streets

Parallels between 1980's Sweden and U.S. Today

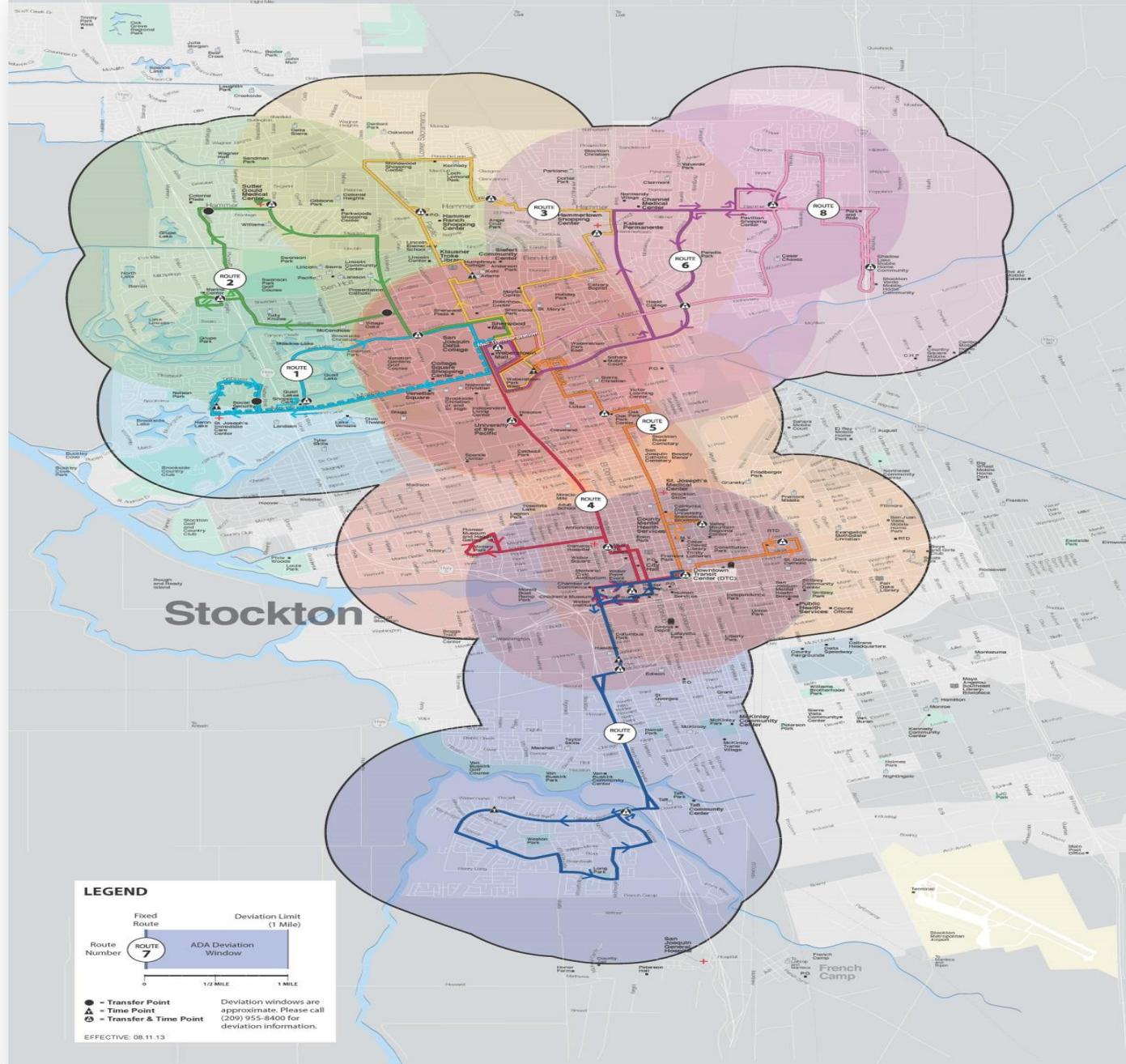
- Accessible Paratransit is expensive
- Need to create economies of scale
- Can address public transit access needs in suburbs and also need for more efficient ADA Paratransit

U.S. Case Study Challenges

- San Joaquin (CA) Regional Transit District (SJRTD) - needed to reduce costs of ADA paratransit
- Middlesex County (NJ) Area Transit (MCAT) - needed to find a cost-efficient solution to serving both specialized populations and general public in the suburbs



- A** New Brunswick
NEC, NJT 810,
811, 814, 815
M1, M4, M5
- B** South Amboy
NJCL 815, 817
M7
- C** Regional Mall
818, M3
- D** Princeton, NEC
600, M6



Stockton

LEGEND

Fixed Route Deviation Limit (1 Mile)

Route Number ADA Deviation Window

0 1/2 MILE 1 MILE

● = Transfer Point
 ▲ = Time Point
 ▲ = Transfer & Time Point

Deviation windows are approximate. Please call (209) 955-8400 for deviation information.

