# **Dale City: The Friendliest Greenest Little City Around**



# AIA Communities by Design

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#### "THE FRIENDLIEST GREENEST LITTLE CITY AROUND!"

An interdisciplinary AIA SDAT team was invited to Dale City, Virginia to examine the Dale Boulevard corridor in the planned suburban community of Dale City in Prince William County, Virginia. Specifically, the team was asked to explore potential improvements for four previously identified nodes along the Dale Boulevard corridor, at the intersections with Hoadly Road, Mapledale Avenue, Minnieville Road, and Gideon Drive.

This application asked the AIA SDAT program to assist with the development of a foundation for more sustainable future planning along this corridor to help shape "areas with a greater mix of uses, improved connectivity, and a stronger sense of place for the surrounding neighborhoods."

This report is the result of our work.

#### **AIA SDAT PROCESS**

For almost 50 years the American Institute of Architects has provided design assistance as part of its public service work to assist communities across the country. AlA's Center for Communities by Design provides Design Assistance Programs to help communities and civic society address design and sustainability challenges. Through these public service programs, over 1,000 professionals from more than 30 disciplines have provided millions of dollars in professional pro bono services to more than 200 communities across the country, engaging thousands of participants in community driven planning processes. Its projects have helped spark some of the most recognizable places in America, such as San Francisco's Embarcadero, Portland's Pearl District, and the Santa Fe Railyard Park.

Created in 1967, the AIA's Regional and Urban Design Assistance Teams (R/UDAT) pioneered the modern charrette process by combining multi-disciplinary teams in dynamic, multi-day grassroots processes to produce community visions, action plans and recommendations. In 49 years, the R/UDAT program has worked with over 150 communities.

In 2005, as a response to growing interest and concern about local sustainability planning, the AIA launched Sustainable Design

Assessment Teams (SDAT), a companion program to the R/UDAT that allowed it to make a major institutional investment in public service work to assist communities in developing policy frameworks and long-term sustainability plans. In 11 years, SDAT program has worked with over 72 communities and regions.

Through collaborations, conferences, workshops, pilot efforts, and other dissemination efforts, AIA's Center for Communities by Design has also supported and catalyzed other new design assistance efforts. These range from trans-Atlantic conversations on remaking cities to resiliency-focused efforts in New England to urban-design efforts in Brazil, Ireland and beyond.

The Center's Design Assistance Teams operate with three guiding principles:

1. **Enhanced objectivity.** The design assistance team programs provide communities with a framework for action. Each project team is constructed with the goal of bringing an objective perspective to the community that transcends and transforms the normal politics or public dialogue. Team members are selected from geographic regions outside of the host community and come from a wide variety of professional and community settings. Team members to serve pro bono and do not engage in business development activity in association with their service. They do not serve a particular client. The team's role is to provide an independent analysis and unencumbered technical advice that serves the public interest.



2. **Public participation.** The AIA has a five decade tradition of designing community-driven processes that incorporate substantial public input through a multi-faceted format that includes public workshops, small group sessions, stakeholder interviews, formal meetings and presentations. This approach allows the national team to build on the substantial local expertise already present and available within the community and leverage the best existing knowledge available in formulating its recommendations.

3. **Multi-disciplinary expertise.** Each project is designed as a customized approach to community assistance which incorporates local realities and the unique challenges and assets of each community. As a result, each design assistance team includes an interdisciplinary focus and a systems approach to assessment and recommendations, incorporating and examining cross-cutting topics and relationships between issues. Teams are multi-disciplinary, combining combine a range of disciplines and professions in an integrated assessment and design process.

#### What we saw during our tour of Dale City

On the first full day of our visit to Dale City, the team met with Prince William County Supervisor John D. Jenkins and staff from the Prince William County Planning Office, who then toured us through the community with a particular emphasis on Dale Boulevard and the four nodes previously identified along the corridor. We saw the trailhead at the Waterworks Waterpark near Mapledale Plaza to the emergent but not-yet-complete Neabsco Greenway. We also visited Potomac Town Center, a recently developed lifestyle shopping center nearby which contrasts sharply with the numerous aging strip shopping centers in Dale City.



