



# Arlington's Experience with TOD and Transportation System Performance

March 30, 2007

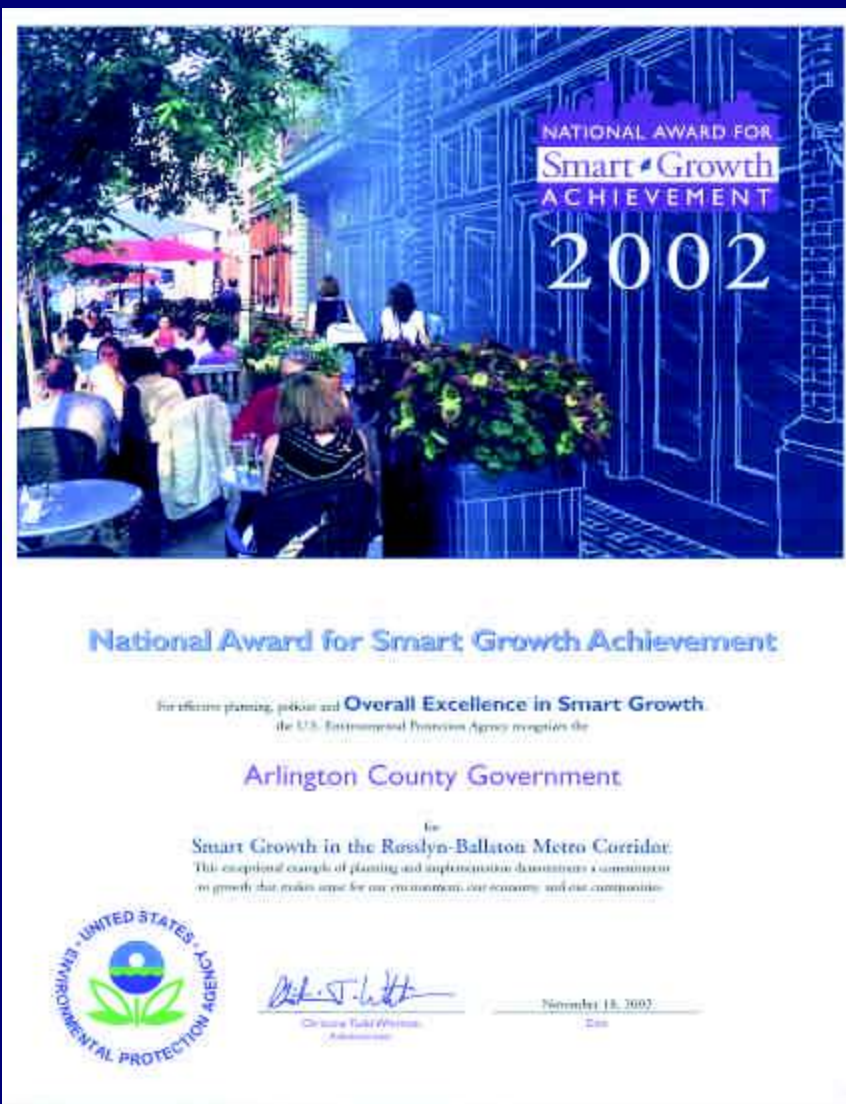


# Context



- Arlington – 25.8 sq. miles in area including federal lands
- At the confluence of major regional transportation facilities
- Located in the core of a rapidly growing Washington region (over 5 million residents, 3 million jobs and 1,200 sq. miles of urbanized area)
- Region faced with transportation and environmental challenges (rapid land consumption, growing traffic congestion, non-conformity with air quality standards)