EFFECTIVE: 08.11.13

MCAT Shuttle Service Area Characteristics by Route

Route	Route Service Area Population	Route Service Area (Square Miles)	Route Service Area Density	Route Start Year
M1	184,387	115.51	1,596	2005
M2	102,994	26.58	1,498	2005
M3	87,223	63.99	1,364	2007
M4	95,923	18.83	5,094	2008
M5	55,181	5.75	9,397	2008
M6	71,903	68.59	1,048	2010
M7	122,600	80.62	1,521	2011

MCAT Shuttle Operating Characteristics by Route

Route	Peak Buses	Span of Service	Frequency	Operating Days	Funding Source
M1	2	6:30 AM-5:30 PM	30/60 minute	Monday-Saturday	FTA/State
M2	2	8:00 AM-5:00 PM	60 minute	Monday-Saturday	FTA/State
M3	2	8:00 AM-5:00 PM	60 minute	Monday-Saturday	FTA
M4	2	5:45 AM-6:30 PM	30 minute	Monday-Saturday	Local
M5	1	5:45 AM-6:30 PM	30 minute	Monday-Saturday	Local
M6	2	6:00 AM-7:00 PM	30/60 minute	Monday-Saturday	FTA
M7	2	6:15 AM-6:45 PM	30/60 minute	Monday-Saturday	FTA

MCAT Shuttle Productivity by Route (2012)

Route	Annual Ops. Cost	Annual Revenue Hours	Annual Passenger Trips	Trips per Revenue Hour	Cost per Passenger Trip	Senior and PWD Trips
M1	\$255,749	5,677	90,447	15.9	\$2.83	15,084
M2	\$191,057	4,241	20,400	4.8	\$9.37	6,383
M3	\$207,455	4,605	20,667	4.5	\$10.04	12,075
M4	\$315,440	7,002	164,264	23.5	\$1.92	1,434
M5	\$161,189	3,578	58,303	16.3	\$2.76	43,466
M6	\$317,872	7,056	29,266	10.9	10.86	4,928
M7	\$313,187	6,952	19,244	2.8	\$16.27	7,159
Total	\$1,761,949	39,111	402,591	10.3	\$4.38	51,429

SJRTD Hopper Shuttle Productivity by Route (2013)

Route	Annual Operation Cost	Annual Revenue Hours	Annual Passenger Trips	Trips per Revenue Hour	Cost per Passenger Trip	Senior and PWD Trips
H1	\$216,285	2,767	22,730	8.2	\$9.52	NA
H2	\$165,823	2,141	14,775	6.9	\$11.22	NA
H3	\$158,909	2,081	5458	2.6	\$29.11	NA
H4	\$296,689	3,920	18,375	4.7	\$16.15	NA
H5	\$286,660	3,808	24,399	6.4	\$11.75	NA
H6	\$163,916	2,114	14,005	6.6	\$11.70	NA
H7	\$168,937	2,146	18,172	8.5	\$9.30	NA
H8	\$168,364	2,130	20,228	9.5	\$8.32	NA
Total	\$1,625,583	21,106	138,142	6.6	\$11.77	NA

2005 and 2012 MCAT System Productivity by Type of Service

MCAT 2005	Operating Cost	Passenger Trips	Revenue Hours	Cost per Trip	Trips per Revenue Hour
Shuttle	\$229,441	25,244	5,236	\$12.66	4.8
Demand	\$3,430,810	257,474	78,291	\$13.32	3.3
Total	\$3,660,251	282,718	83,527	\$12.94	3.4
MCAT 2012					
Shuttle	\$1,761,949	402,587	39,111	\$4.38	10.3
Demand	\$4,264,146	158,794	60,918	\$26.85	2.6
Total	\$6,026,095	561,381	100,029	\$10.73	5.6

2010 and 2013 SJRTD System Productivity by Type of Service

SJRTD 2010	Operating Cost	Passenger Trips	Revenue Hours	Cost per Trip	Trips per Revenue Hour
Shuttle	\$958,013	46,013	14,075	\$20.82	3.3
Demand	\$1,256,078	37,643	14,495	\$33.37	2.6
Total	\$2,214,091	83,656	28,570	\$26.47	2.9
SJRTD 2013					
Shuttle	\$1,625,583	138,142	21,106	\$11.77	6.5
Demand	\$1,157,147	36,534	10,524	\$31.67	3.5
Total	\$2,782,730	174,676	31,630	\$15.93	5.5

Conclusions

- The ***service route*** concept enables ADA Paratransit services to increase efficiency while meeting ADA customer requirements
- ***Service routes*** can provide *first/last mile connections to traditional bus and rail*
- ***Service routes*** can serve as a lower cost means for a community transit system of providing scheduled public bus service in suburban areas
- ***Service routes*** can be successful strategy to meet transit dependent and choice rider needs

For Further Information Contact:

- Steve Fittante, Director, NJ Transit Office of Local Programs
- sfittante@njtransit.com
- 973-491-7376