Purple Line

Project Team Meeting

March 14, 2008

Ridership Forecasts and Cost Estimates

Ridership

- Based on Future Year 2030 Population & Employment Forecasts
- "Boardings" are the number of riders who would use the Purple Line on a typical weekday; includes trips primarily on Purple Line, and trips primarily on Metrorail and MARC, which use the Purple Line for a portion of the overall trip
- Estimates include expected trips by University of Maryland students and special event visitors

Capital Costs

- Estimates in 2007 Dollars; subject to inflation to the time when a project is implemented
- Includes costs to design, manage and construct facilities, acquire right-of-way, and purchase equipment including transit vehicles

Operating and Maintenance (O&M) Costs

- Estimates in 2007 Dollars; subject to inflation to the time when a project starts operating
- Includes costs to operate transit services and maintain the vehicles, facilities, and equipment
- Accounts for adjustments to local bus services
- Cost of High Investment alternative are lower due to faster operating speeds.

Updated Technical Information

Ridership (daily boardings)

	No Build	TSM	Low Invest. BRT	Med. Invest. BRT	High Invest. BRT	Low Invest. LRT	Med. Invest. LRT	High Invest. LRT
Purple Line	--	14,800	22,200	29,300	33,800	32,500	33,900	36,100
Purple Line via Metrorail	--	--	16,700	21,100	23,700	25,300	27,200	30,500
Purple Line via MARC	--	--	1,100	1,400	1,300	1,500	1,500	1,500
Total	--	14,800	40,000	51,800	58,800	59,300	62,600	68,100

Updated Technical Information

Preliminary Travel Demand Forecasts and Cost Estimates

Alternative	Ridership (daily boardings)	New Transit Trips over TSM	Capital Cost (millions 2007 $)	O & M Costs (millions 2007$)
TSM	--	N/A	$45 - 50	$14.6
Low Invest. BRT	37,000 - 40,000	3,000 - 3,200	$420 - 460	$17.3
Med. Invest. BRT	49,000 - 52,000	6,900 - 7,200	$620 - 700	$15.6
High Invest. BRT	56,000 - 59,000	9,100 - 9,400	$1,120 - 1,240	$14.4
Low Invest. LRT	57,000 - 59,500	9,700 - 10,000	$1,160 - 1,270	$26.4
Med. Invest. LRT	60,000 - 63,000	10,600 - 11,000	$1,175 - 1,350	$25.0
High Invest. LRT	65,000 - 68,000	12,400 - 12,900	$1,580 - 1,750	$22.8

Purple Line Ridership & Cost Estimates - Staff Slide

Alternative	Version	Estimated Average Weekday Ridership – 2030	Capital Cost (2007 $) - Millions	Capital Cost Per Weekday Rider – 2030	Capital Cost (2007 - $) – Millions Per Mile
Low BRT	Former	**32,000**	$485.0	**$60**	$30.3
	Revised	**38,500**	$440.0	**$45**	$27.5
Medium BRT	Former	**39,500**	$700.0	**$70**	$43.8
	Revised	**50,500**	$660.0	**$52**	$41.3
High BRT	Former	**43,500**	$1,255.0	**$114**	$78.4
	Revised	**57,500**	$1,180.0	**$81**	$73.8
Low LRT	Former	**39,500**	$1,245.0	**$125**	$77.8
	Revised	**58,500**	$1,215.0	**$82**	$76.0
Medium LRT	Former	**43,500**	$1,260.0	**$115**	$78.8
	Revised	**61,500**	$1,262.5	**$81**	$79.0
High LRT	Former	**45,500**	$1,685.0	**$147**	$105.3
	Revised	**66,500**	$1,665.0	**$99**	$104.0

Purple Line and Selected Other New Start Projects (FY 09 Annual Report) – Staff Slide

Project	Phase	Est. Weekday Ridership	Capital Cost Per Weekday Rider In Target Year	Capital Cost Per Mile	Cost Per Hour of User Benefit
Purple Line Medium BRT	**Pre-DEIS**	**50,500**	**$52**	**$41,250,000**	**N/A**
Boston Silver Line Phase II BRT	PE	147,500	$31	$833,571,000	$21.97
New Britan – Hartford Busway - BRT	Final Design	15,200	$120	$48,830,000	$22.07
Purple Line Medium LRT	**Pre-DEIS**	**61,600**	**$81**	**$78,900,000**	**N/A**
West Corridor LRT - Denver	Pending FFGA	29,700	$88	$54,281,000	$23.82
University LRT - Seattle	Pending FFGA	40,200	$177	$580,000,000	$22.21
Central Corridor LRT – St. Paul / Minneapolis	PE	43,300	$85	$84,730,000	$24.84
Northeast Corridor LRT - Charlotte	PE	10,500	$283	$70,000,000	$25.35
Salt Lake City Mid-Jordan LRT	PE	9,500	$231	$52,236,000	$23.84

Updated Technical Information

Travel Times for Selected Stations

	Low Inv. BRT	Med. Inv. BRT	High Inv. BRT	Low Inv. LRT	Med. Inv. LRT	High Inv. LRT
Bethesda – New Carrollton	96	73	59	62	59	50
Bethesda - Silver Spring	25	19	19	12	9	9
Bethesda - Takoma/Langley	51	38	33	29	26	23
Bethesda - UM Campus Center	66	49	40	38	34	30
Silver Spring - Takoma/Langley	26	19	14	18	17	14
Silver Spring - UM Campus Center	41	30	22	26	25	21
Silver Spring - College Park Metro	52	36	28	32	31	27
Takoma/Langley - Riverdale Park	33	24	19	22	22	19
New Carrollton - UM Campus Center	31	25	21	25	25	21
New Carrollton - Silver Spring	72	55	43	51	50	42

Updated Technical Information – Existing Times Added By Staff

Travel Times for Selected Stations

	Existing Bus	Existing Metrorail	Auto – Google or Map Quest	2030 Low Inv. BRT	2030 Med. Inv. BRT	2030 High Inv. BRT	2030 Low Inv. LRT	2030 Med. Inv. LRT	2030 High Inv. LRT
Bethesda – New Carrollton	110	51	30	96	73	59	62	59	50
Bethesda - Silver Spring	23	35	11	25	19	19	12	9	9
Bethesda - Takoma/Langley	41	N/A	21	51	38	33	29	26	23
Bethesda - UM Campus Center	61 - Metro	47 - Metro	27 - Metro	66	49	40	38	34	30
Silver Spring - Takoma/Langley	16	N/A	12	26	19	14	18	17	14
Silver Spring - UM Campus Center	38 - Metro	23 - Metro	20 - Metro	41	30	22	26	25	21
Silver Spring - College Park Metro	38	23	20	52	36	28	32	31	27
Takoma/Langley - Riverdale Park	N/A	N/A	N/A	33	24	19	22	22	19
New Carrollton - UM Campus Center	N/A	N/A	N/A	31	25	21	25	25	21
New Carrollton - Silver Spring	N/A	N/A	N/A	72	55	43	51	50	42

Key Ongoing Activities

- Coordination with Purple Line Bi-County Task Force.
- Further coordination with East Silver Spring communities
- Comparison of alignments through University of Maryland campus
- Continue coordination with WMATA, counties, and developers at TOD sites
- Public Open House meetings in May 2008

