



# Appendix A: Veirs Mill Corridor ULI mTAP

# Veirs Mill Corridor

## ULI mTAP

2016-2017 ULI Regional Land Use Leadership Institute

*Mini Technical Assistance Panel*

Bill Eger | Sarah Goss | Jill Griffin | Walter Ploskon | Joyce Tsepas



Urban Land  
Institute

Washington

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- mTAP Assignment and Approach
- Background and Research
- Recommendations
  - Improving safety, security and accessibility
  - Strengthening community cohesiveness
  - Leveraging development opportunities
- Appendix

# Questions to be addressed by the Panel

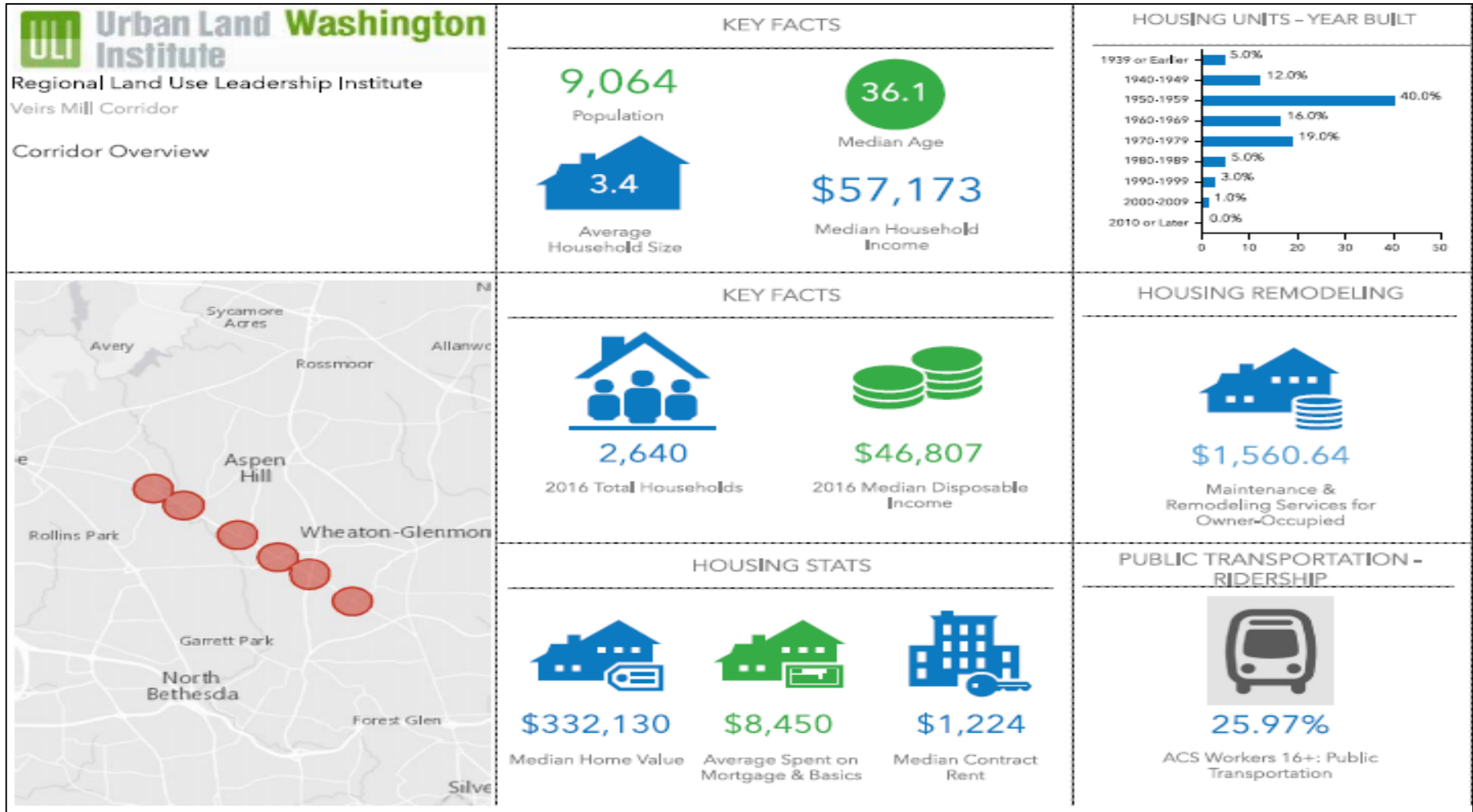
- How will BRT influence market affordability, property values, and development pressure adjacent to the transit corridor?
- Can BRT and the associated stations act as a catalyst for reinvestment and/or redevelopment?
- What are the most appropriate uses of the single-family residential homes immediately adjacent to Veirs Mill Road?
- What are potential land use and station area typologies? What improvements should be considered to provide safe and convenient access to the BRT stations along the corridor?
- Should the current station locations be changed? How can the stations be designed and/or located to serve as an instrument for placemaking?

# Assumptions

- Recommendations assume BRT is implemented through Alternative #3: New BRT Service in Dedicated Curb Lanes (where feasible)
- BRT stops within the Master Plan area will be located at:
  - Twinbrook Parkway      – Aspen Hill Road
  - Parkland Drive            – Randolph Road
  - Connecticut Avenue      – Newport Mill Road
- Temporal boundary of Master Plan is 20 years

# Background and Research

# Population and Housing Characteristics



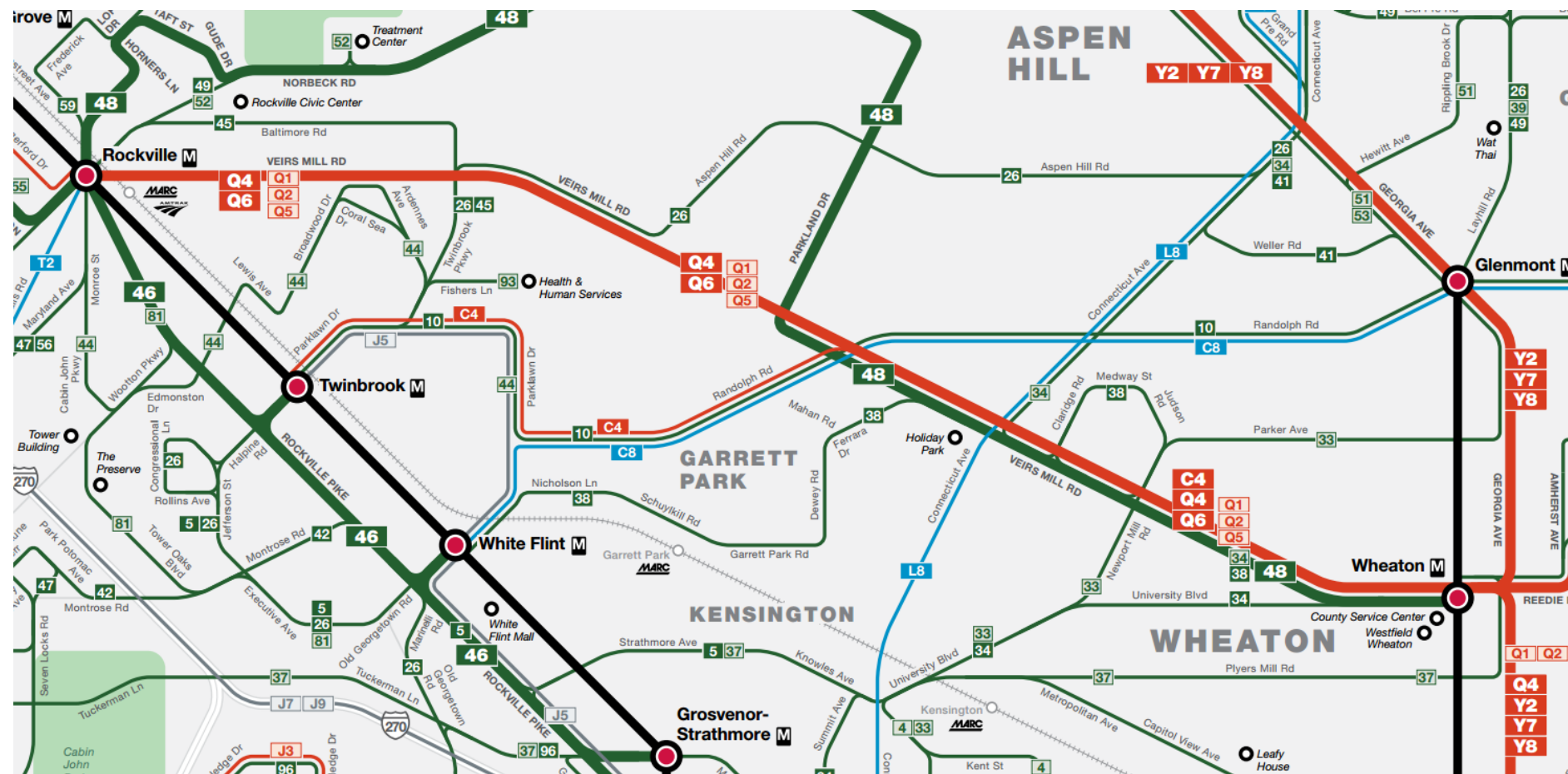
# Physical Characteristics

- Mix of frontage conditions and setbacks
- State of sidewalks and variable widths
- Service roads
- Variable roadway widths
- Terrain
- Limited transit access
- Uniform residential housing stock