# EPA SMART GROWTH AWARD



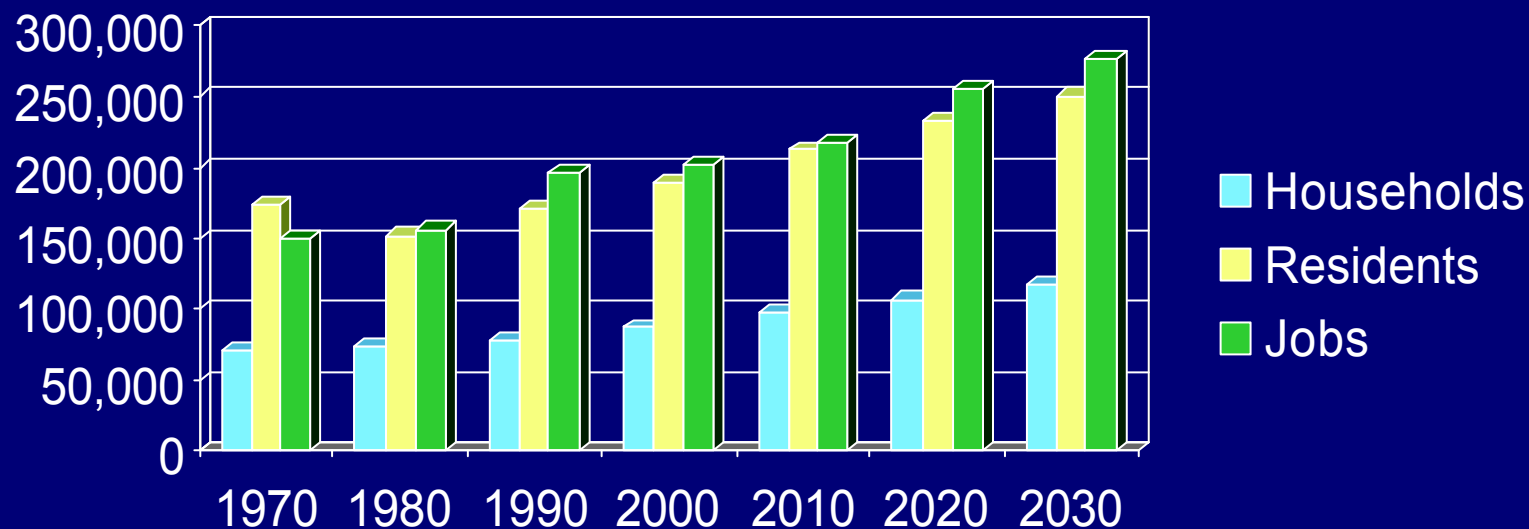
# Lessons Learned

- Plan – Comprehensive
  - Engage the Community – all sectors
  - Establish Vision – Set Goals
  - Know the market
- Transportation - Integral
  - Not just transit - Multi-modal
  - Pedestrian
  - Parking – Limit – Set Maximums
- Design
  - Mixed-use - proximity
  - Form matters
  - Open Space & Amenities

# SETTING THE STAGE

- 1960 - 7.5 million sq. Ft. Office
- Declining retail corridors
- Emerging market for government office space
- Strong single family neighborhoods
- Large number of garden apartments, some of which were beginning to decline
- 97,505 jobs
- 71,230 housing units

# Arlington Growth Trends



## January 2006

- 93,200 HHs (3,612/sq. mi.)
- 200,200 Res (7,760/sq. mi.)
- 199,700 Jobs (7,740/sq. mi.)

## 2030 Projected

- 118,800 HHs (4,535/sq. mi.)
- 249,500 Res (9,650/sq. mi.)
- 276,000 Jobs (10,680/sq. mi.)



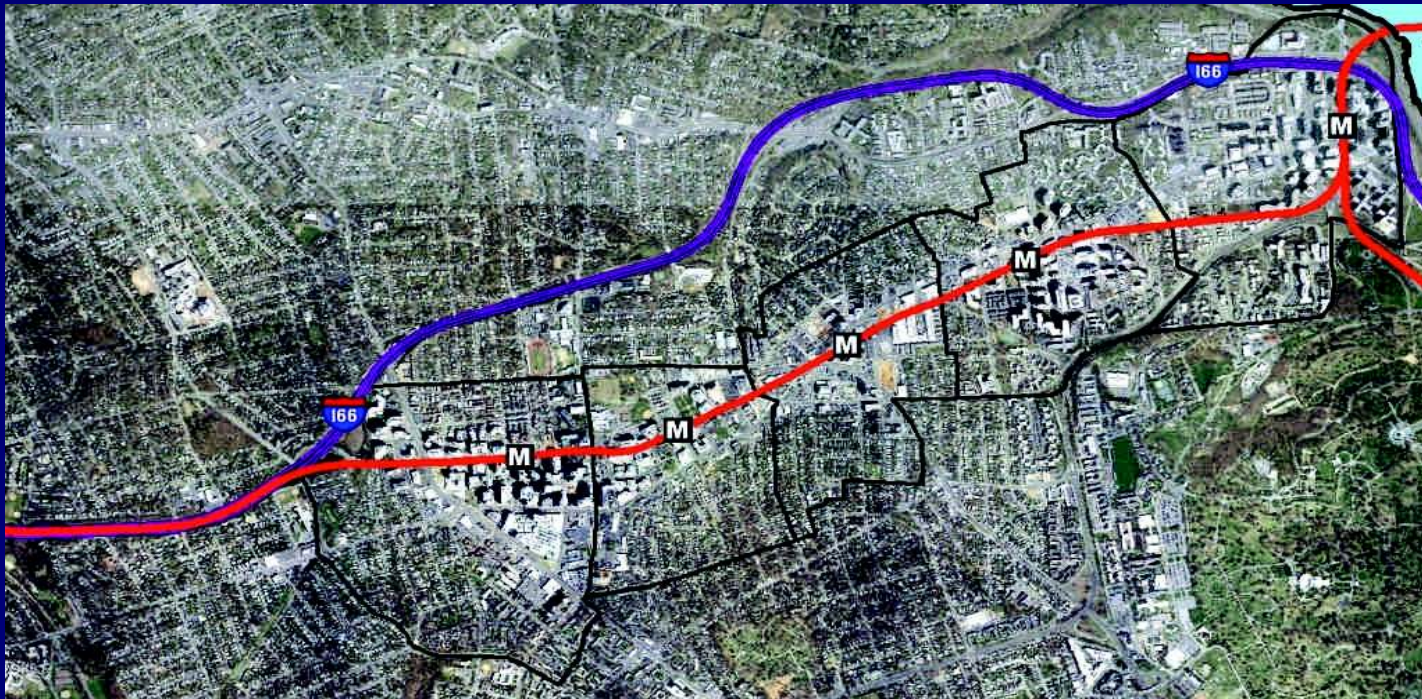
# SETTING THE STAGE

- Beginning of the planning for a regional transit system
- Embarked on an ambitious community planning effort
- Decided to encourage growth as well as encourage riders



# PLANNING HISTORY

- Arlington lobbied strongly for an underground route along the old commercial corridor vs. along the median of future highway
- Put up \$300 million local money for preferred routes and more stations





# Planning History

When the planning started for metro:

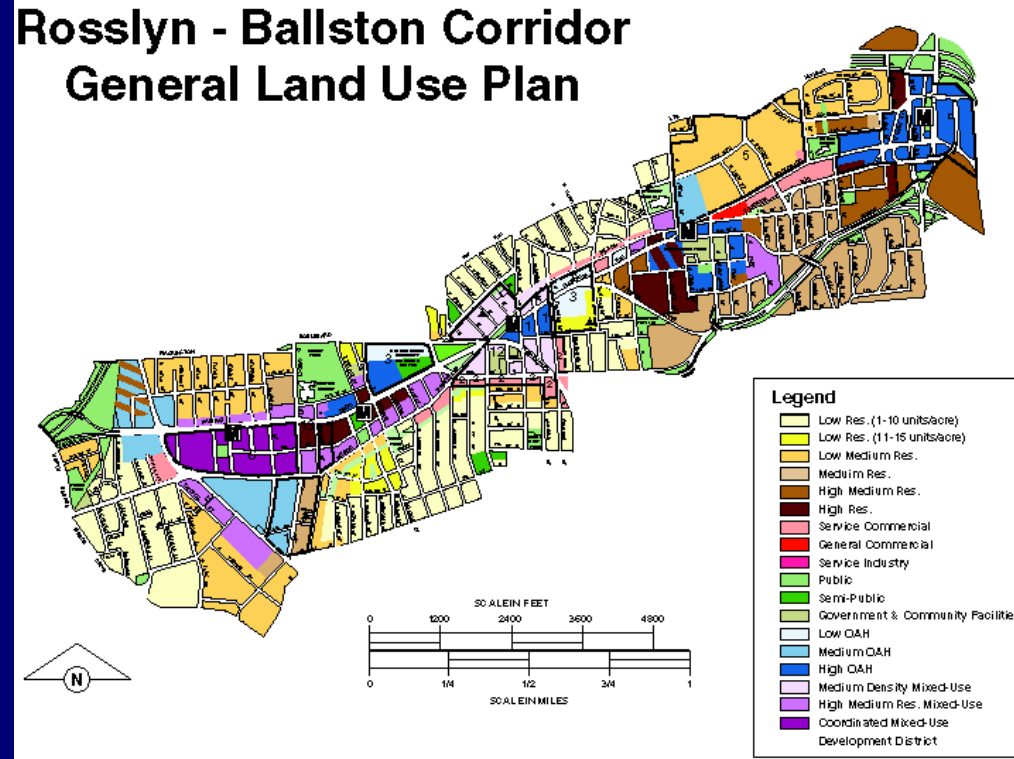
- 89% of county planned low residential, garden apartment/townhouse or retail
- 11 % of county (2 rail corridors) were re-planned to encourage mixed-use, high density development
- Zoning in the 89 % was primarily low density so little unplanned development can happen

# PLANNING HISTORY

- Major policy goals
  - Strive for a 50/50 tax base mix of residential and commercial
  - Strive for mixed-use development with a significant level of residential
  - Preserve existing single family, garden apartments and green open spaces
  - Focus redevelopment within 1/4 mile of metro station entrances to encourage transit ridership

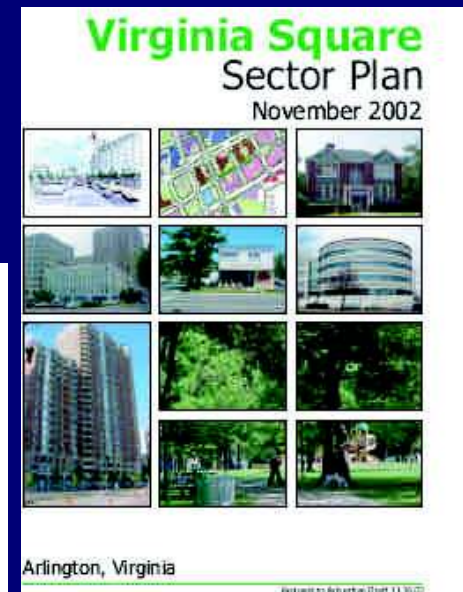
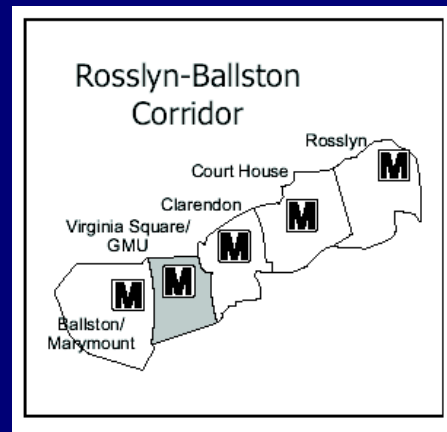
# PLANNING HISTORY - GLUP

- Adopted a corridor-wide **GLUP** based on agreed-to development goals



# PLANNING HISTORY – Sector Plans

- Developed **sector plans** to create distinctive “urban villages”
  - Overall vision for each station area
  - Desired public improvements
  - Location for retail
  - Urban design standards