Key Ongoing Activities

- Town of Chevy Chase consultants
- Montgomery County Master Plan Advisory Group
- Coordination with East Campus developers
- Kenilworth Avenue revitalization plans
- Prince George’s County Park maintenance facility relocation

Schedule

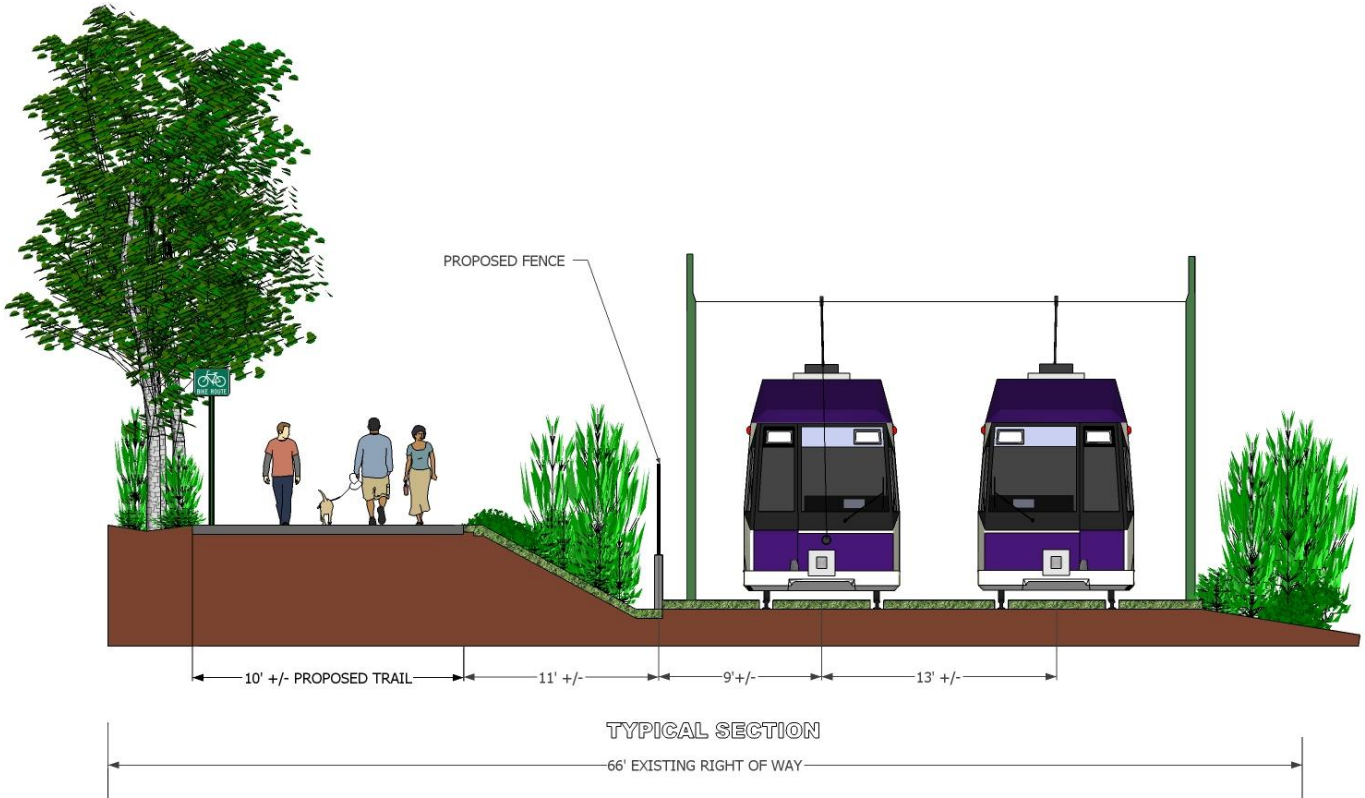
• Public Outreach	Ongoing
• Public Open Houses	Early May 2008
• Alternatives Analysis/Draft Environmental Impact Statement Document	August 2008
• AA/DEIS Circulation	August – November 2008
– Expanded to 90 days per community requests	
• Public Hearing	September 2008
• Selection of Preferred Alternative	December 2008
• Request permission to enter PE/ New Starts submission	March 2009
• PE/FEIS Completion	February 2010
• Initiate Final Design	July 2011
• Start Construction	Summer 2012

Schedule Update

- Extend schedule of AA/DEIS completion from June to September 2008
  - East Silver Spring coordination
  - University of Maryland alignments
  - Ridership update
  - Additional public review time

Chevy Chase

Between Pearl Street and just west of Jones Mill Road the trail has been moved to the north side of the transitway to reduce visual impacts, improve trail experience by lowering transitway 3-4 feet below trail, provide a 10-foot landscaped buffer where possible, and reduce retaining walls



Chevy Chase

"Grass Tracks" proposed to improve visual quality

Wayne Avenue

- Extensive community coordination
- Evaluation of longer tunnel
- Better visual representation of designs

Red Line – Shady Grove (Western) Segment Estimated Densities – Round 7.0 – No Sub Zones – Staff Slide

Station or Area	Walk/Bike Access In 2005 - % of Metrorail Boardings at Station	2030 HH / Acre < ½ Mile of Station	2030 Jobs/Acre < ½ Mile of Station	2030 HH/Acre > ½ Mile < 1 Mile of Station	2030 Jobs /Acre > ½ Mile < 1 Mile of Station
Shady Grove	3%	13	15	2	7
Rockville	24%	7	33	3	6
Twinbrook	37%	8	31	3	4
White Flint	37%	16	63	4	8
Grosvenor	31%	14	11	3	4
Medical Center	66%	1	41	7	7
Bethesda	73%	34	110	3	2
Friendship Heights	65%	27	73	3	1
Other - Germantown Gaithersburg or Bethesda					
Milestone Center		2	2	2	20
Lakeforest Mall		7	8	5	13
Rock Spring Park		2	21	3	4
Washingtonian Center		6	11	4	14
Typical TOD Thresholds (Min.)		**HH/Acre**	**Jobs/Acre**		
Heavy Rail		12	50		
Light Rail		9	25-50		
BRT		5-15	25-50		
Express Bus		3-15	10		
Local Bus		3-8	5-10		

CCT Estimated Densities – Round 6.4 – Staff Slide

CCT Station	2030 HH / Acre < ½ Mile of Station	2030 Jobs/Acre < ½ Mile of Station	2030 HH/Acre > ½ Mile < 1 Mile of Station	2030 Jobs /Acre > ½ Mile < 1 Mile of Station
Clarksburg Town Center	3	6	3	1
Shawnee Lane	2	13	4	7
COMSAT	4	15	3	6
Dorsey Mill	3	14	2	3
Manekin	4	21	6	0
Cloverleaf	3	14	3	11
Germantown TC	6	13	1	20
Middlebrook Road	2	10	4	7
Metropolitan Grove	5	10	1	23
First Field	4	19	1	12
NIST	3	9	3	3
Quince Orchard	4	5	3	5
Decoverly	6	7	5	6
DANAC	4	15	0	43
Crown Farm	4	33	6	1
West Gaither	2	35	1	27
East Gaither	11	2	1	17
Shady Grove	10	22	2	9

Georgia Avenue Busway – Estimated Densities – Round 7.1 – No Sub Zones – Staff Slide