# Existing Transit Options



# BRT Research

- BRT Case Studies

- Bogotá
- Boston
- Cleveland
- Los Angeles
- Ontario
- Ottawa
- Pittsburgh
- Seoul



Euclid Avenue HealthLine BRT (Source: Cleveland.com)



Boston Silver Line (Source: Wikipedia)

- Light transportation systems & facilities

- Standard bus service
- Light rail
- BRT



TransMilenio BRT (Bogota, Colombia, )

# BRT Research: Example Economic Impacts

- Example BRT system economic impacts:
  - Boston: Approximately 7% increase in condominium value premium
  - Cleveland: Upwards of 2.4% and 1.4 % increase in commercial and residential value premiums, respectively, over 6-year period
  - Ontario:
    - Residential/MF (dedicated-lane = 4-8%, mixed-lane = 2-4%)
    - Commercial (dedicated-lane = 2-4%, mixed-lane = 1-2%)
  - Pittsburgh: Upwards of 11% increase in single-family dwelling value premium
- Example light rail system economic impacts:
  - Range from -4-33% for single-family and condominiums
  - 4-9% for multi-family
  - 5-15% for commercial

# BRT Research: Opportunities

- Mixed-lane or dedicated-lane BRT can provide significant transportation benefits and have the potential to increase property value, particularly when implemented with public realm improvements, however they are unlikely to be a primary catalyst for new development
- Support transit-oriented development (TOD) and pro-development policies for new developments to increase potential economic development opportunities leveraging BRT
  - Zoning reforms
  - Development finance and tax policies
  - Land assemblage
  - Supportive infrastructure
- Should new development or redevelopment occur, implementing parking mitigation measures to increase transit ridership and decrease congestion provide additional benefit

# BRT Research: Limitations

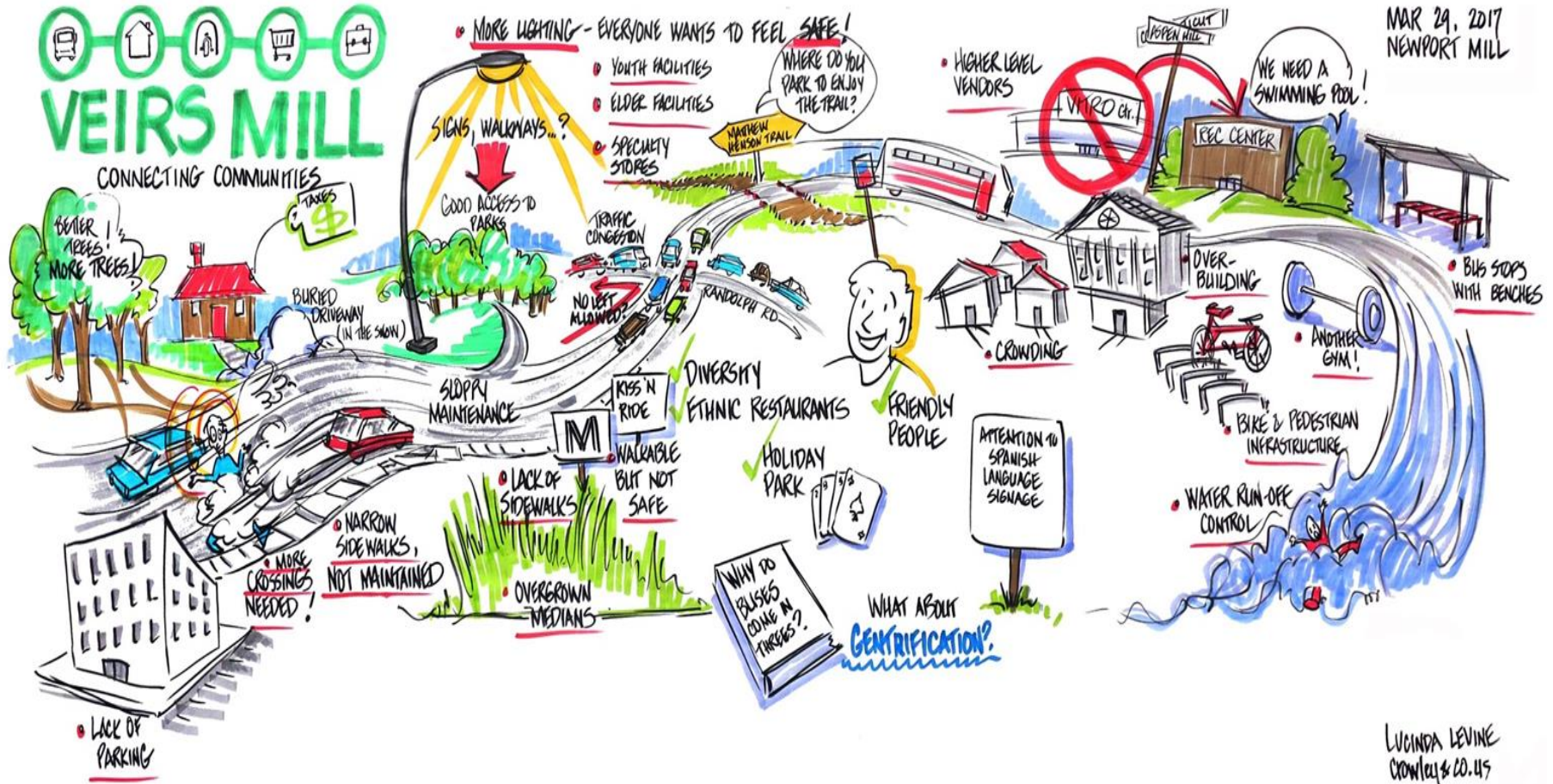
- Land with limited development potential is unlikely to develop regardless of the quality of transit investment
- A mass transit corridor is more likely to have a significant development impact — without additional government interventions — if it passes through a lot of land that is moderately desirable for redevelopment as opposed to through a small amount of such highly desirable land
- Inability to catalyze private development in an area with limited or no existing market activity
- While physical BRT features convey a sense of permanence to developers, deficient in major institutional, employment, and activity centers along or near the BRT corridor that can sponsor development projects
- BRT corridors appear to be gaining share of new offices; where new transit corridors increased their share of new office space from 11.4 percent to 15.2 percent, but very little of such space exists in the Veirs Mill corridor

# BRT Research: Possible Outcomes

- Evidence from other BRT and light-transportation system projects suggests possible outcomes may include:
  - Modest property land value appreciation within  $\sim\frac{1}{4}$  mile radius of BRT stops; primarily commercial or mixed-use properties
  - Property land values may appreciate beyond the  $\sim\frac{1}{4}$  mile radius of a BRT stop, but less than properties within closer proximity to BRT stops
  - In the short run, will likely not increase development pressures or change market conditions for redevelopment of existing housing stock
  - Leverage as a benefit for future infill or development opportunities in select locations
  - Leverage existing conditions to maximize benefit and ridership of BRT system



# Community Input



# Planning Objectives



Improving safety, security and accessibility



Strengthening community cohesiveness



Leveraging development opportunities



# Recommendations

# Safety, Security, Access



## Data

- Mix of frontage conditions
- Service roads
- Mix of setbacks
- Inconsistent sidewalks
- Transit access
- Variable terrain



## Recommendations

- Consistent sidewalks
- Street edge beautification
- Corridor maintenance
- Streetscape
- Parking management



## Implementation

- State MOU
- Dedication of property taxes to O&M obligations

# Safety, Security, Access

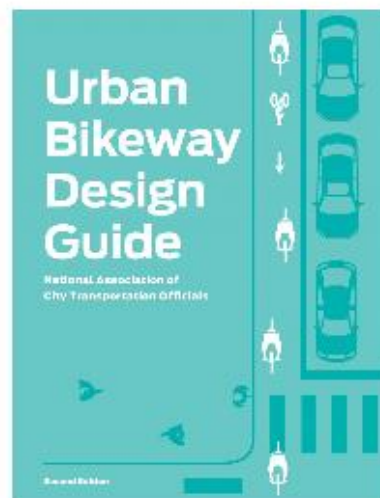
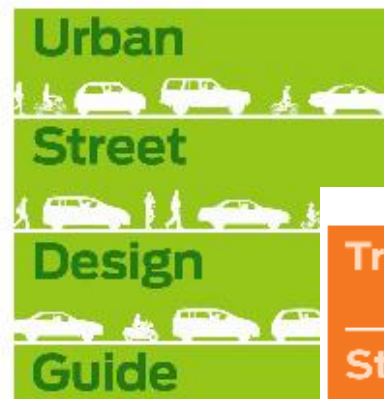


# Safety, Security, Access



## Recommendations

- Consistent sidewalks
- Street edge beautification
- Corridor maintenance
- Streetscape, “Green” corridor
- Complete streets (BRT, bikeway)
- Parking management analysis (consider BRT parking at Randolph)