Dale City occupies an interesting position in the region. It was the first major planned suburban community—a pioneer. The Hylton Group developed 22,000 units, organized into neighborhoods called "Dales," that now house 66,000 residents in this 15 sq. mi. community. Dale City's success attracted newer development all around it, which now threatens to eclipse the vibrancy of Dale Boulevard corridor, along with increased through-traffic and congestion.

Dale City also boasts a racially diverse population; the 2010 Census breakdown was 45.4% White, 28.6% Black and 7.6% Asian, with 26.8% Hispanic.

#### What we heard at stakeholder sessions

During stakeholder sessions held on the second full day of the team visit at the Hylton Chapel, we organized participants into groups to consider three areas of concern: Placemaking/Community, Transportation/Streetscape, and Land Use/Economic Development.

In the **Placemaking/Community** group, the comments we heard can be summarized by three themes. First, there is a lack of attractive civic "destinations" in Dale City and a lack of places for neighbors to gather together. Second, there is an unmet desire for walkability. Participants cited the appeal of lifestyle centers recently developed in neighboring communities, such as Potomac Town Center, that are more appealing than any places within Dale City. Thirdly, the numerous strip shopping centers in Dale City are now seen as tired and unappealing. Could their appearance be improved, or masked with landscaping?

In the **Transportation/Streetscape** meeting, the comments also coalesced around three themes. First, there was the recognition that so-called road "improvements" such as widening often don't ameliorate traffic congestion. Second, there is a distinct lack of infrastructure to support biking. Did Dale Boulevard have the capacity for bike lanes? Third, many stakeholders expressed a sense of loss about the recent removal of median trees, that when in flower have lent distinction and identity to Dale City. What could be done to both improve the functionality of Dale Boulevard and to make it more attractive?

In the **Land Use/Economic Development** stakeholders group, the three primary themes concerned impediments to desired revitalization. First, participants deplored the widespread condition of deteriorated commercial sites, buildings and services. Second, participants bemoaned the recent history of new commercial development bypassing Dale City in favor of nearby greenfield development sites, a phenomenon that has further drained energy from Dale City's commercial centers. And finally, participants noted an outdated and overly complex approvals process. What innovations and mechanisms could make Dale City's commercial nodes more attractive for leasing and/or redevelopment?

#### What we heard at the Town Hall meeting

During the evening town hall-style meeting, also at the Hylton Chapel, we conducted an exercise with sticky notes, on which attendees were asked to write out: 1) some of the best things about their community, 2) some of the things that are problems, and 3) what changes they could suggest that might have the highest positive impact. In reviewing the dozens of replies, we were able to learn about the most valued characteristics of Dale City, the reasons that attracted people to move here in the first place and have compelled them to stay. Every effort should be made to maintain and enhance this "good stuff." We also learned about aspects of the community and its physical characteristics that residents think most "need to change." These are the topics to which we would address our recommendations in the following day's intensive work session.

#### Good Stuff

#### Needs to Change

- Greenery and open space
- Diversity of residents
- Good neighborhoods
- Affordability of housing
- Access to services
- Easy to get out of town

- A sense of placelessness
- Traffic congestion
- Lack of sidewalks and bike paths
- Rundown properties
- Jobs/housing imbalance









#### Intensive team work session

In our intensive work session to development recommendation in response to the given challenge of the SDAT, that is, to examine the Dale Boulevard Corridor, we digested all that we had seen on our tour and heard in the previous day's stakeholder sessions and town hall-style meeting.

Our first collective response was the realization that for Dale City, we had to redefine the challenge of suburban corridor retrofit.

In response to this realization, we developed a series of key questions to guide our subsequent work:

- Why these four nodes?
- Too many? Too few? How big?
- Dale City needs a center: where is it?
- What would/could "revitalization" actually look like?
- Which tools could be recommended to make it happen?

#### **DALE CITY: VISION FRAMEWORK**

We propose a new tagline for Dale City that we think encapsulates the primary opportunity for the community to reposition itself for a more sustainable future, and which infuses the proposals and recommendations contained in this report:

#### "Dale City: The Friendliest Greenest Little City Around"

What do we mean by Greenest? There are four aspects to the term that we mean to reference in the tagline.