Station or Area	2030 HH / Acre	2030 Jobs/Acre	Traffic Analysis Zones	Notes
Olney	1-3	1-3	235,236,237,238,239,240, 241,242,243,244	
Aspen Hill	1-6	1-6	112,113,114,117,119	
Glenmont – Including Metrorail Station	2-11	1-15	64,65,300,301,302,303,304	
Wheaton – Including Park	2-4	1	61,62,63	
Wheaton Including Metrorail Station & Shopping Center	2-16	1-42	75,81,82,83,84	
Typical TOD Thresholds (Min.)	**HH/Acre**	**Jobs/Acre**		
Heavy Rail	12	50		
Light Rail	9	25-50		
BRT	5-15	25-50		
Express Bus	3-15	10		
Local Bus	3-8	5-10		

Purple Line Station Areas – Estimated Densities – Round 7.1 – No Sub Zones – Staff Slide

Station or Area	Walk/Bike Access In 2005 - % of Metrorail Boardings at Station	2030 HH / Acre	2030 Jobs/Acre	Traffic Analysis Zones	Notes
Bethesda CBD	73%	28-48	98-158	3,4,5	
NIH	66%	1	61	24	
National Naval Medical		0	32	26	Includes BRAC
Connecticut Ave.		2	2-3	31,32	
Lyttonsville /Walter Reed Annex		1-3	1-11	37,38	
Woodside / 16th Street		3-11	1-2	30,36,40	Higher HH Density Is TAZ 36 - South Side of CSX
Silver Spring CBD	53%	37-39	56-143	33,34,35	
East Silver Spring		5-7	2	42,43,44	
Long Branch		5-13	1-3	47,48,52,53	
Takoma - Langley		3-8	2-9	49,323,325	
Typical TOD Thresholds (Min.)		**HH/Acre**	**Jobs/Acre**		
Heavy Rail		12	50		
Light Rail		9	25-50		
BRT		5-15	25-50		
Express Bus		3-15	10		
Local Bus		3-8	5-10		

Planning & Designing Communities with Transit

Transit & Land Use Integration

Prepared by:
TROY RUSS, AICP
Principal
Glatting Jackson Kercher Anglin, Inc.

February 4, 2008

Transit & Land Use Integration

REGIONAL VISION
Land Use Vision
Transit System Plan
Transit Station Area Principles

Defines:
- Roles of Stations
- Area's Context

TRANSIT
Preliminary Engineering & Design
Alignment,
Corridor Urban Design Framework,
Station Types & Locations,
TOD Assessment, and
Station Area Concepts.

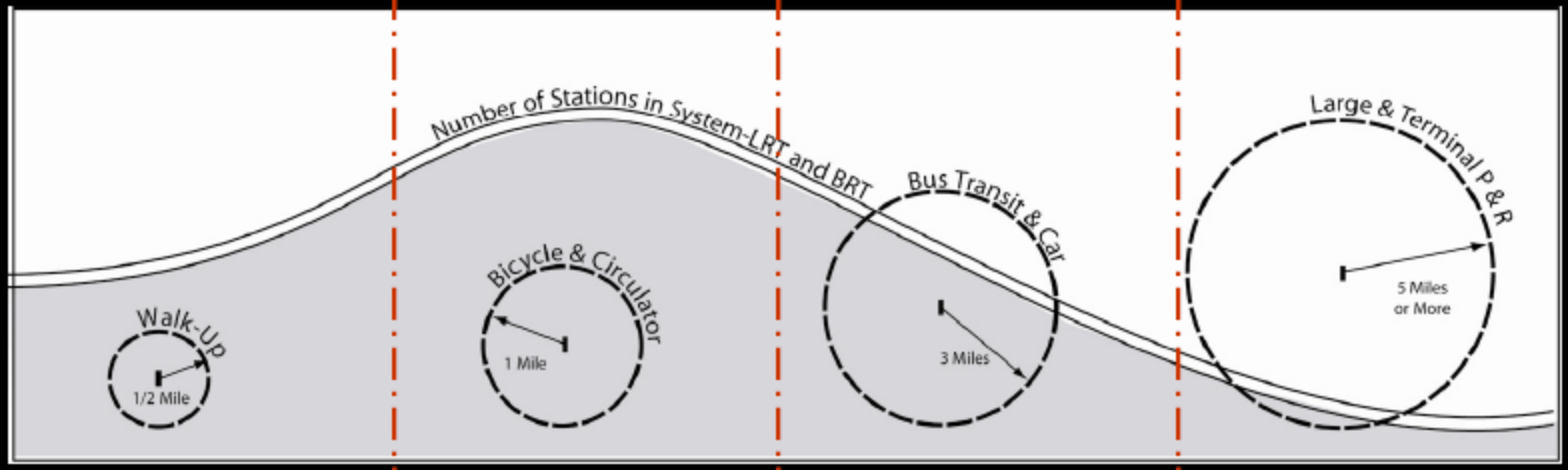
Informs:
- TOD Opportunities
- Joint Development Roles
- Infrastructure Needs
- Regulatory Environment
- Amenity Needs

Informs:
- Mitigation Strategies
- Station Elements
- Conceptual Design

Station Area Planning & Design

Transit Engineering & Design

Station Service Area – All Modes



Neighborhood Service Area

- Only serve a localized area immediately around the station.
- Service area less than 1/2 mile .
- Stations can be grouped to provide better service area overlay in the densest of areas.
- Locate near collector.

Community Service Area

- Most common transit stations.
- The area served is up to 1-mile.
- Reliant on bus connections to the station.
- Some customers will arrive by car - need for adequate parking and / or Kiss & Ride areas.
- Locate near minor thoroughfare.

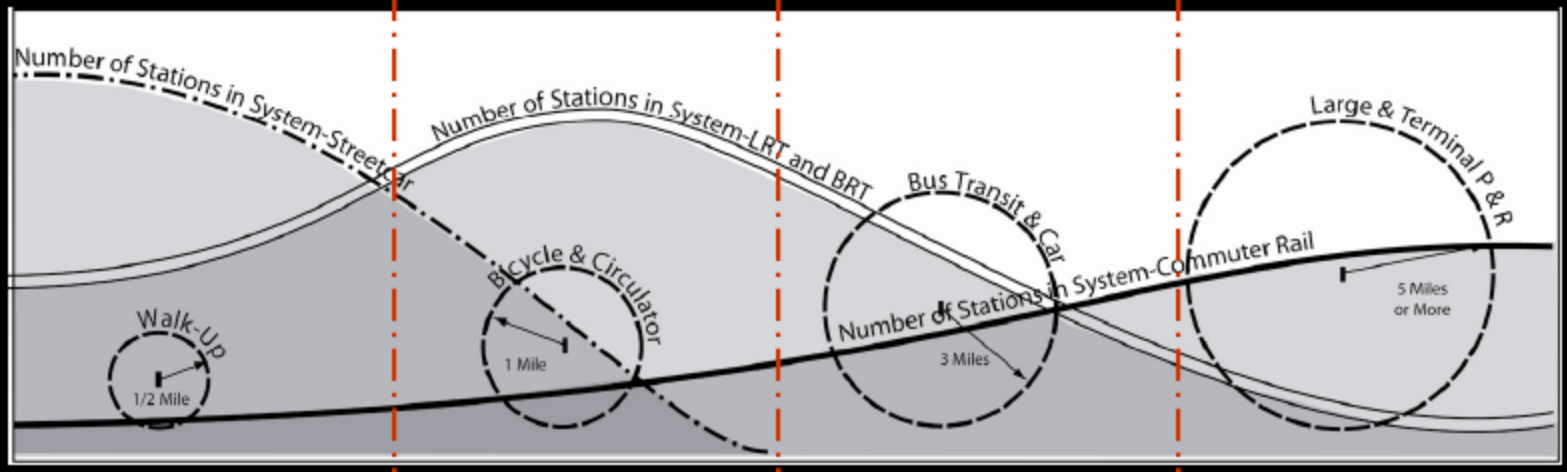
District Service Area

- District-wide service area attract riders from up to 3-miles .
- Access by a more limited feeder bus network and a larger number of private vehicles.
- To provide adequate district-wide service they must be located within easy access to major thoroughfare.