Resources from NACTO: <https://nacto.org/>



# Safety, Security, Access



Ocean City, NJ (SHA)



Arlington, VA (Ballston BID)

# Safety, Security, Access



## Implementation Tools

- State MOU for streetscape/beautification
- Dedication of property taxes to O&M obligations
- Develop Complete Streets Policy
- Restricted neighborhood parking
- Revenue generating parking



## Example property tax dedication breakdown

|   | Annual      | Capital Raised* |
|---|-------------|-----------------|
| General County Taxes Generated by Veirs Mill Corridor | \$8,741,708 |                 |
| 5% Dedication   | \$437,085   | \$5,447,050     |
| 10% Dedication  | \$874,171   | \$10,894,101    |

\*Assuming 5% interest rate and 20 year term

# Community Cohesiveness



## Data

- BRT System Review
- Analysis of property sales
- Missing Middle typology



## Recommendations

- Maintain existing zoning and density
- Preserve home values
- Placemaking
- Offset ped/bike path along Rock Creek extent (low bollard lighting)



## Implementation

- Home improvement opportunities
- Permitting processes
- Improving compatibility of land uses
- Pop-up programming, public art, markets
- Partnership with churches & community organizations
- Conservation districts



# Community Cohesiveness

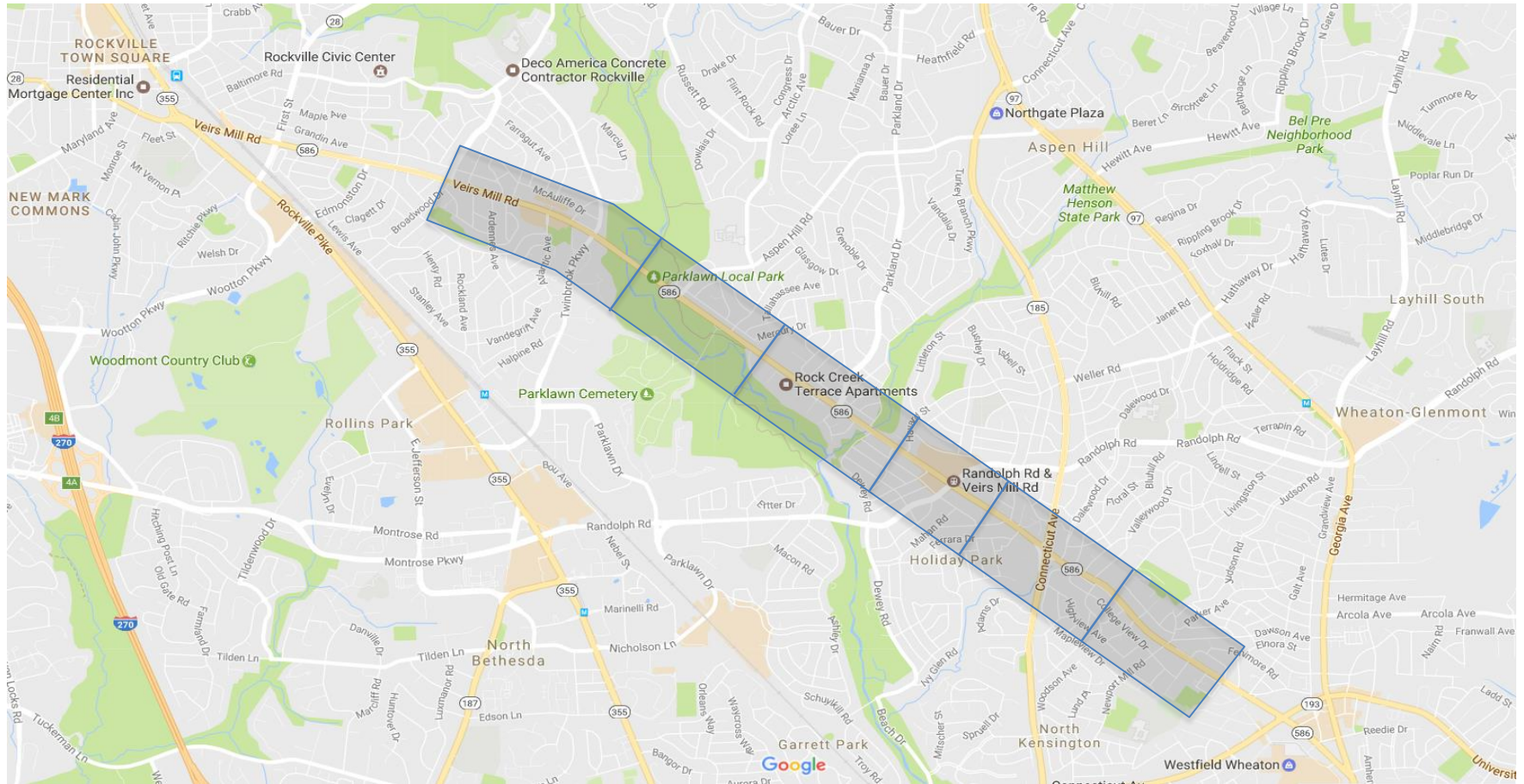




# Community Cohesiveness



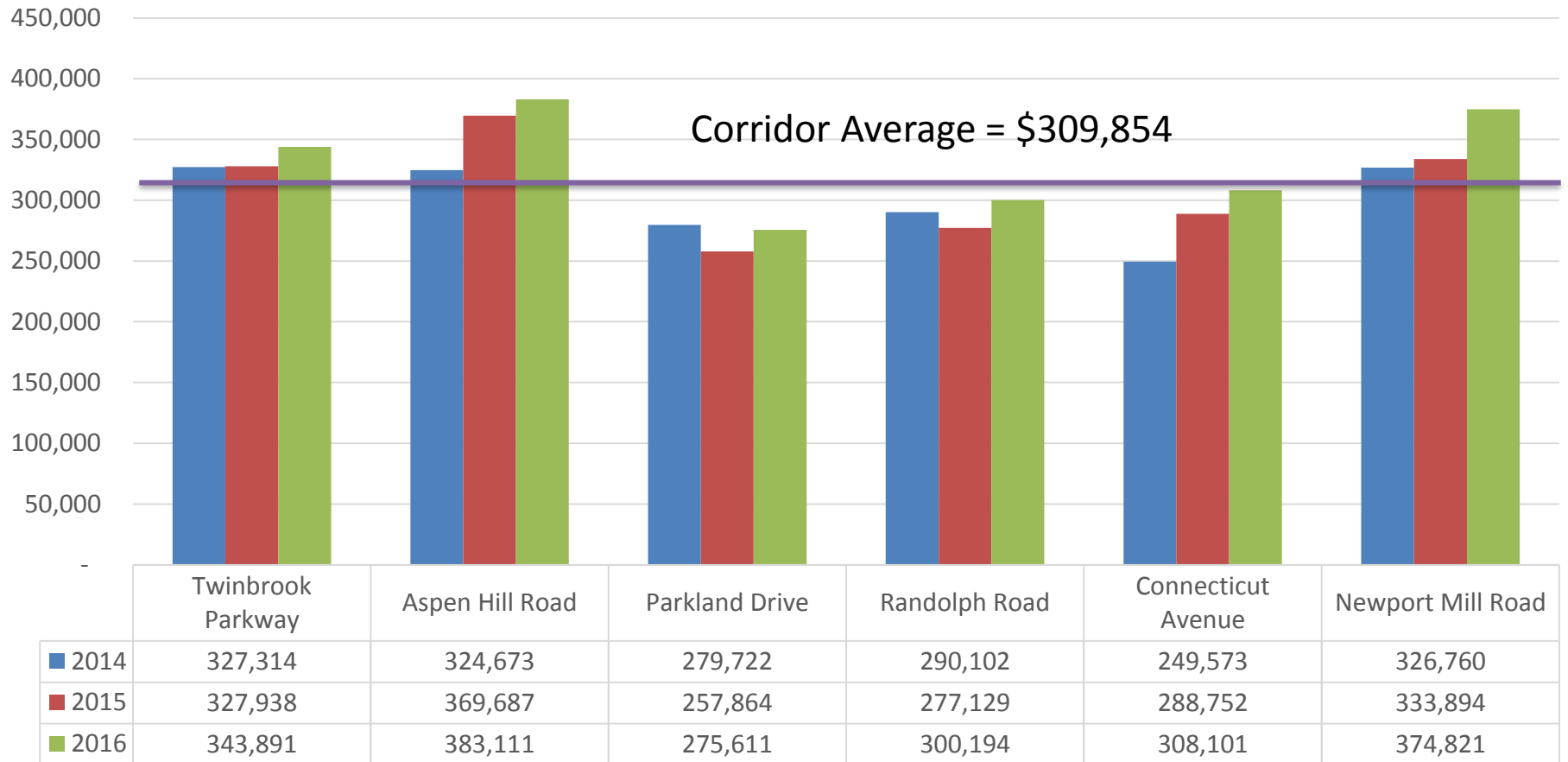