First is the most literal reading, which is physical. Dale City is literally a "green" place, filled with forested lands, creeks, trails, recreational parks, and the many trees, lawns and gardens on private residential land. Second, is a cultural meaning for "green," referring to Dale City's generations-long history as an authentic suburban community with diverse sets of residents who are invested in the social networks of their streets and neighborhoods, schools, places of worship, and other activities (sports, clubs, local businesses, politics, etc.). A third meaning for "green" refers to urban ecology and opportunities for improvements in planning and implementing 21st century infrastructure that will provide more options besides total reliance on cars, by better supporting choices to safely and pleasurably walk, cycle and use transit. These types of investment are crucial to maintaining the literal, physical "green" of Dale City. Finally, there is a fourth meaning of "green," which refers to human wellness and the potential to better provide community amenities that support a healthy lifestyle for young families and aging residents alike.

To summarize:

- Physical: trails, trees and parks
- Cultural: authentically diverse suburbia
- Ecology: walking and cycling, not only car
- Wellness: community supports a healthy lifestyle for families and aging residents

In addition to devising this tagline, we also re-examined the design and planning challenge as it had been framed in the SDAT application. We evaluated the four intersection nodes along the corridor:

#### West Gateway at Hoadly Road

- Not an significant node for community gathering
- Low priority: don't incentivize development here

#### Mapledale Avenue

- Focus on health, wellness, and community gathering
- Shift walking radius (circle) to center around a place
- Connect people to the landscape and parks and back to people
- High priority: this node has great potential



West Gateway at Hoadly Road



Mapledale Avenue

#### Minnieville Road

- Focus on a local mix of uses and mini-grid of streets
- Leverage commuter lot and farmers market assets
- Add network of new plazas and civic places for a reason to linger and hang out
- High priority: this node is both geographically central and has room to grow



Minnieville Road

#### East Gateway at Gideon Drive

- Shift walking radius (circle) to center around vacant lot
- Not really part of Dale City but existing businesses need support
- Low priority: although Kmart lot could be cleared and prepped for a future use



#### East Gateway at Gideon Drive

In the diagram on the next page, we conceive of the two central high priority nodes along Dale Boulevard, at Mapledale Avenue and Minnieville Road, as "twinned planets" with a variety of smaller centers—"moons"—gravitating around them. Rather than imagining that only the boulevard corridor connects them, instead it is important to recognize a variety of potential linkages that could be strengthened, including the Neabsco Greenway trail, other wooded pedestrian trails, and neighborhood streets.

We recommend focusing planning efforts on the HEART of Dale City: two centers and the linking section of Dale Boulevard in between, also the mostly completed link of the Neabsco Greenway. In the follow sections, we propose recommendations to assist with retrofitting the physical framework of the Dale Boulevard corridor:

- From passive to active community interaction
- · From inconvenient to convenient facilities
- From congested single access to multiple access
- From low utility dispersed retail to higher utility aggregated
- From generic spaces to authentically local and vital places



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#### **CHANGING THE ECONOMIC MODEL**

To understand the capacity for change in Dale City, it is necessary to understand the interaction of markets, local demographics and available consumer spending, employment trends in the region, and national demographic trends and their effect on attracting and capturing business in a model of capture that can add to economic viability for Dale City.

#### **Roads and Retail**

The main road through Dale City was originally formed as a medium speed rural thoroughfare with ditch drainage in the center and limited pedestrian access. As such, all access to businesses as well as residences is from the main arterial and the model of capture for business is entirely auto-oriented even for residents theoretically within walking distance. Because of the speed, for retail to function it currently has big setbacks and wide frontages to allow longer sight time, and large signage that can be seen at higher speeds. It is inconvenient for walking or biking and so does not encourage capture from other than auto-generated trips. This model results in scattered, low-intensity retail and services that are vulnerable to competition form any facility within driving distance. The result of this for local business can be seen in the impact of the newer Stonebridge center located just outside Dale City that acts a new and more interesting location by providing a walkable destination offering an entertaining experience of community interaction and vitality at night.

The big road capture model operates on a small percentage of capture from a high number of passing cars with the assumption that those within a short drive time will also shop there because of convenience. The problem with this model is that once people are in their cars they will drive to the destination with the highest utility—i.e. the place that has more of what they want within a single trip. The result of this is scattered retail and services that are not aggregated into a destination as well as the modern competition, and people will bypass lower utility centers since an additional five minutes of drive time may yield higher quality and a greater diversity of offerings. In addition, the road speed determines business visibility and thus limits the diversity that would be provided by smaller businesses in a better-managed destination.