Regional Service Area

- Typically the station's toward the end of the line.
- Access, for users who often travel more than 5-miles
- Access to major thoroughfare or freeways.

Station Service Area – All Modes



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District Service Area

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Regional Service Area

- Typically the station's toward the end of the line.
- Access, for users who often travel more than 5-miles
- Access to major thoroughfare or freeways.

Station Area Context

High Intensity Urban Core

- Downtown
Best connected place in the region
- Well-established and connected street pattern
- Densities and mixture of uses supportive of transit
- Transit ranges from small local stations to large multi-modal stations
- Strong TOD market
- No TOD concerns

Established Urban Neighborhoods

- Strong character built-up over time.
- Well connected block system.
- Neighborhood center densities and mixture of uses supportive of transit.
- Moderate TOD market (may need assistance).
- Strong TOD concerns.

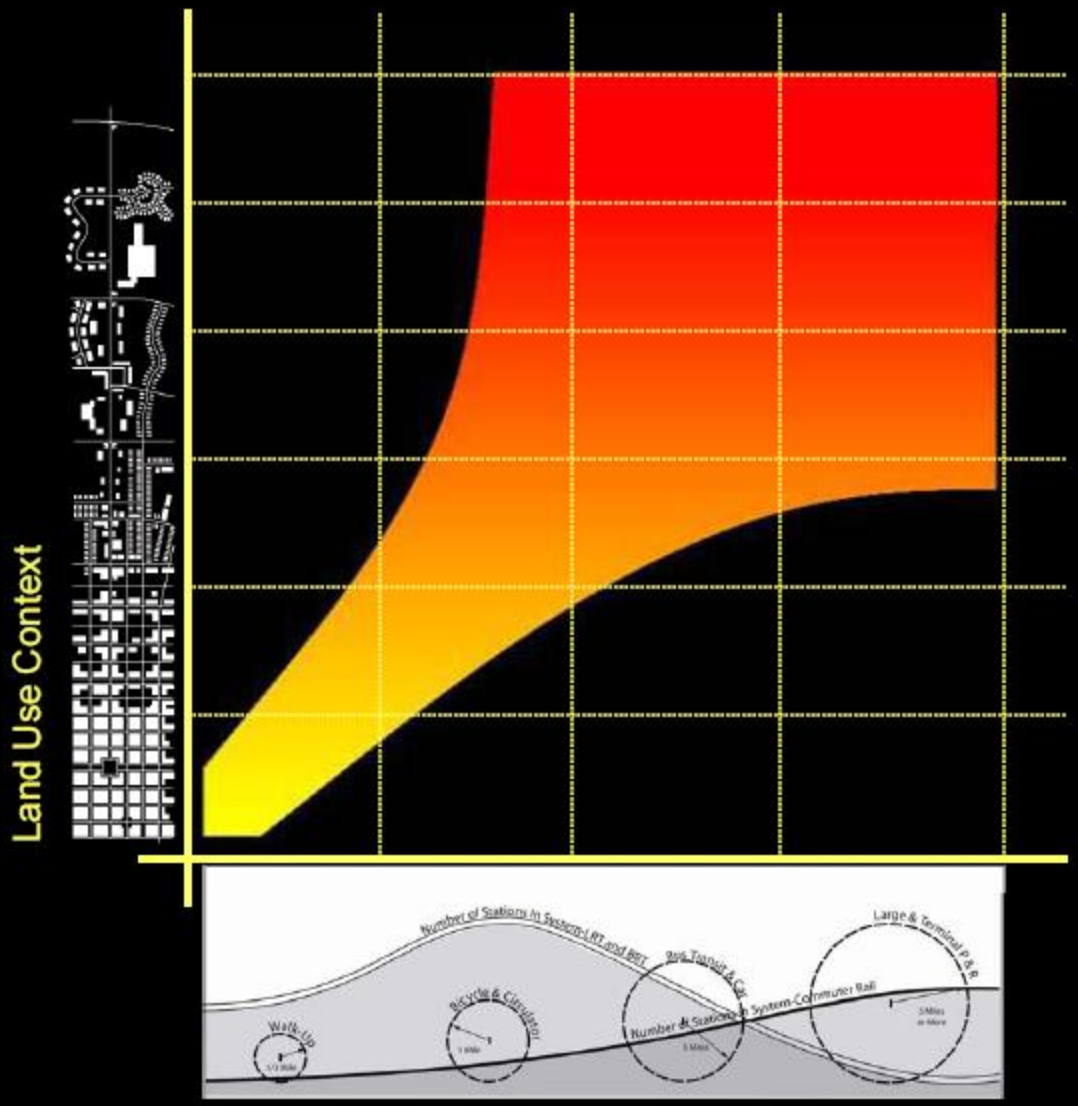
First-Ring Suburban Neighborhoods

- Most common built form
- These areas are well developed, but lack orientation to the public realm
- Access usually comes from a fewer large roads
- Densities tend to be below transit-supportive levels.
- Few centers of activity
- TOD development market varies (may need assistance).
- Strong TOD concerns.

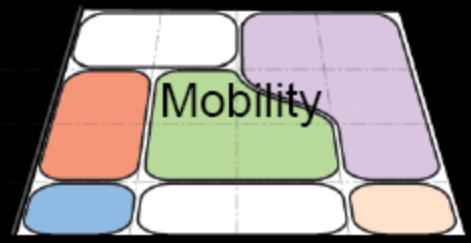
New Suburban and Greenfields

- Outermost edge of the transit region .
- Areas are quickly developing
- Connections are limited; but opportunities abound
- Densities are well below transit-supportive levels
- Stations located here will attract riders from a larger area
- No existing centers of activity
- TOD development varies (sometimes strong).