## Node Boundaries



# Community Cohesiveness



## Average Sales Price by Node

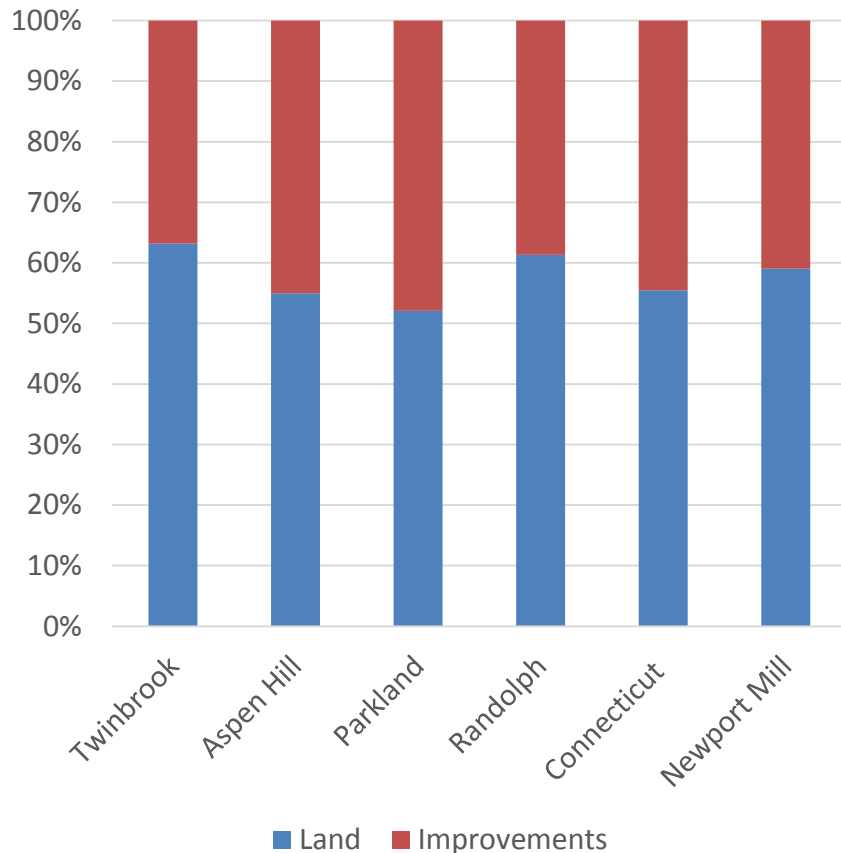


Source: SDAT 2014-2016 Property Sales within 0.25 miles of Veirs Mill Road

# Community Cohesiveness



## Breakdown of Price by Land vs Improvements



## Price Point by Dwelling Type

|                | SFD 1 STY | SFD 1.5 STY | SFD 2 STY | TH      | Condo   |
|----------------|-----------|-------------|-----------|---------|---------|
| Avg            | 308,450   | 330,766     | 373,348   | 260,007 | 192,848 |
| Upper Midpoint | 350,000   | 370,000     | 407,000   | 334,900 | 227,000 |
| Max            | 599,000   | 473,000     | 700,000   | 374,000 | 415,000 |
| Min            | 60,000    | 65,275      | 193,000   | 100,000 | 115,000 |
| Median         | 315,750   | 340,000     | 371,500   | 246,000 | 151,000 |

Source: SDAT 2014-2016 Property Sales within 0.25 miles of Veirs Mill Road

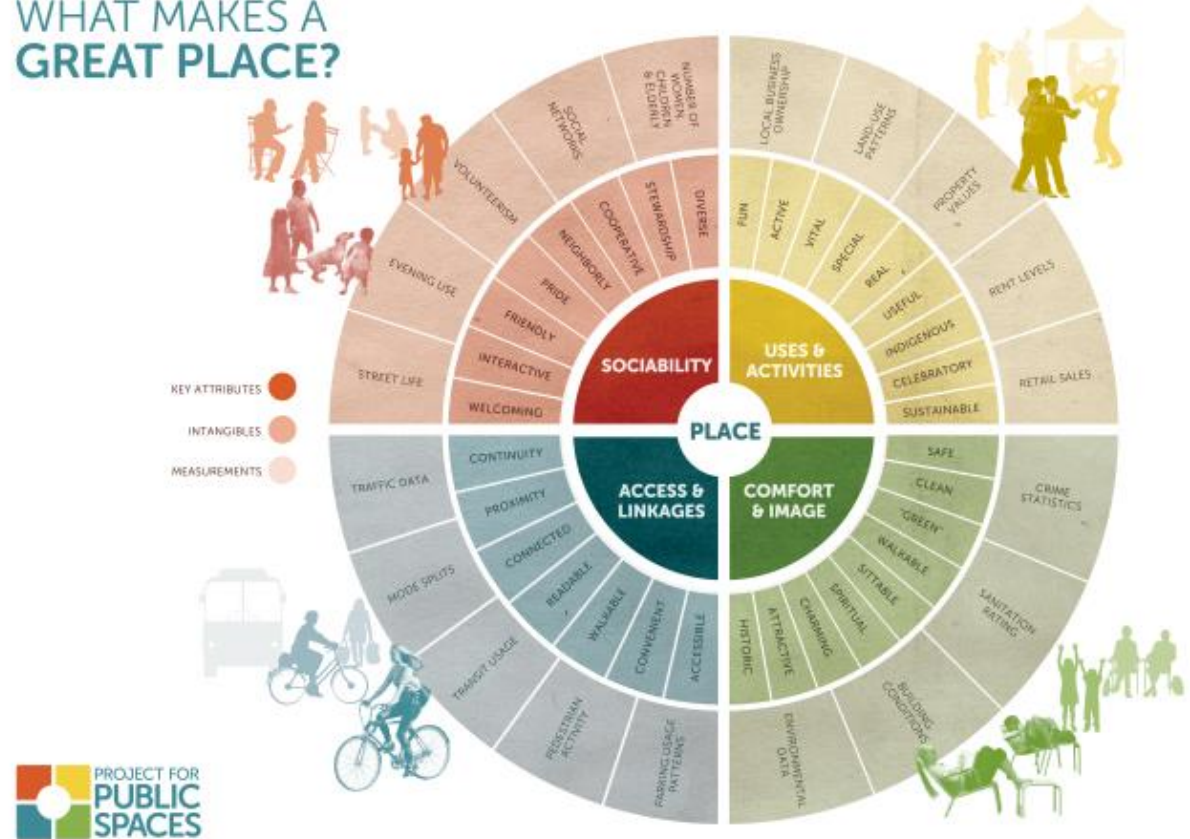
# Community Cohesiveness



## Recommendations

- Maintain existing zoning and density
- Preserve home values
- Placemaking
- Explore Low Impact Development Opportunities
- LED lighting retrofit and Rock Creek Park pathway
- Evaluate feasibility of Neighborhood Conservation District/elements

## WHAT MAKES A GREAT PLACE?



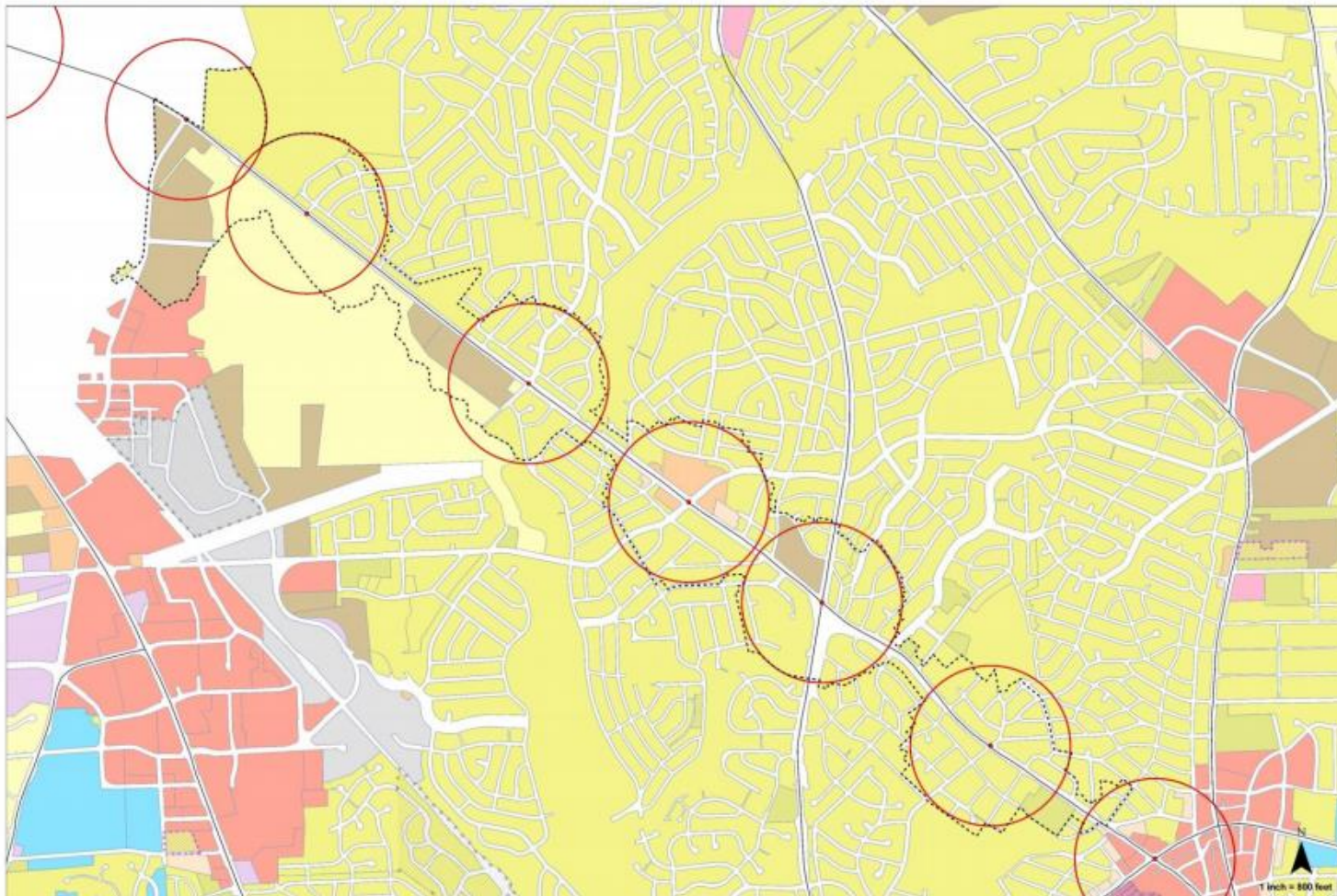
[https://www.pps.org/reference/what\\_is\\_placemaking/](https://www.pps.org/reference/what_is_placemaking/)