The retail and service sites in Dale City are now competing with destination centers based upon a more inclusive experience such as Stonebridge at Potomac Town Center. A high-speed arterial that does not have a significant destination and is not accessible by other than automobile has lower capture and a poor ability to compete with destination centers. To summarize, with the current auto-only arterial model for the commercial sites, Dale City has the following characteristics:

- high speed -- many cars = low capture
- low capture in competitive markets means lower sales per square foot

- · lower sales means lower property values for commercial properties
- lower values means that the places themselves must be low cost with large spaces devoted to parking—generic retail of the last century

Combined, low utility plus generic places equals boredom, low sales and low values and a lack of experience of community and authenticity. For these reasons, the SDAT team is proposing that the roads and access be augmented so that business within Dale City will add multiple modes of capture to increase local capture and increase the viability for new and existing local businesses.

#### The Market in Dale City

There isn't much point in trying to reinforce the viability of a failing market, so it is a reasonable question to ask if there is a market for retail, services, and employment in Dale City. Within the constraints of a short workshop, it was possible to review the local demographics of spending, regional employment trends and expected need for housing in the future. With assistance from the county economic development team and evaluation of current spending and sales we were able to determine that there is demand in the following sectors:

- ±3 million SF office-flex in 10 years
- ± \$590 million retail dollars not not captured within Dale City
- the need for senior housing is increasing
- the need for multifamily housing is increasing
- there is likely to be a future need as young people create families for turnover and infill in the existing single family market

Expected changes due to national demographic trends will have an effect on future markets and planning to capture those markets. The two largest cohorts for the next fifteen to twenty years are millennials and the emerging empty nester/retiree/ seniors market. Even though their ages differ, younger cohorts want better urban amenities and older cohorts need a lifestyle choice that will not become a burden when automobile access is no longer an option. For planning, this means that the two groups want very similar attributes in location:

- Walkable, bikable neighborhoods, streets
- · Amenities, work in walking radius
- Smaller houses or units at lower cost

- Urban street environment
- Access to transit
- Access to nature and recreation
- Strong sense of community

Dale City can have these attributes. It has an abundance of natural systems of woods and buffers that could allow a first rate trail system to allow walkable and bikable access to business centers as well as recreational hiking and biking. Unlike many of the areas surrounding Dale City, the original plan preserved open areas that can now make up an alternate infrastructure relatively easily and reinforce the authenticity of experience for residents and newcomers. Dale City has the capacity to become one of the better pedestrian and biking environments in Northern Virginia.

The character of successful retail and service destinations is changing to respond to future demographics by creating walkable centers with high auto traffic which:

- respond to demographic trends
- have higher capture
- have higher sales based upon higher capture
- have rents sometimes twice as high with higher net incomes
- · have higher property values based on higher net incomes

A physical challenge for these centers is the continued reliance on auto-only access so that massive areas of parking or expensive parking structures are required. The capital requirements for such destinations mean that the opportunity for authentic local small business is limited because of leasing rates and investor requirements for credit tenants. The need for such parking also means, if auto access is the only means to achieve capture, that there are no sites within Dale City large enough to accommodate such a destination with its associated parking.

But there is another possible solution for Dale City. By building on its assets, its sense of community and its potential for an open space network for bicycle and pedestrian access for residents, Dale City can build at a greater intensity as parking requirements can be diminished. If Dale Boulevard is reconfigured as shown in the plan proposed by the SDAT team, a wider area can become the heart of Dale City, a place where, over time, infill can increase density and intensity of use along the boulevard without altering the character of neighborhoods off of the boulevard.

#### What If Nothing Changes?

In the face of increasing regional competition from developers who understand the value of experience retail that incorporates elements of walkability and community oriented public space, if no change takes place Dale City can expect a downward spiral with:

- lower sales
- · inability to maintain assets
- Inability to upgrade assets
- lower property values
- continued loss of business

This trend is by no means irreversible, but it will require a public commitment in planning, transportation infrastructure, zoning for aggregation and intensity beyond what was in the original Dale City plan, and a willingness to ensure the priority of the heart of Dale City when planning decisions are made.

#### Individual Sites and Feasibility

The SDAT team was asked to evaluate four sites along Dale Boulevard for future intensification of land use based on current conditions in the market and considering the potential in future scenarios. Our conclusion is that focusing on only the sites without changing the context by improving Dale Boulevard will be insufficient to ensure future viability in the face of modern competition.