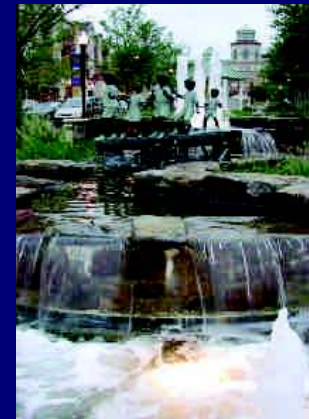


# Development Process – Site Plans

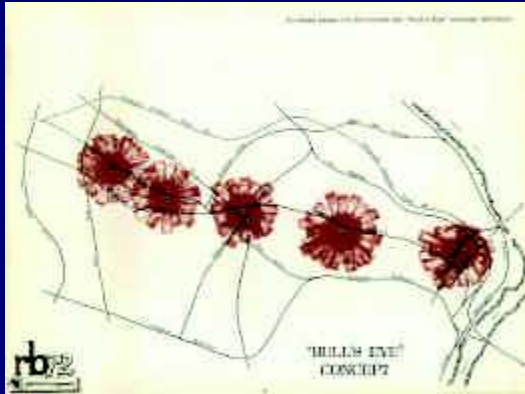
- Density incentive - GLUP and Sector Plans for metro corridors indicated the County's willingness to rezone for higher density, but land remained zoned for fairly low density
- In response to development proposals, a special **site plan** is used to approve the development

# Development Process

- Site Plan allows only the specifically approved uses and design per GLUP/Sector Plans - With significant required and desired public improvements
- Property owner always maintains underlying by-right zoning until they implement approved site plan
- By-right development is at a much lower density with a more limited array of uses allowed



# Development Concepts



- Concentrate high and mid-density redevelopment around transit stations (highly targeted) and taper down to existing neighborhoods
- Encourage a mix of uses and services in station areas
- Create high quality pedestrian environments and enhanced open space
- Preserve and reinvest in established residential neighborhoods

# Development Characteristics



- 41 million sq. ft. of office space, 36 million sq. ft. in Metro station areas with 4 million sq. ft. of supporting retail & services
- 97,000 housing units (over 36,000 in Metro station areas)
- Over 6,000 housing units and 3 million sq. ft of commercial space under construction



# ROSSLYN



# ROSSLYN TODAY



C-O Rosslyn  
Development: 10 FAR



# COURT HOUSE





# AERIAL - COURTHOUSE TODAY



The Washington  
Monument

Arlington County  
Offices



# COURTHOUSE TODAY



# CLARENDON



# CLARENDON TODAY





# VIRGINIA SQUARE





# VIRGINIA SQUARE TODAY



# PARKINGTON (BALLSTON)





# BALLSTON TODAY



# BALLSTON TODAY





# View of Rosslyn-Ballston Metro Corridor Development Patterns



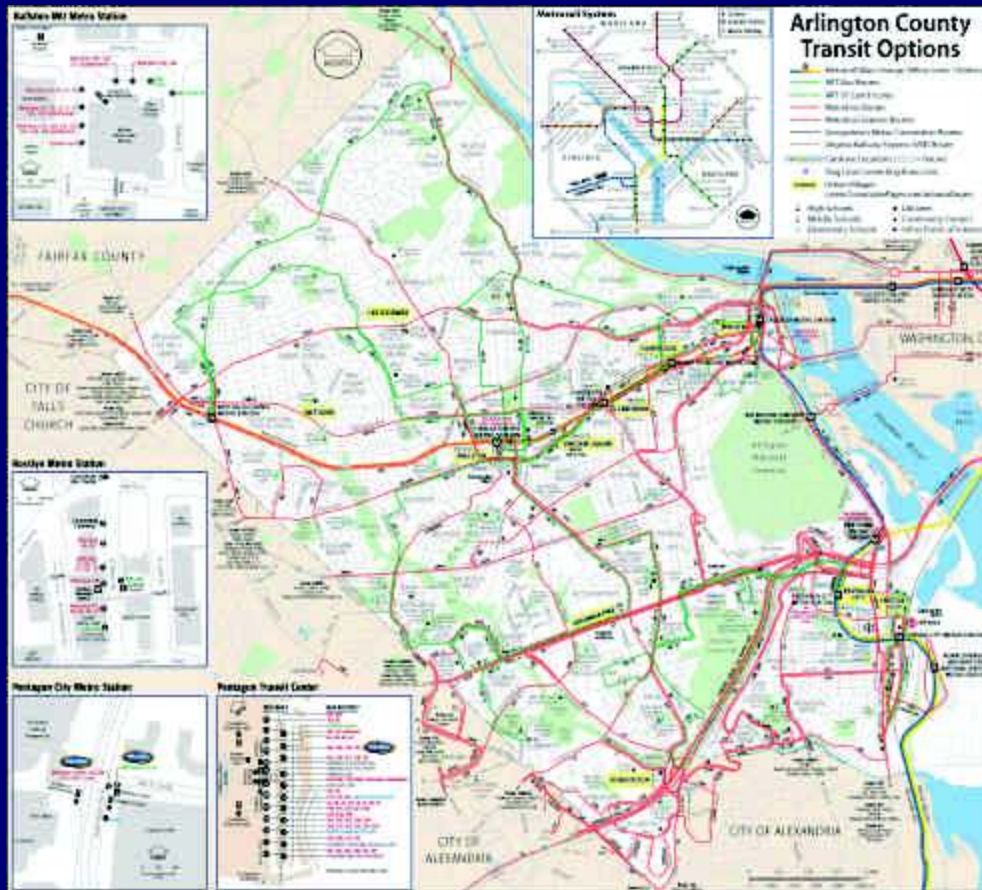


# Transportation Concepts



- Focus community development around transit and require appropriate investments in transportation
- Emphasize community walkability
- Maximize travel choice for residents, workers and visitors
- Provide comprehensive and easy to access information about travel options
- Employ transportation demand management strategies
- Manage curb-space and parking efficiently
- Emphasize multi-modal street operations