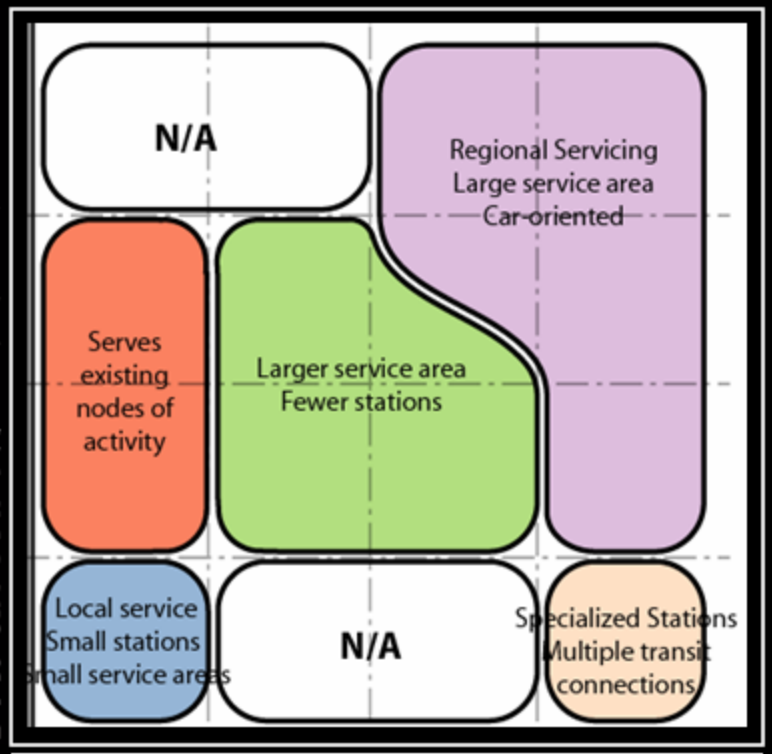
Role of Transit and Land Use within the Regional Context