#### East: Gideon and Dale Boulevard

The sites at Gideon and Dale Boulevard contain Ashdale Plaza on the north side of the Boulevard, and on the south side isolated pads with restaurants, a shuttered K-Mart, and the site for a future museum of American wars. Access in the area is often hampered by commuting patterns, particularly during the prime shopping hours during the week from 4 to 7 PM.

The viability of the K-mart is now limited by the following:

- retail and services sales within 5 minutes are ± \$580 million greater than demand
- poor access during prime shopping hours due to congestion and the need for left turns by returning commuters
- poor visibility

 obsolete, low quality single-use building devalues site—about one third of the value of Ashdale Plaza

The site at K-Mart could, with Ashdale Plaza, provide a gateway to Dale City that would reinforce the heart of dale city by redevelopment as a higher intensity employment site or a mixed use employment and residential site. There are few places in Dale City to provide infill residential and employment to support future retail and services, and the market offers great opportunities for both residential and employment in the region that can be exploited here. With the museum proceeding, there is also a possibility for successful veteran housing and services on the K-Mart site.

Ashdale Plaza is an unfragmented site that faces very stiff competition from recent additions to the local market. It has better access than the K-Mart site, but suffers the same problems for retail capture due to competition. In a vision that supports the idea of the heart of Dale City, this site, over time could yield high returns for the owners by transitioning to mixed use employment and residential to support local business while providing limited retail and services on site. This will require changes to the original Dale City plan agreements, but if a new plan can be approved potential returns would give current owners either a feasible exit strategy or an unusual opportunity to capture future markets.

#### The Heart of Dale City: Mapledale and Minnieville

#### At Mapledale and Minnieville:

- +  $\pm$  \$275 million surplus demand
- +  $\pm$  \$22 million restaurant surplus demand
- · development at centers needs reframing for success
- · access and road needs walkability
- two modes of capture will increase sales
- potential for more employment use to increase daytime population

#### West: Dale and Hoadly

- Too small for significant aggregation
- Lower traffic counts
- At edge of residential density
- Lower nearby residential density
- Difficult to design walkable access

## Preferred uses: residential, minor services to support heart of Dale City

### Placemaking in the Heart of Dale City

The SDAT team has proposed changes to the infrastructure of access to available sites and changes in land use that will require re-evaluation of the Dale City plan that was filed prior to the current land use approvals process. The proposed solutions are intended to:

- increase aggregation and utility
- increase the attraction for employment land use
- increase local values
- add convenience and amenity for residents
- add genuine community space at centers
- help make the Heart of Dale City a destination



#### STREET CHARACTER/CONNECTIVITY/MOBILITY

#### **Roadway Network**

Transportation systems, particularly roads can either support or contest desired land use plans. In simple terms, road networks can provide many functional needs - through vehicle capacity (mobility), adjacent land accessibility, transit access, and pedestrian and bicycle circulation; all while providing users a safe environment.

The road network in Dale City was originally planned to provide a system of local access and internal circulation for residential neighborhoods with collector streets feeding traffic to and from major arterials like Dale Boulevard. These major arterials were spaced at intervals to serve the traffic generated by the Dale City planned community. As time has passed, Dale Boulevard and other major arterials have become the commuter corridors for the ever expanding residential community and supporting the commuter needs expanding employment in Washington DC and Northern Virginia. Dale City-generated traffic volume, though traffic volume to/from the East and Southeast (from more rural and independent subdivisions), and some traffic volume that diverts off I-95 to avoid heavy freeway congestion combine to create high congestion and long queues on Dale Boulevard and other major arterials serving Dale City.



Source: Virginia Department of Transportation

#### **Existing Street Character**

Dale Boulevard is the primary road serving the residential neighborhoods that comprise Dale City. It is also Dale City's "Main Street" with four primary commercial nodes serving Dale City's residents. Although the boulevard has two lanes each direction with a center median along its entire 7.3 mile length, its function and character vary by segment.