# Community Cohesiveness



## PLAN AREA – LAND USE AND ZONING





**PLACEMAKING** STRENGTHENS THE CONNECTION BETWEEN PEOPLE AND THE PLACES THEY SHARE...

**PLACEMAKING** IS HOW PEOPLE ARE MORE COLLECTIVELY AND INTENTIONALLY SHAPING OUR WORLD, AND OUR FUTURE ON THIS PLANET.

-PPS





# Community Cohesiveness



## Implementation Tools

- Home improvement programs
- Permitting processes
- Pop-up programming, public art, markets
- Partnership with churches, community organizations
- Neighborhood Conservation Districts
- LED lighting retrofit
- Low Impact Development



NACTO Stormwater Guide

Figure 11. LED pathway lighting at UC Davis



NPS Outdoor Lighting Retrofits Guide

# Community Cohesiveness



## Home Improvement Programs

- Educate Homeowners on existing home improvement financing options
  - HUD Section 203(k) Loan Program
  - HUD Property Improvement Loan Insurance (Title I)
- Amend the Single Family Home Improvement Loan Program to allow for uses beyond addressing code violations and modify the repayment terms
- Offer an income tax credit on qualifying repair, renovation or improvement work
- Create an alternative to the Homestead Property Tax Credit by offering one-time incentive payments based on the amount of the increase in County taxes



# Community Cohesiveness



## Pop-up Programming

### Open Streets Project

Opening Streets to People, Sharing Resources, Transforming Communities

[About](#) [News](#) [Initiatives](#) [Resources](#) [Summit](#) [Assistance](#)

Search...

**Open streets initiatives temporarily close streets to automobile traffic, so that people may use them for walking, bicycling, dancing, playing, and socializing.**

With more than 100 documented initiatives in North America, open streets are increasingly common in cities seeking innovative ways to achieve environmental, social, economic, and public health goals.

[Learn More About The Open Streets Project...](#)

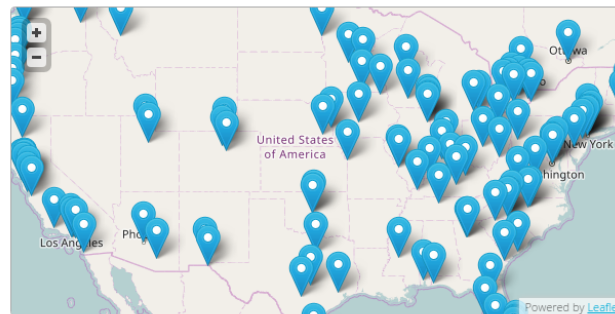
#### Join the Open Streets Google Group

Converse with your peers, ask questions and share information about Open Streets initiatives across North America.

[Join Today!](#)

Tweets by @Open\_Streets

 **Open Streets Project** @Open\_Streets  
Pensacola launches its first #OpenStreets with a bang! 10,000 happy people.  
[@cityofpensacola](#) [@ashtonjhayward](#)



[Previous](#)

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#### Recent News

- [Announcing a new phase of the Open Streets movement!](#)  
08/18/2016 - As part of the 2016 International Open Streets Summit in Portland, OR, The Street Plans Collaborativ...
- [The Body of Research on Open Streets is Growing - come hear about it at the 2016 International Open Streets Summit!](#) 06/18/2016 - Charles Brown MPA, Senior Researcher with Rutgers University will present findings from the first-

**Open streets initiatives temporarily close streets to automobile traffic, so that people may use them for walking, bicycling, dancing, playing, and socializing.**

<http://openstreetsproject.org/>

# Community Cohesiveness



## Public Art

- Station design can:
  - provide a sense of place
  - project community values
  - foster ownership

*Public art can be a tool to facilitate community dialogue & enhance station design.*



*The ruffle of a scrub jay's wings on landing*  
FROM ORANGE LINING, POEM BY JULES BOYKOFF

TriMet Orange Line - Portland, OR



Adolf Bereuter

Krumbach, Austria (via [CityLab.com](http://CityLab.com))



Potomac Yard/Crystal City Transit Way - Arlington County, VA



# Community Cohesiveness



## Community Art



Photo: [www.greatcity.org](http://www.greatcity.org), Seattle, WA



Photo: Greg Ralsman, Portland, OR

### What is an Intersection Mural?

It's a permanent mural that's painted on the pavement at an intersection. It's used as a community-building tool—murals are generally designed by the neighborhood, and represent the local community. Experience from other cities shows that intersection murals can help calm traffic, and foster a sense of community identity (these murals can be found in multiple cities, including Seattle, WA, Portland, OR and Ft. Lauderdale, FL).

Intersection murals are a simple, low cost way to reclaim streets as a shared space for the whole community to enjoy.

### What are the benefits of Intersection Murals?

Intersection murals have many benefits, including:

- Bringing neighbors together to create a sense of community
- Traffic-calming
- Place-making—murals can represent the communities that surrounds them
- Making streets more enjoyable!

The mural continues to be an important neighborhood anchor, slowing down cars and providing residents with a safer place to walk, cycle, or admire the work of their community. Over time, as the mural begins to fade from sun and use, Haley and others see this as a perfect opportunity to bring everyone together again to repaint the mural and create a tradition around co-creation. With each quilt "square," Montclair's Placemaking movement will continue to grow.



Montclair, NJ (from [PPS.org](http://PPS.org))

# Community Cohesiveness



## Neighborhood Conservation Districts

- Types
  - Purpose to preserve historic resources or architecture character
  - Purpose to regulate urban form or land use, in anticipation of redevelopment
- Administration
  - Zoning or planning board/ commission
  - Planning department
  - Independent neighborhood group/ commission





# Community Cohesiveness



## Example: Lincoln Park Neighborhood Conservation District

- Assemblage of separate lots not permitted
- 25% lot coverage at 25' height (45% line of sight slope)
- Resubdivision of existing original lots not permitted
- Roof heights of new additions should not dominate
- Irregular setback patterns should be maintained
- Additions constructed on rear or side
- “Sympathetic materials” for new construction



FEBRUARY 26, 2007



CITY OF ROCKVILLE  
MARYLAND



325 Lincoln Avenue

325 Lincoln Avenue

- 1-1/2 stories. Less than 25 feet high
- 1,120 square foot lot coverage excluding porch
- Full basement
- Substantial portico
- Total square footage: 2,660 SF with basement
- No garage

<http://www.rockvillemd.gov/index.aspx?NID=189>

# Development Opportunities



## Data

- BRT Review
- Analysis of property ownership
- Review of ridership patterns
- Analysis of local shopping centers
- Community feedback



## Recommendations

- Leverage BRT for infill or future development opportunities at:
  - Stoney Mill Square Shopping Center
  - Parklawn Local Park
  - Rock Creek Terrace



## Implementation

- Rezone & missing middle typologies
- Land dispositions
- Partnership with churches & community organizations
- P3's
- Shift BRT stops

# Development Opportunities



# Development Opportunities



## Potential HH Income absent induced growth

|  |             |
|--|-------------|
| 2010 Montgomery Co. Per Capita Personal Income       | \$68,454    |
| 2010 Montgomery Co. Median HH Income                 | \$88,559    |
| <b>Median HH Income : Per Capita Personal Income</b> | <b>129%</b> |
| 2015 Montgomery Co. Average Income                   | \$133,543   |
| 2015 Veirs Mill Corridor Average Income              | \$82,023    |
| <b>Veirs Mill Corridor : Montgomery Co.</b>          | <b>61%</b>  |
| 2016 Veirs Mill Corridor Median HH Income            | \$57,713    |
| 2016 Veirs Mill Corridor Average HH Income           | \$73,080    |
| <b>Average HH Income : Median HH Income</b>          | <b>128%</b> |