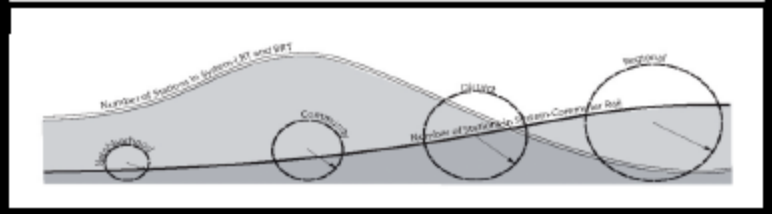


Roles of a Transit Station - Mobility



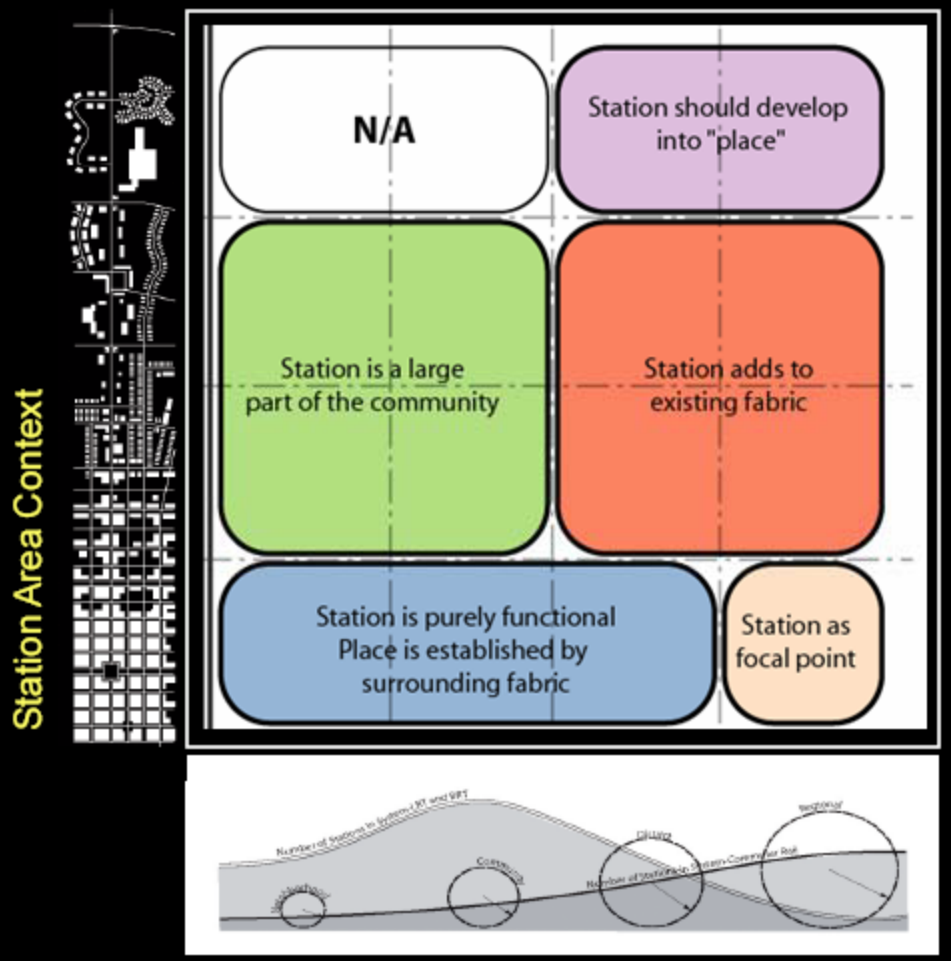
Station Area Context

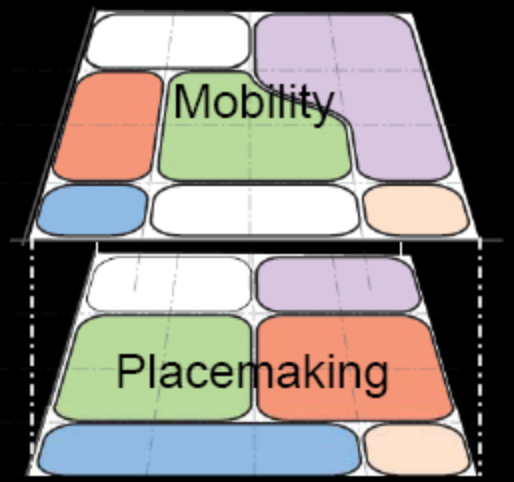




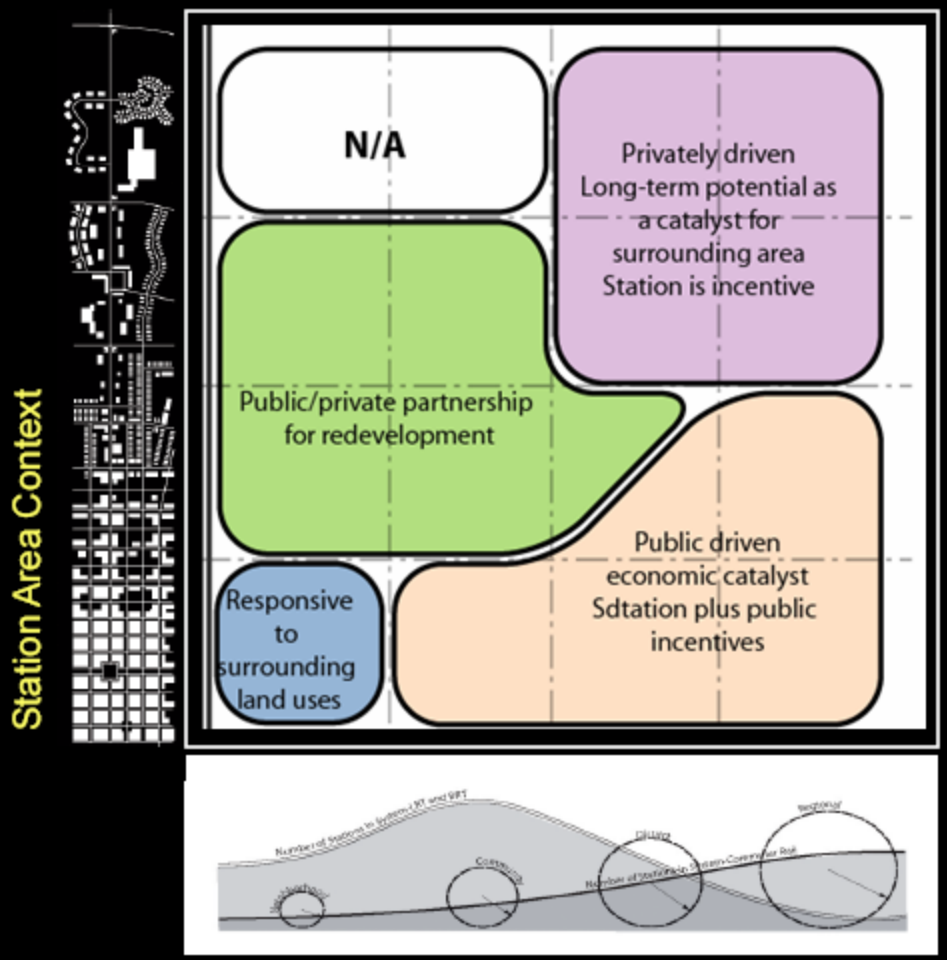
Station Service Area

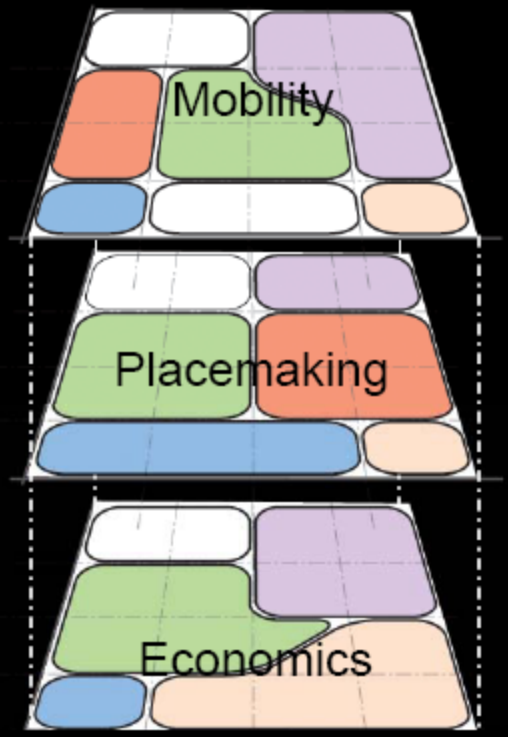
Roles of a Transit Station - Placemaking