- At the east end it functions as a high-volume access route to and from I-95 with average daily traffic (ADT) of 30,000 to 40,000 vehicles. The posted speed limit is 45 mph.
- In the middle, between Minnieville and Mapledale, traffic volumes drop to approximately 22,000 ADT. Intersections are more closely spaced, so there is more "permeability" into the surrounding neighborhoods. In addition, the boulevard is lined with homes with driveway access directly from Dale Boulevard. The posted speed limit is 35 mph.
- At the west end, traffic volumes drop gradually from 20,000 to 12,000 ADT. The boulevard feels like a country road in this segment.



Differences in traffic volume, intersection spacing and driveway access divide Dale Boulevard into three distinct segments.

Dale Boulevard was designed as a four-lane rural highway. However, it is now the main boulevard serving a residential community whose goal is to improve walkability and bikeabilty, as well as transit access along the corridor. Enabling people to walk and bike along Dale Boulevard is critical since there are limited parallel routes due to the topography and curvilinear residential street design. In addition, the economic analysis shows that development of the Minnieville and Mapledale nodes into community-serving centers requires improved local access, particularly pedestrian and bicycle facilities, along Dale Boulevard and into the surrounding neighborhoods.

Characteristics that are not appropriate to a walkable, bikeable residential street include a wide median that is difficult to cross, narrow sidewalks often on one side of the street only, few marked crossing, and high vehicle speeds. In other places, urban or suburban standards with wider sidewalks, narrower medians, more closely spaced marked crosswalks, and slower, safer speeds are typically applied to boulevards like Dale Boulevard where walking and bicycling are encouraged. In fact, Prince William County recently adopted just such a standard for urban and suburban areas where walking and bicycling are encouraged. However, to date, that standard has not been applied to Dale Boulevard.



From left to right: the West End feels like a country road, the Middle a residential boulevard, and the East End a high-volume highway.

#### **Existing Cross Sections**

Dale Boulevard has two lanes in each direction and a wide center median with left turn lanes along its entire length. Intersections include an additional left-turn lane and right-turn lane, except in the Middle (Downtown) segment, where right-turn lanes are not provided at intersections with local or collector streets. At Gideon Drive and Benita Fitzgerald Drives in the East segment, there are double left-turn or right-turn lanes. There are also dedicated right-turn lanes into commercial parking lots. The key elements that differentiate the Middle segment from the East and West segments are:

- The distance between property lines on either side of the roadway is 108 feet in the Middle segment (at the back of sidewalk) compared with 180 feet on the East and 140 feet on the West.
- Current improvements in the Middle segment occupy the full 108 feet, while improvements in the East and West segments vary in width. The typical midblock improved cross-section in the East and West segments is approximately 108 feet. Where there are steep side slopes near the roadway, the width of the improved

roadway, including the shoulder, is as narrow as 98 feet. In contrast, at intersections the width of the improved roadway, including shoulders ranges from 108 to 125 feet.

- Driveway access from single-family homes.
- Curbside parking.
- A narrower median.
- 35 mph rather than 45 mph posted speed limit due to the driveway access and curbside parking.

#### Challenges

Like many communities, Prince William County and the Virginia Department of Transportation (VDOT) have responded to this challenge by making capacity improvements that are intended to accommodate the added volume and reduce congestion. The unintended consequence is that the added capacity is simply backfilled with diverted traffic volume from other more congested roads and new development traffic volume from outside of Dale City. Despite this response, roads continue to be designed for higher speeds and signals are timed to favor through traffic over local access with road elements that encourage through traffic and high vehicle speeds including:

- · Lane width that meet freeway design standards
- Side clearances that reduce side friction contributing to increased speeds
- Medians that are more generous than many freeways
- Traffic signals with long cycle lengths and green times to favor through traffic over local access

While these characteristics may be perceived to improve conditions, they appear to be precipitating very long queues that back into upstream traffic signals, create longer delays, more start and stop traffic and unintentionally reduce road capacity and increase the potential for collisions.

This approach to arterial traffic design is understandable considering all roads in Dale City are owned and operated by the VDOT which, by their charter, are responsible for providing capacity and safety within the right of way. Because they do not have any responsibility for land use or economic development, it is only logical that they give priority to providing capacity, reducing delay, enhancing safety, and encouraging through traffic volume and deemphasize, and often discourage, accessibility. Because VDOT has primary responsibility for the road network, this may be a viable approach as long these improvements can keep pace with travel demand growth and if there are alternative ways to provide accessibility to the land uses needed by the community. Dale City appears to be at that point where lower speeds, increased accessibility and a balance between automobiles and other travel modes are more viable and desirable.