# Transportation Facilities & Services



- 1,094 lane-miles of primary and secondary streets and 19 lane-miles of HOV facilities
- Over 4,000 on-street metered parking spaces
- 12 miles of Metrorail lines and 11 stations
- VRE commuter rail
- Extensive regional (Metrobus) and local bus (ART) service
- And expanding car-share program with over 60 cars in transit station areas

# Transportation Facilities - Pedestrians & Cyclists

- 34 miles of multi-use trails, 21 miles of on-street lanes and 34 miles of market bike routes
- Over 2 miles of bike facilities added annually
- Sidewalks on both sides of primary streets and on one side of most secondary streets
- Over 2 miles of new sidewalks added annually





# TDM & Commuter Services - Expanding Travel Options

- Transportation demand management requirements for new site plan development
- Commuter services program focused on information provision, sales and marketing via web-sites, direct mailings, ads, and in-person contacts
- Program reaches employers with over 132,000 employees, 52,000 multi-family units and half of the County's hotels





# TDM & Commuter Services - Expanding Travel Options

- Promotes all alternatives to SOV travel
- Supports “Air Quality Action Days” program
- Serves as a laboratory for new transportation and information products and services
- Expanding market reach in Arlington and in the region



# Transportation System Users

- Residents
  - Over 200,000 in 2006
  - 124,000 workers with 70% working outside the County
- Employees commuting to Arlington-based jobs
  - Over 160,000 workers commute into Arlington daily
- Visitors
  - 4 million plus visitors to Arlington National Cemetery
  - Over 10,000 hotel rooms used as a base for visitors from outside the region
  - Many daily visitors from adjacent jurisdictions
- Through travelers & commuters

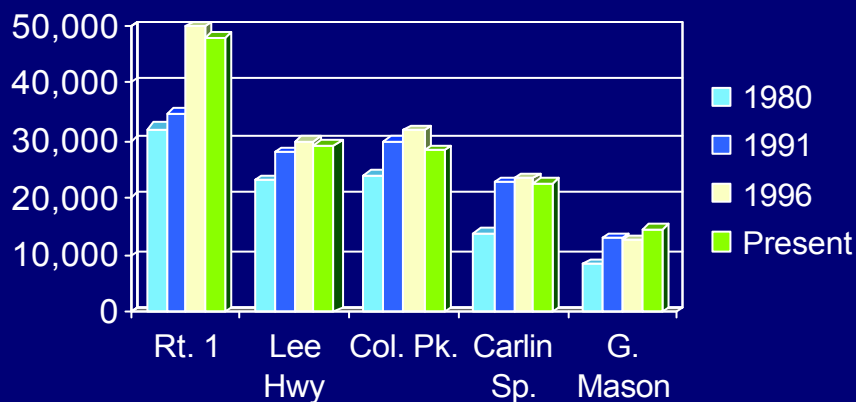
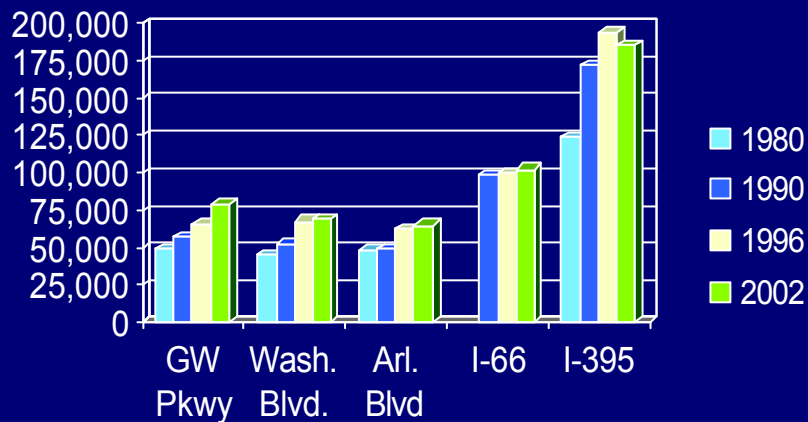


# Transportation System Use



- > 4 million vehicle-miles of travel per day
- 211,000 Metrorail boardings/alightings (June 06)
- > 45,000 bus trips
- > 3,000 commuter rail boardings/alightings
- > 4,000 car-share members
- > 160,000 transit-related walking trips
- Increasing bike commute trips
- Increasing non-transit walking and biking activity

# Traffic Trends – Regional & Local Facilities



- Substantial growth in traffic volumes on regional limited access highways, with most of the growth between 1980 and 1990
- Modest growth in traffic on arterial and local streets which has flattened out in the last 10 years (averaging less than ½% per year on many streets)

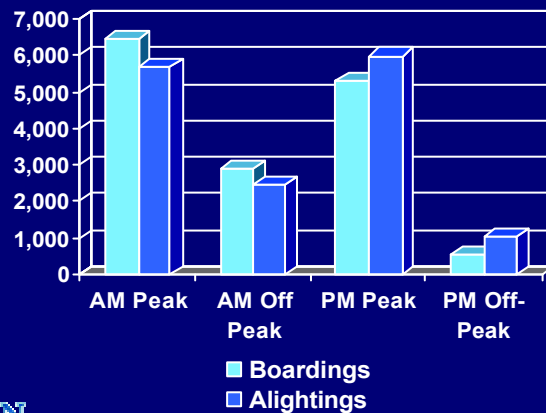
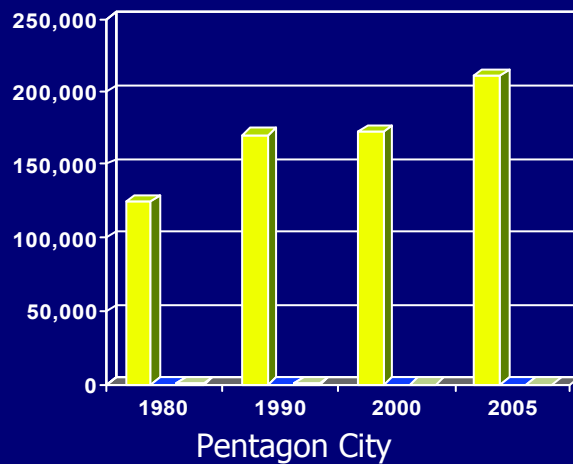