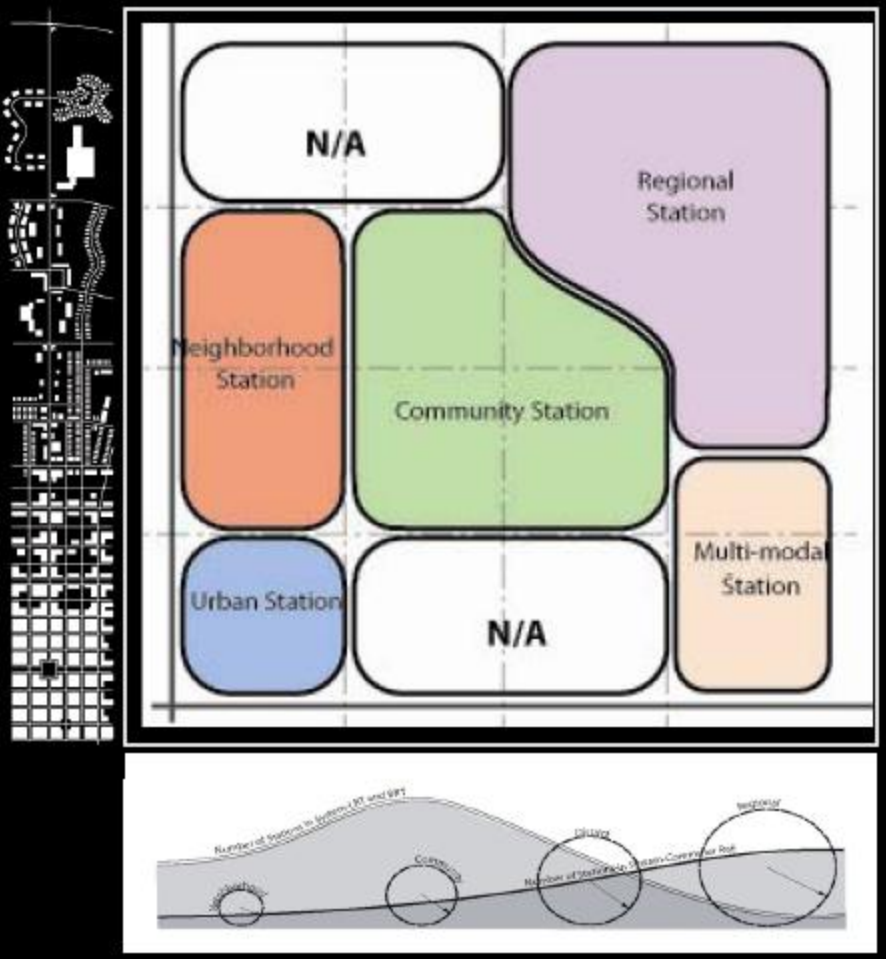
Roles of a Transit Station-Economics



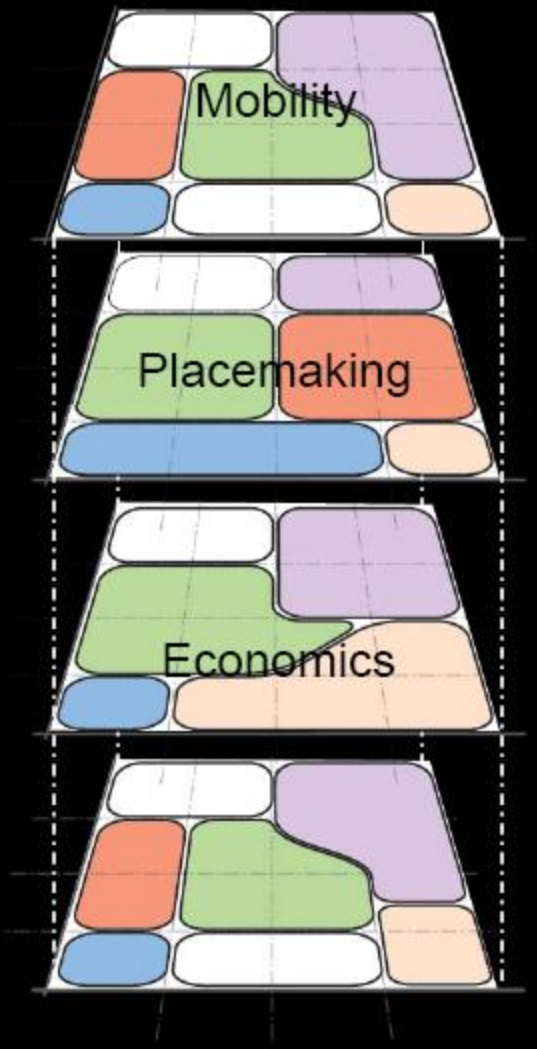


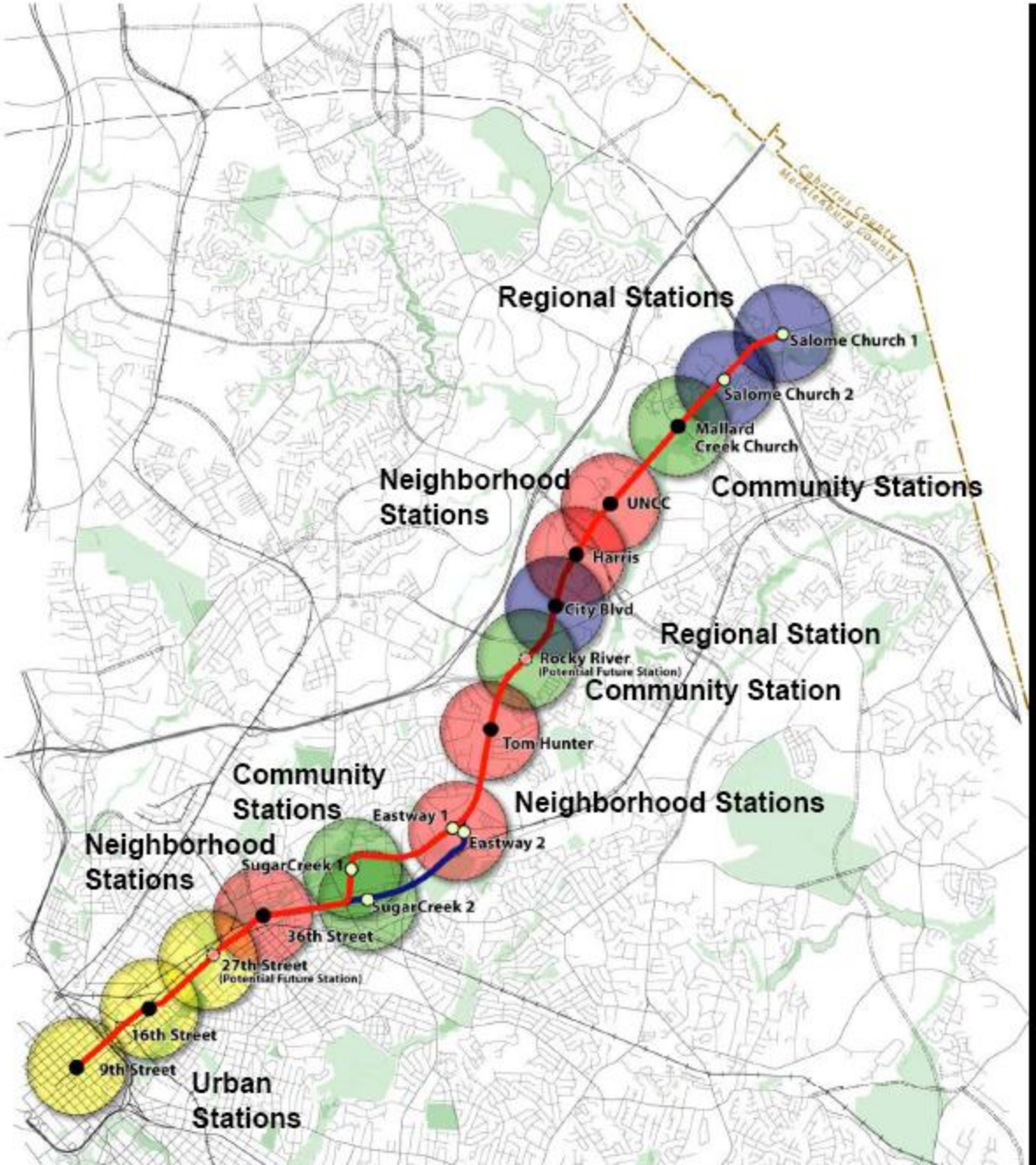
Roles of a Transit Station-Composite

Station Area Context

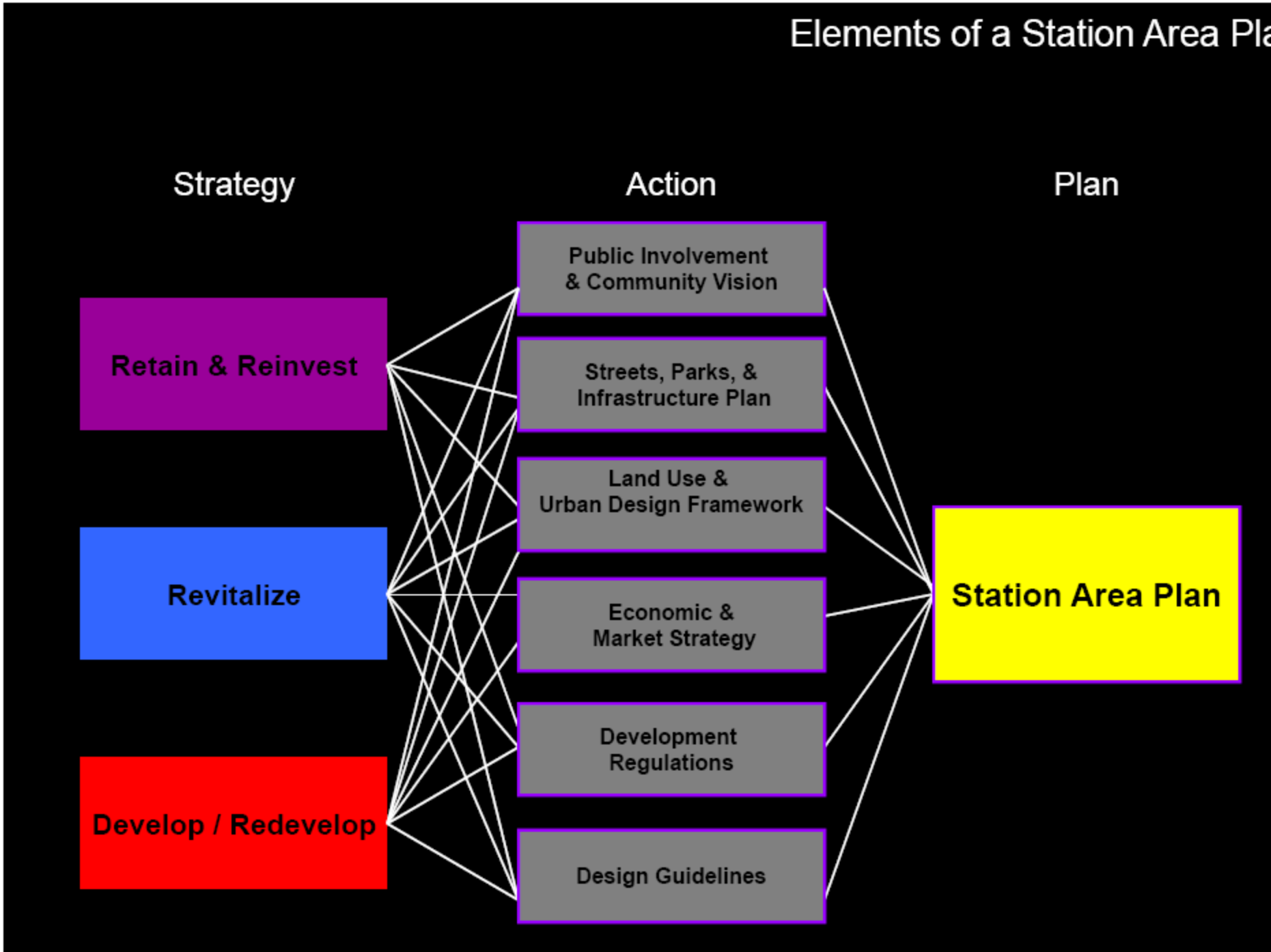


Station Service Area

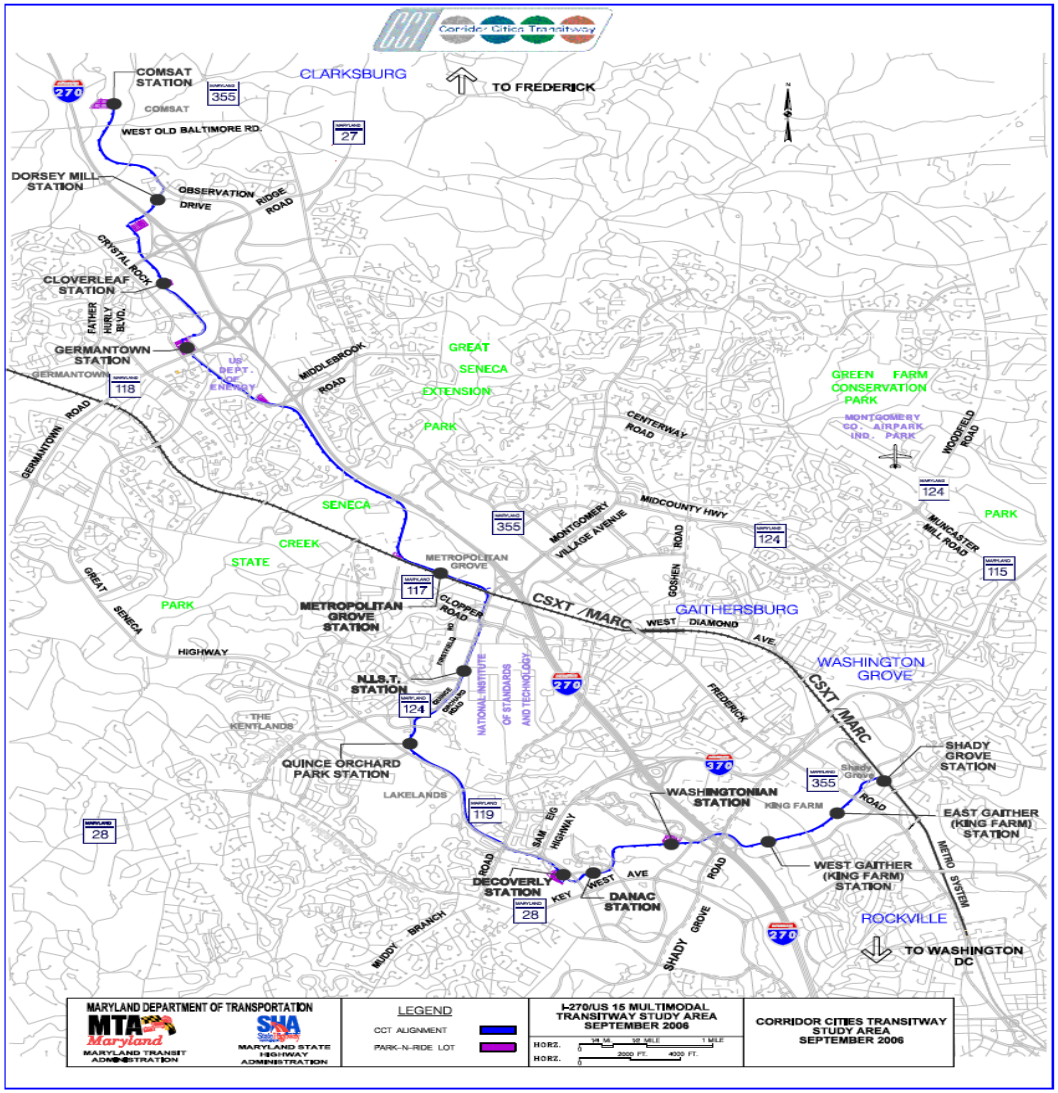




Station Type – Regional S


Elements of a Station Area Pla
Strategy
Action
Plan
Retain & Reinvest
Revitalize
Develop / Redevelop
Public Involvement & Community Vision
Streets, Parks, & Infrastructure Plan
Land Use & Urban Design Framework
Economic & Market Strategy
Development Regulations