*"...none of the project alternatives will cause growth-inducing effects nor other effects related to induced changes in the current and planned pattern of land use, population density, or growth rate..."*

*MD 586/ Veirs Mill Road Bus Rapid Transit Study*

| Potential Home Prices                               | <u>2015</u>      | <u>2020</u>      | <u>2025</u>      | <u>2030</u>      | <u>2035</u>      |
|---|------------------|------------------|------------------|------------------|------------------|
| Montgomery Co. Projected Per Capita Personal Income | \$70,996         | \$77,059         | \$80,945         | \$83,769         | \$86,701         |
| Montgomery Co. Projected Median HH Income           | 91,848           | 99,691           | 104,719          | 108,372          | 112,165          |
| Veirs Mill Corridor Projected Median HH Income      | 56,413           | 61,231           | 64,319           | 66,563           | 68,893           |
| Veirs Mill Corridor Projected Average HH Income     | 72,109           | 78,267           | 82,214           | 85,082           | 88,060           |
| Housing Costs as 30% of Average HH Income           | 21,633           | 23,480           | 24,664           | 25,525           | 26,418           |
| <b>Estimated Sales Prices</b>                       | <b>\$365,000</b> | <b>\$400,000</b> | <b>\$420,000</b> | <b>\$435,000</b> | <b>\$450,000</b> |

Sources: 2014 Maryland Statistical Handbook; Veirs Mill Scope of Work Planning Board Presentation; Esri Market Profile 0.25 mile radii



# Development Opportunities



| Simplified Pro Forma           | SFD Renovation | SFD Expansion | SFD New Build | 3 Story TH | 2 over 2 TH |
|--------------------------------|----------------|---------------|---------------|------------|-------------|
| Acquisition                    | 281,148        | 281,148       | 281,148       | 281,148    | 281,148     |
| Hard and Soft Costs            | 67,627         | 74,575        | 151,437       | 415,2878   | 445,276     |
| Total Costs                    | 348,775        | 355,723       | 432,585       | 696,435    | 726,424     |
|                                |                |               |               |            |             |
| Average Sale Price (2014-2016) | 398,187        | 426,995       | 481,965       | 335,651    | 248,953     |
| Total Revenues                 | 398,187        | 426,995       | 481,965       | 1,006,953  | 1,493,718   |
|                                |                |               |               |            |             |
| Profit/(Loss)                  | 49,412         | 71,272        | 49,380        | 310,517    | 767,294     |
| IRR                            | 5%             | 12%           | 3%            | 29%        | 61%         |

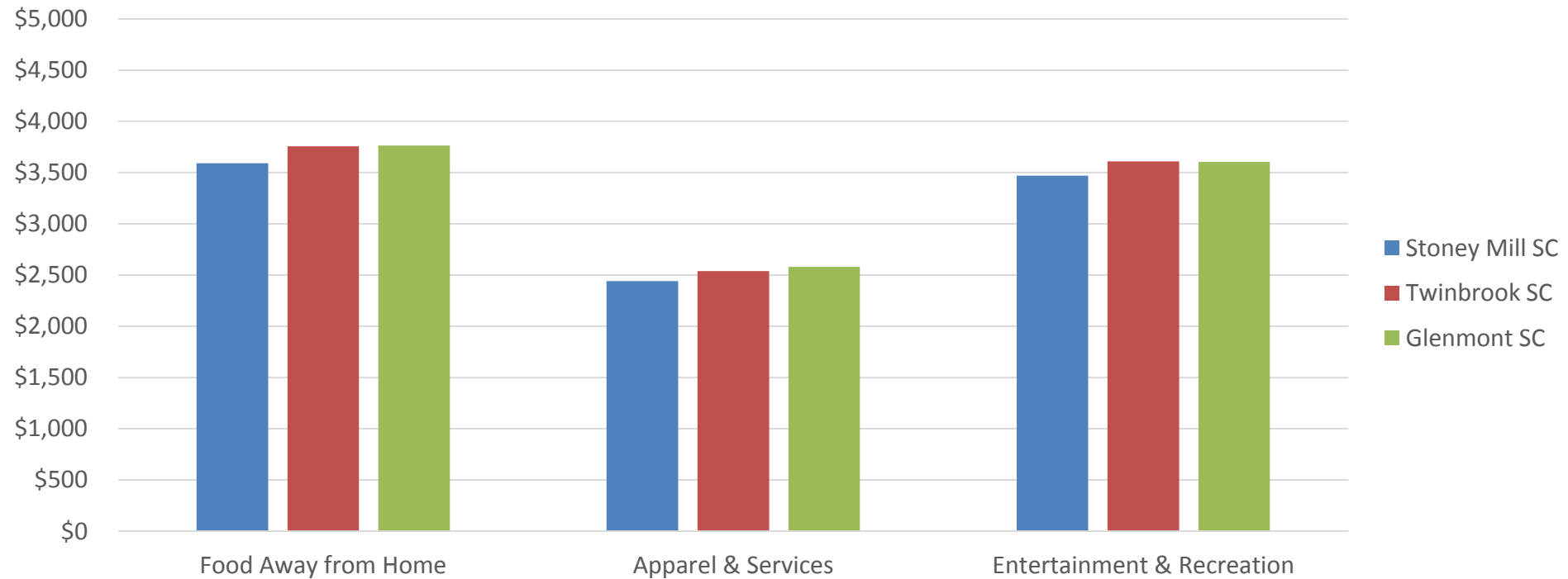
| Key Assumptions                  |        |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|--------|
| Number of Units                  | 1      | 1      | 1      | 3      | 6      |
| Land SF                          | 6,000  | 6,000  | 6,000  | 6,000  | 6,000  |
| Existing Improvements SF         | 1,200  | 1,200  | 1,200  | 1,200  | 1,200  |
| Construction SF                  | 1,200  | 600    | 2,400  | 6,300  | 8,400  |
| Land Cost per SF                 | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  |
| Existing Improvement Cost per SF | 105.04 | 105.04 | 105.04 | 105.04 | 105.04 |
| Hard Costs per SF                | 56.36  | 124.29 | 63.10  | 65.92  | 53.01  |

Source: SDAT 2014-2016 Property Sales within 0.25 miles of Veirs Mill Road, Montgomery County Residential Building Permits issued since 2000

# Development Opportunities



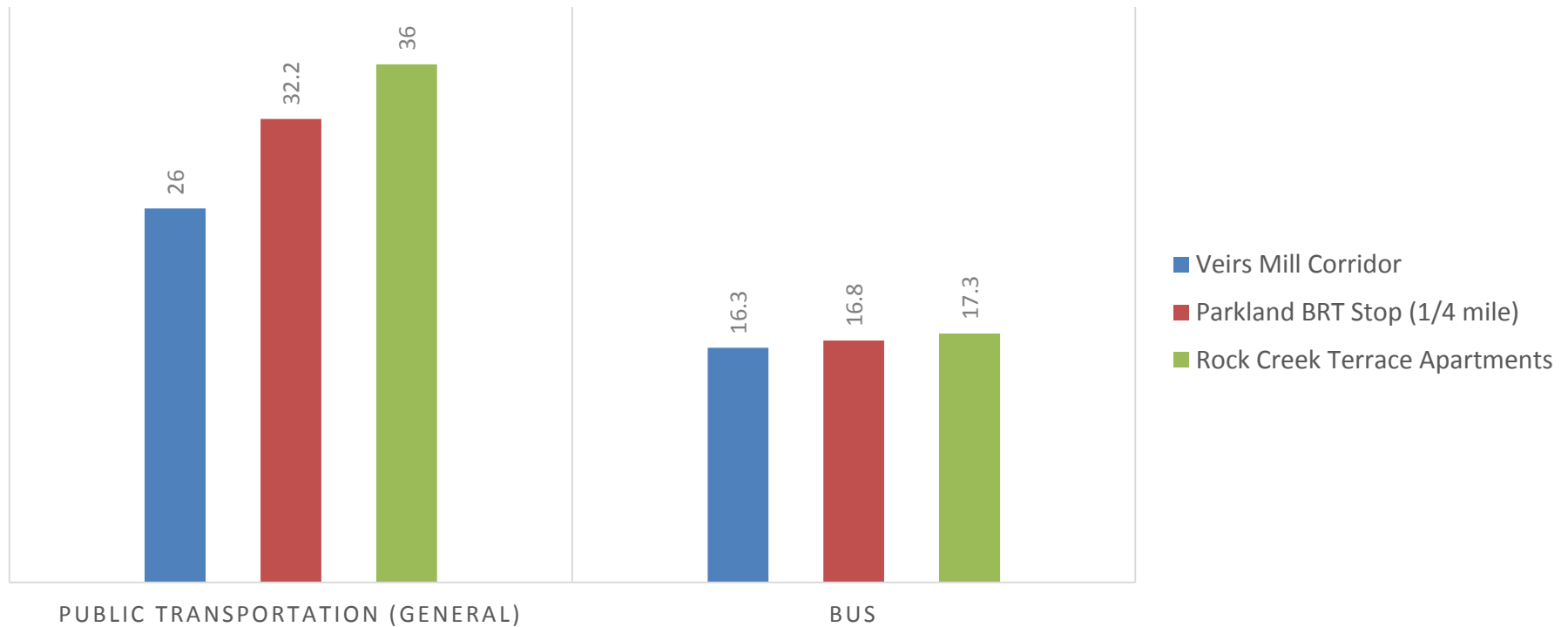
Average Yearly Expenditures  
5-minute drive time from shopping centers



Source: Esri; Consumer Spending data are derived from the 2013 and 2014 Consumer Expenditure Surveys, Bureau of Labor Statistics.