# Transit Ridership Trends – Arlington-Related Trips

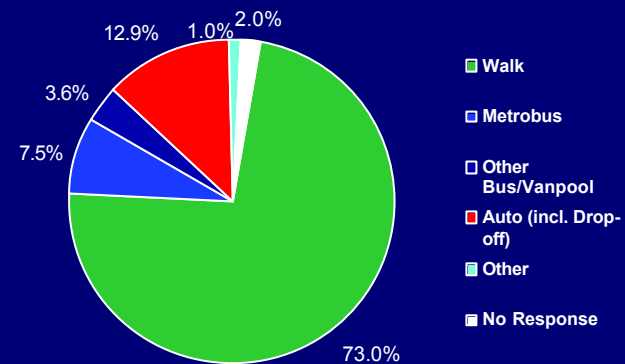
	FY1997 Actual	FY 2006 Estimate	% Growth
Metrorail	47,802,300	64,864,200	35.7%
Metrobus	12,850,680	13,221,100	2.9%
VRE	540,000	992,600	83.8%
Arlington Transit (ART)	101,000	926,600	917%

# Transit – Metrorail Ridership and Access

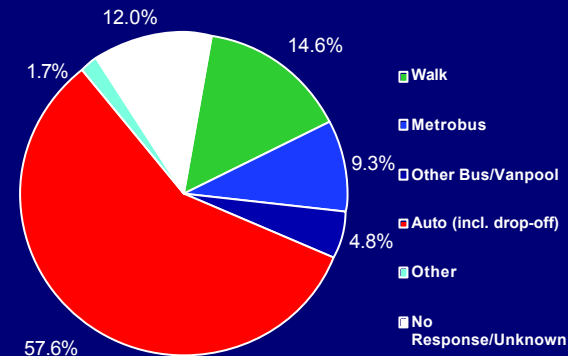
Metrorail Weekday Boardings/Alightings



5 R-B Corridor Stations - 39,500 Weekday Boardings



4 Suburban Stations – 29,450 Weekday Boardings



# Census 2000 - Vehicle Availability

## Regional Comparison

Location:	Arlington Metro Corridors	Arlington County	Regional Core	Inner Suburbs
Pop. Over 16 Years of Age	43,210	161,333	739,138	2,034,206
Households	27,179	86,352	396,579	961,980
Available Vehicles	29,666	119,450	419,516	1,685,242
Vehicles/ Eligible Driver	.69	.74	.57	.83
Vehicles/ Household	1.09	1.38	1.06	1.75

\* The regional core includes the District of Columbia, Arlington and Alexandria

# Census 2000 Journey to Work Regional Comparison

Location:	Arlington Metro Corridors	Arlington County	Regional Core	Inner Suburbs
Total Workers	31,450	116,046	454,120	1,380,198
Drove Alone	40%	55%	47%	70%
Car Pooled	8%	11%	11%	13%
Public Transit	39%	23%	28%	10%
Walked	10%	6%	9%	2%
Other	1%	1%	1%	1%
Worked at Home	2%	3%	4%	4%



# Transportation Performance - Metro Corridor Developments

Daily trips by use and mode of travel

Use	Metrorail	Metrobus & Other Transit	Auto	Walk/Other
Residential	41%	4%	43%	13%
Office	25%	9%	62%	6%
Hotel	27%	4%	38%	31%
Retail	29%	8%	36%	27%
Entertainment	26%	6%	57%	11%

\*WMATA 2005 Development-Related Ridership Survey  
(18 sites in Arlington's Ballston, Courthouse and Crystal City station  
areas surveyed)

# Where do we go from here?

## New Corridors

- Columbia Pike
  - Community Charrette led to adoption of new corridor plan with urban – form based code