Design Guidelines
Station Area Plan

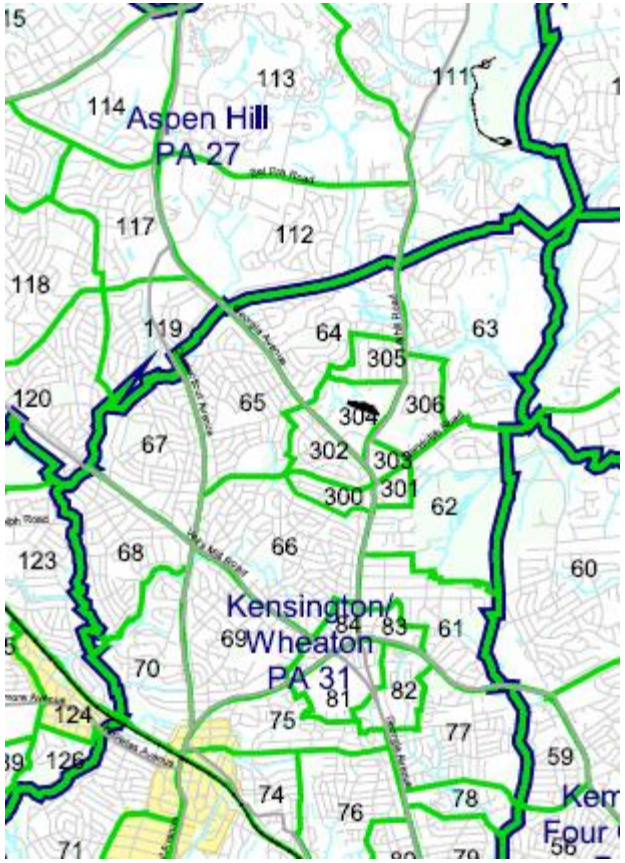
CCT DEIS Alignment



Upcoming Calendar Items

- March 25 – Initial Trip To SEPTA In Philadelphia
- March 27 - MTA Planning Staff here at Planning Board to discuss Corridor Cities Transitway, Purple Line and MARC Project Planning – around 1:30 PM
- April 15 – Next MPAG Meeting – Survey of Other System's Experience / Operating Profiles / Video Examples
- April or May – Follow Up Visit To SEPTA For Whole MPAG
- May – MTA Open Houses

Georgia Avenue Traffic Zones – Aspen Hill, Glenmont & Wheaton



Traffic Zones Along Purple Line