## MEANS OF TRANSPORTATION TO WORK



Source: ACS Population Summary prepared by Esri from U.S. Census Bureau, 2010-2014 American Community Survey

# Development Opportunities



## Recommendations

- Use BRT as a catalyst for infill development or future development:
  - Stoney Mill Square SC
  - Parklawn Recreation Center
  - Twinbrook SC
  - Rock Creek Terrace





# Development Opportunities



## Mixed-use Mid-Rise Development

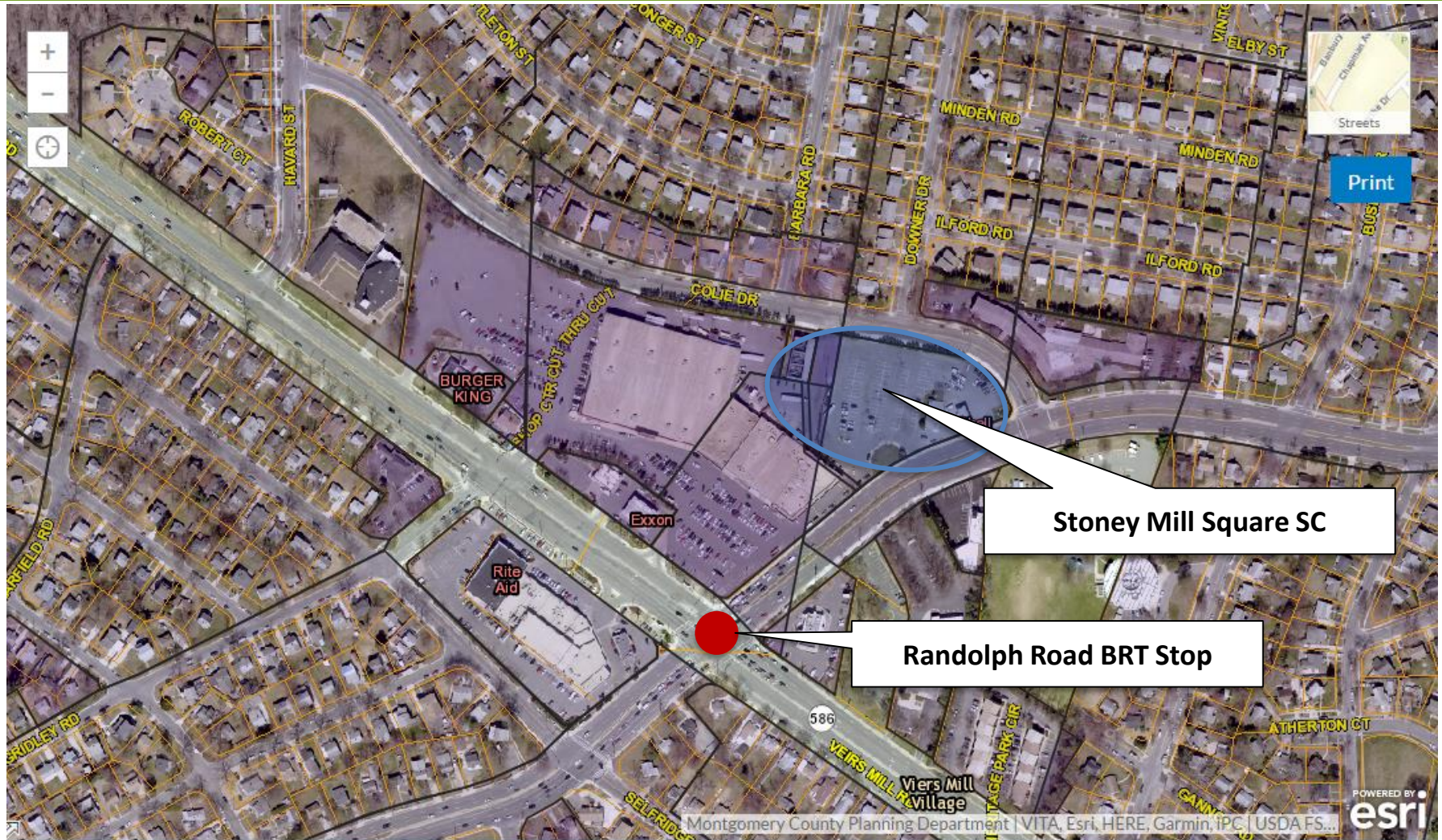
- Dense, urban development combining multiple uses
  - Residential, commercial, cultural, institutional and/or industrial
- Uses are physically and functionally integrated into 'walkable communities'

## Missing Middle Housing

- Multi-unit housing structures
  - duplex, fourplex, courts, carriage house
- Compatible scale to large single-family homes
- Often integrated in 'walkable communities'



# Development Opportunities - Housing





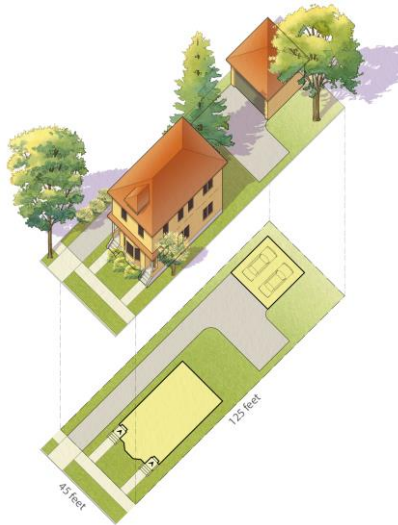
# Development Opportunities - Housing



- Side-by-Side Duplex



- Stacked Duplex



- Fourplex





# Development Opportunities - Recreation



Montgomery County Planning Department | VITA, Esri, HERE, Garmin, iPC | USDA FS...

POWERED BY  
**esri**



# Development Opportunities - Recreation



Clark Patterson Lee



Arlington Mill, Arlington, VA  
Affordable housing development co-located with a community center

- shared underground garage
- shared infrastructure costs saved nearly \$9 million (almost \$75,000 per unit)
- public land with discounted ground lease
- unique financing structure
- Low Income Housing Tax Credits
- combination of bonds and carry-over funds



## NORTH CAROLINA STATE UNIVERSITY CARMICHAEL GYMNASIUM

**Location:** Raleigh, NC  
**Area:** 43,000 s.f. Addition  
**Total Cost:** \$8 million  
**Completion Date:** 2007  
**Services:** Design through Construction  
**Reference:** Michael A. Harwood,  
Associate Vice Chancellor  
for Centennial Campus  
Development;  
(919) 515-6259