# Where do we go from here?

## New Corridors

- Columbia Pike -  
Transform suburban  
pike to urban Main  
Street





# Where do we go from here?

## New Corridors & New Technologies

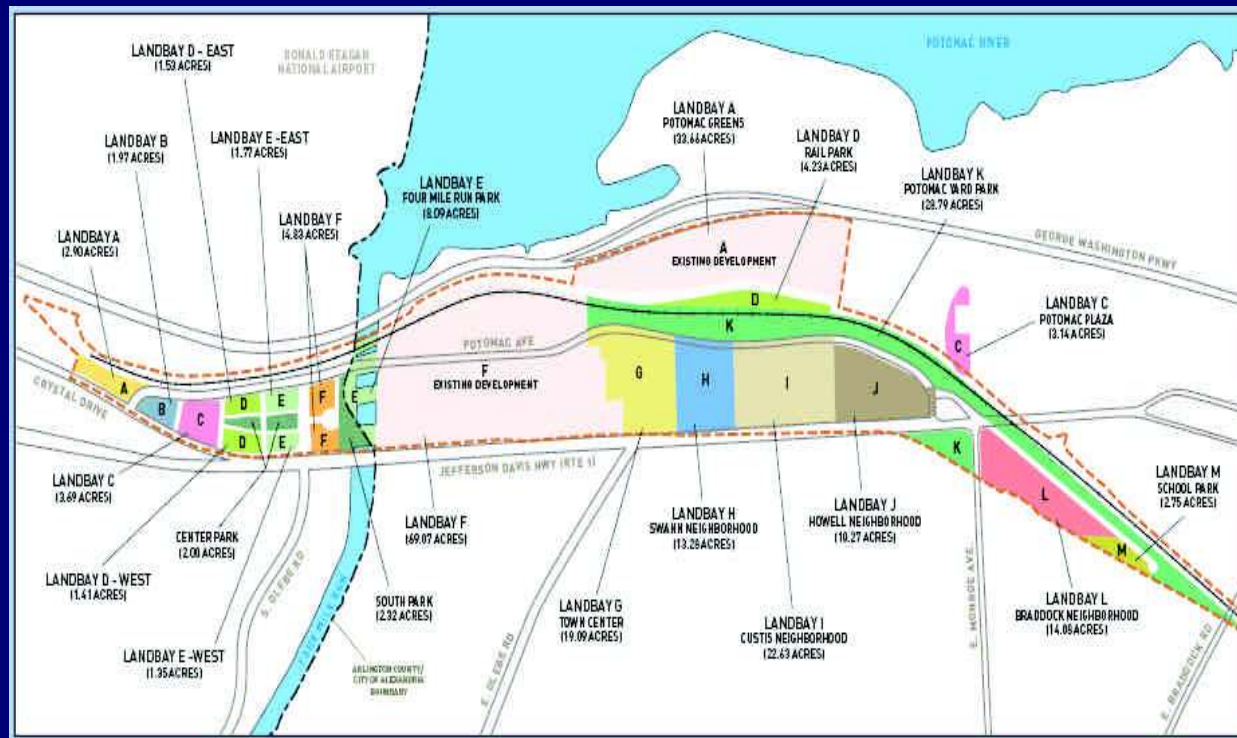


- Columbia Pike - Based upon alternatives analysis County adopted new streetcar as preferred alternative

# Where do we go from here?

## Old Corridors - New Development

- Potomac Yard – Community Task Force led to concept plan for development of former rail yard



# Where do we go from here?

## Old Corridors - New Development



	By 2015	By 2030
New Residents	9,000	13,000
New Jobs	21,000	27,000

2.58 million SF Office  
132,500 SF Retail  
865 Residential Units  
625 Hotel Rooms

# Where do we go from here?

## Old Corridors - New Technologies

- Crystal City  
Potomac Yard  
Transitway
- Five Mile Rapid  
Bus Service
- By 2015, 24,000  
estimated daily  
riders
- 28,000 riders in  
2030





# Where do we go from here?

## Crystal City - 2<sup>nd</sup> Generation - TED

- Crystal City
  - Metrorail
  - VRE
- BRAC – relocate 30% of current office space use
- Crystal City Master Plan – Community Task Force
  - Opportunity to build onto existing TOD base



# Crystal City - 2<sup>nd</sup> Generation TED

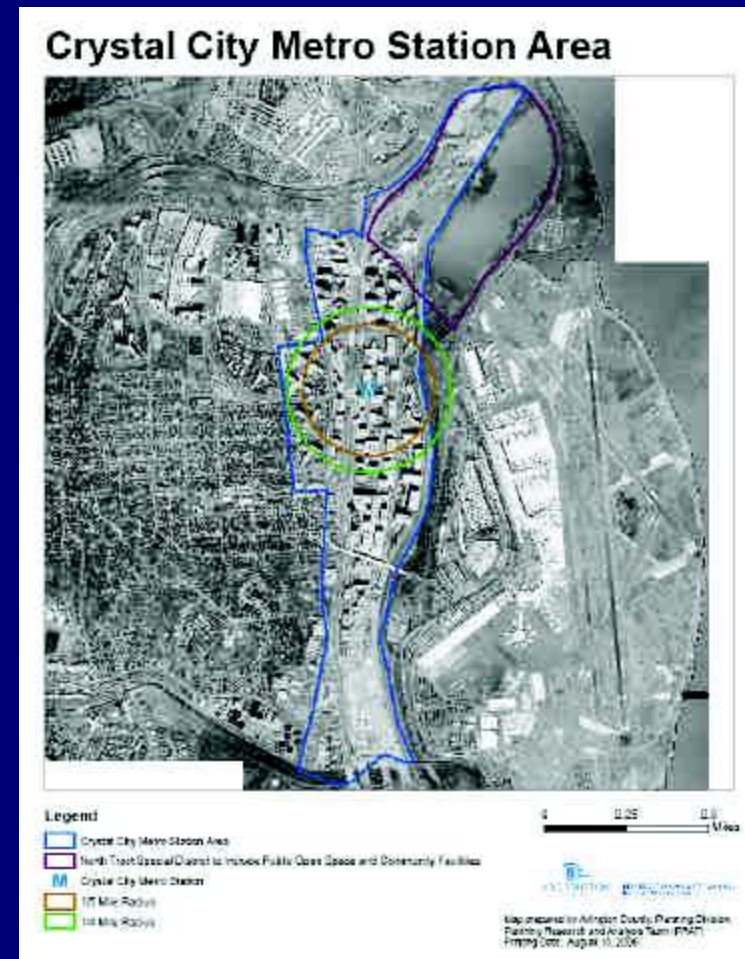
- FAR range 1.5 - 4.8, built 3.8
- Height 21 Stories
- 9.245 million SF Office
- 899,746 SF Retail
- 6,262 Residential Units
- 4876 Hotel Rooms



# Where do we go from here?

## Crystal City - 2<sup>nd</sup> Generation TED

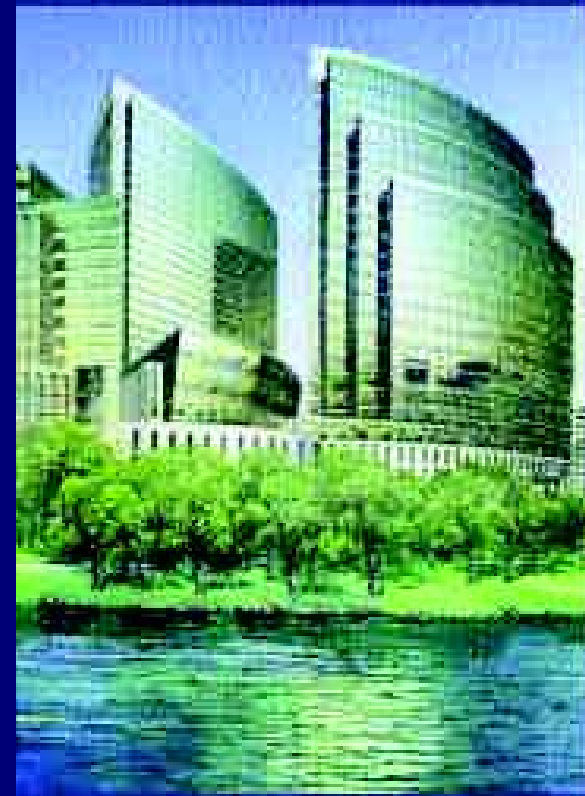
- Metrorail Ridership
  - 27,467 (daily)
- VRE Ridership (daily peaks)
  - 1,965 am
  - 1,871 pm



# Where do we go from here?

## Rosslyn - 2<sup>nd</sup> Generation TED

- 1998 Sector Plan
- Current CO Zoning allows 3.8 - 4.8 FAR
- CO- Rosslyn Zone allows 10.0 FAR





# Where do we go from here?

## Transportation Challenges

- First-generation suburb (1930's – 1950's) with aging infrastructure
- Hybrid street system – neither urban or suburban
- Uneven facility conditions
- Limited right-of-way
- Intensive existing use of the street system and transit
- Continued development adding 400 – 500,000 additional development-related daily trips by 2030



# Where do we go from here?

## Additional Challenges

- Need to provide safe access for various user groups
- Striking the right balance on parking supply, pricing and use
- Curb-space management
- Collaboration with local, regional, state, and federal agencies to plan, design and implement transportation projects
- Identifying sustainable sources of funding to make the necessary investments in transit and street reconstruction



# Where do we go from here?

## Designing Facilities for Shared Use

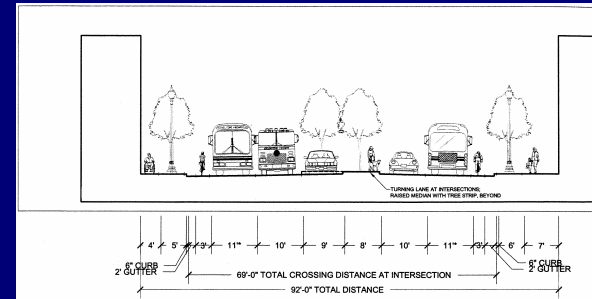


- Walking
- Bicycling
- Surface transit service
- Private vehicle use
- Parking and loading
- Car-sharing services
- Information - wayfinding
- Outdoor activities and open space
- Integration with adjacent development

# Where do we go from here?

## Investing in Transit

- Continued investments in expanding Metrorail Station access
- Enhanced integration of bus transit facilities and operations into street design
- Integration of high-capacity surface transit (BRT/streetcar) on selected streets
- Expanding high-frequency local transit service





# Where do we go from here?

## Strengthening TDM and Parking Management



- Expand TDM provisions and measure both development-specific and program results
- Implement revisions to residential zoned parking program to achieve an appropriate balance in use of curb-side space
- Review parking standards for development and associated pricing

# Lessons Learned – TOD and Transportation System Performance

- TOD has yielded substantial transportation benefits - allowing continued growth with less reliance on auto trips, and more use of transit and other travel options
- It isn't just one policy but many that contribute to enhanced performance such as:
  - Building mixed use environments with highest densities around transit stops
  - Expanding viable and attractive transportation options and making user information readily available
  - Actively managing parking
  - Sustaining and strengthening transportation demand management (TDM)
- It's not a short term commitment - to achieve the full benefits, it requires sustaining and enhancing programs and policies over time (over 30 years in Arlington's case)



## Contact Information:

Stephen Del Giudice  
Transit Bureau Chief  
Arlington County  
Department of  
Environmental Services  
Division of Transportation  
703-228-0090  
[sdelgiudice@arlingtonva.us](mailto:sdelgiudice@arlingtonva.us)

## Special Thanks to:

Dennis M. Leach, AICP  
Director of Transportation  
[dleach@arlingtonva.us](mailto:dleach@arlingtonva.us)

Robert Brosnan  
Planning Director  
[rbrosnan@arlingtonva.us](mailto:rbrosnan@arlingtonva.us)

# Arlington County, VA