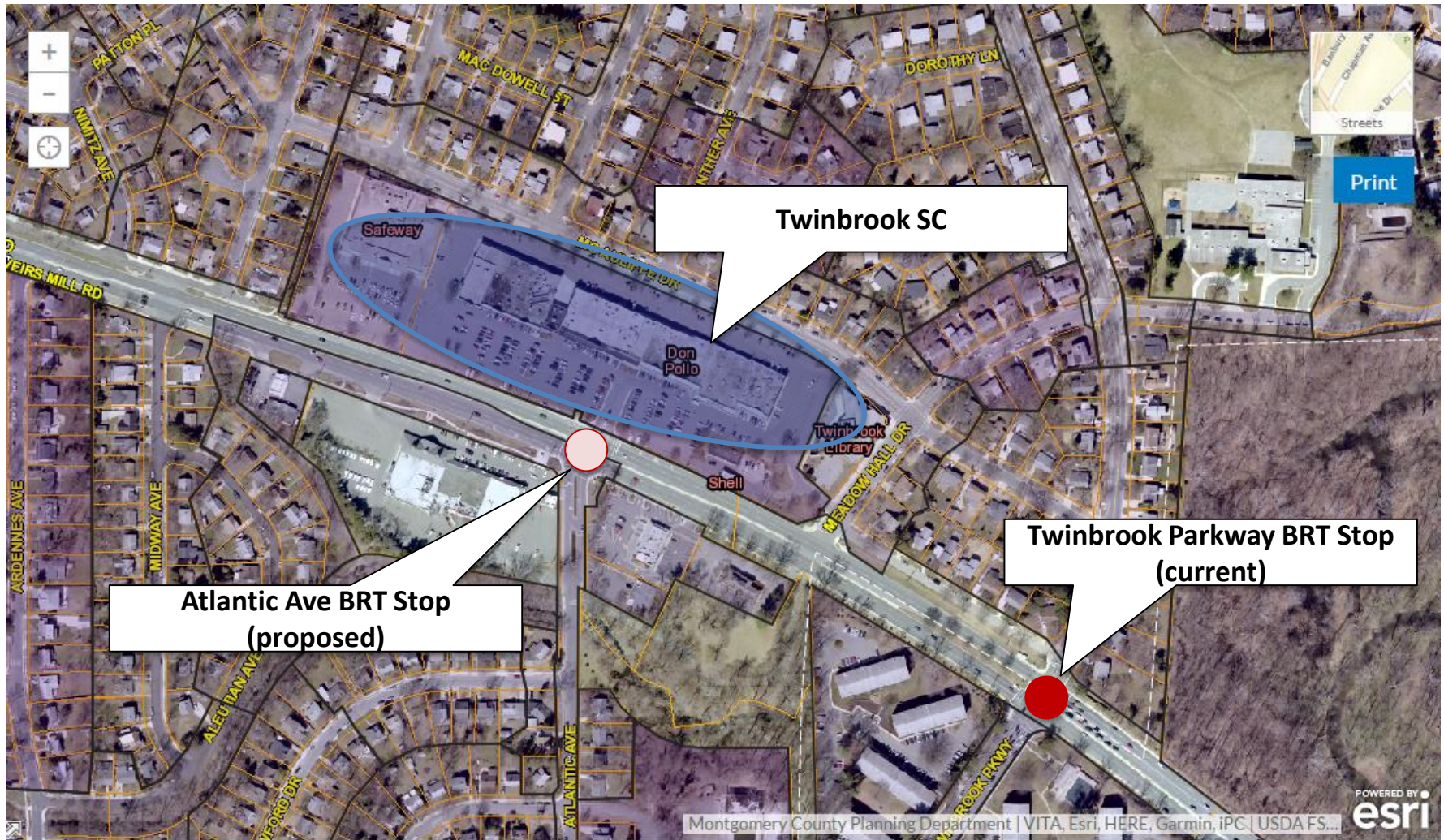
Providing overdue expansions to student recreation programs, this project is designed to architecturally upgrade an aging Carmichael Gymnasium Complex. Through the strategic placement of windows and building massing, the new freestanding building acts as a beacon for this part of campus by advertising the activities occurring within it. Program Spaces include cardiovascular, outdoor adventures, aerobics, multipurpose, and fitness assessment areas. Funded by student fees increases, it was critical to obtain student body approval during the design process.

The Carmichael Gymnasium Project was selected for inclusion the 2010 American School and University Architectural Portfolio, winning an award for Outstanding Designs: Sports Stadiums/ Athletic Facilities.





# Development Opportunities – Mixed-Use





# Development Opportunities – Mixed-Use



Galvan, Rockville MD

- 356 apartments
- 100,000 sf ground floor retail
- Walkable to public transportation

Upstairs at Bethesda

- 180 apartments
- 45,000 sf ground floor retail
- Below grade parking
- Walkable to public transportation

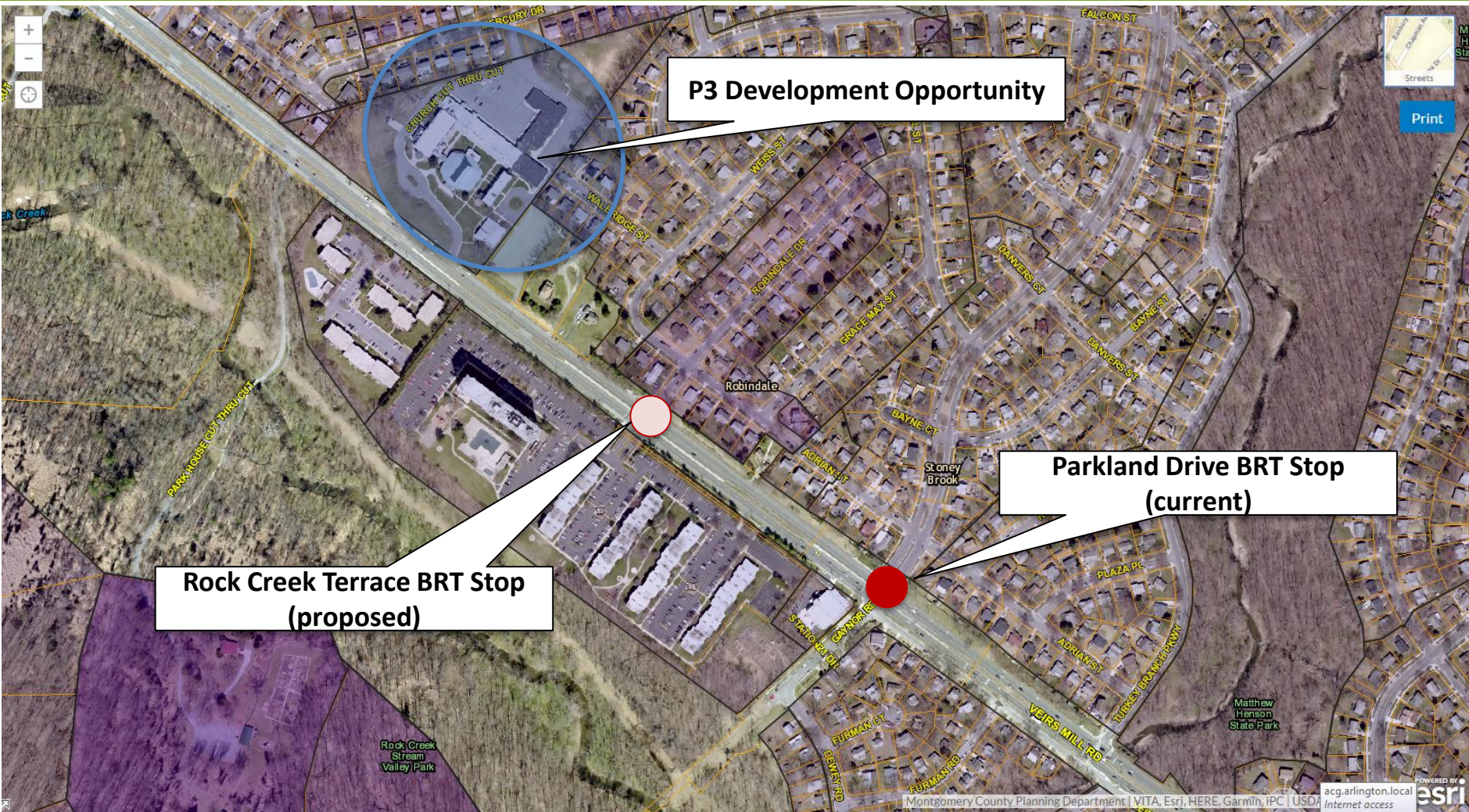


Terano, Rockville MD

- 214 apartments
- ground floor retail
- Walkable to public transportation



# Development Opportunities – P3





# Development Opportunities – P3



Matthew Memorial Terrace, DC

- 99 new senior and low to mid-income apartments
- New admin and community support building program space



Central, Silver Spring MD

- 234 apartments
- 16,000 sf ground floor retail
- New sanctuary
- \$50 million



Riverside Baptist Church, DC

- 170 mixed-income apartments
- 6,900 sf ground floor retail
- New two-story sanctuary
- \$50 million

# Summary



Improve safety, security and accessibility

Strengthen community cohesiveness



Leverage development opportunities

Thank you!

# Appendix

# Development Opportunities with Alternative Costs



| Simplified Pro Forma           | SFD Renovation | SFD Expansion | SFD New Build | 3 Story TH | 2 over 2 TH |
|--------------------------------|----------------|---------------|---------------|------------|-------------|
| Acquisition                    | 281,148        | 281,148       | 281,148       | 281,148    | 281,148     |
| Hard and Soft Costs            | 71,313         | 89,788        | 332,426       | 621,661    | 673,588     |
| Total Costs                    | 352,461        | 370,936       | 613,574       | 902,809    | 954,736     |
| Average Sale Price (2014-2016) | 398,187        | 426,995       | 481,965       | 335,651    | 248,953     |
| Total Revenues                 | 398,187        | 426,995       | 481,965       | 671,302    | 746,859     |
| Profit/(Loss)                  | 45,725         | 56,060        | (131,609)     | (231,507)  | (207,877)   |
| IRR                            | 4%             | 7%            | -39%          | -49%       | -40%        |

| Key Assumptions                  |        |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|--------|
| Number of Units                  | 1      | 1      | 1      | 2      | 3      |
| Land SF                          | 6,000  | 6,000  | 6,000  | 6,000  | 6,000  |
| Existing Improvements SF         | 1,200  | 1,200  | 1,200  | 1,200  | 1,200  |
| Construction SF                  | 1,200  | 600    | 2,400  | 4,200  | 4,200  |
| Land Cost per SF                 | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  |
| Existing Improvement Cost per SF | 105.04 | 105.04 | 105.04 | 105.04 | 105.04 |
| Hard Costs per SF                | 59.43  | 149.65 | 138.51 | 148.01 | 160.38 |

Source: SDAT 2014-2016 Property Sales within 0.25 miles of Veirs Mill Road, NAHB Cost of Constructing a Home, RS Means City Cost Indexes, RLB North American Quarterly Construction Cost Report, Montgomery County Residential Building Permits issued since 2000



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