*Middle segment existing typical cross sections: upper - mid-block; lower - intersection approach.* 

*East segment existing typical cross sections: upper - mid-block; lower - intersection approach. The West segment is similar to the East.* 

## **RECOMMENDATIONS FOR A WALKABLE, BIKABLE DALE CITY**

**1. Transform Dale Boulevard into a "Complete Street**" that allows people to walk, bicycle and take transit, as well as drive, by applying the County's *Urban Boulevard Standard*. Because the Middle or Downtown segment is the heart of Dale City and because walking and bicycling are critical for economic development, this segment should be the first priority for active transportation improvements. Improvements to the East and West segments should follow.

**2. Improve neighborhood connectivity** by completing the Neabsco Greenway system and making other pedestrian and bike connections into and between neighborhoods.

**3. Improve transit service and facilities** to encourage increased local as well as commuter use.

**4. Manage traffic** to support a Complete Street and improve the commute experience.

**5. Provide streetscape elements** that support walking and bicycling and reinforce community identity.

Middle segment potential typical cross sections: upper - midblock; lower - intersection approach.

#### 1. A Complete Boulevard- New Cross Sections

**Middle (Downtown)**. Dale Boulevard between the Minnieville and Mapledale Centers can be transformed into a true neighborhood arterial that accommodates walking, bicycling and transit, as well as cars and trucks. The adjacent cross sections show that reducing the median width to 16 feet, consistent with the County's Urban Boulevard Standard, would allow for protected bicycle lanes to be added without moving the existing curb line.

The images below the cross sections show what a protected bike lane or cycle track might look like. The upper images show a raised curb with a landscaped buffers designed to collect stormwater between the bicycle lane and parking lane. This example is a street similar to Dale Boulevard with two lanes each way, a center median, and residential driveways.

The lower images, which were taken in Arlington County, show a lower cost approach: striping and bollards separating the bike lanes from the curbside parking.



Protected or separated bike lanes ( aka "cycle tracks") with raised curb and stormwater collection buffer (upper images) and striped buffer with bollards (lower images).

East and West Segments. With a reduced median width in the East and West segments, off-street bike paths can be provided, along with streetscape improvements. Along most of the boulevard the bike path can be separated from the pedestrian path. Exceptions where people on bikes can share a widened sidewalk with people walking and waiting for the bus or a widened curb lane include:

- Approaching intersections and commercial parking lots where the roadway is widened to accommodate a dedicated right-turn lane or bus pull out and additional widening within the area between property lines is constrained by topography (steep slopes) or other condition.
- Where the shoulder slopes dramatically on one or both sides in other locations.

Alternatively, because the distance between property lines on either side of the roadway is typically 180 feet in the East segment and 140 feet in the West segment, sidewalk and bike lane improvements could be made without narrowing the median along most of those segments except where width available for improvements is constrained by steep topography as described above.

Example cross sections in typical locations are shown on this page. Example cross sections where improvements are limited to the existing improved width are shown on the next page. These cross sections assume that the speed limit is reduced to 35 miles per hour in order to plant large trees in the median. If the speed limit is not reduced a smaller tree will have to be planted in the median.

Additional width for bike lanes and sidewalks can be achieved by reducing lanes widths to 10.5 to 11 feet from face of curb. These reduced lane width will be the geometric road elements that cause drivers to reduce travel speeds and help warrant speed limit reductions.



Potential typical midblock cross section in the East and West Segments.



Potential typical midblock cross section where there is a dedicated right-turn lane into a parking lot in the East and West Segments.



Existing improvements varies from 108 - 125 (1 - 108, 5 -112, 4 - 116 to 120, 3 - 125)

Potential typical cross section approaching an intersection in the East and West Segments.



Potential midblock cross section where the width available for improvements is constrained by steep topography to the existing improvement width in the East and West Segments.



Potential cross section approaching an intersection where the width available for improvements is constrained to the existing improvement width in the East and West Segments.



Potential cross section approaching an intersection where the width available for improvements is constrained to the existing improvement width in the East and West Segments.

#### Complete Sidewalks in the Short Term

Given that Complete Street improvements in the East and West segments are likely to occur in the long term, basic sidewalks should be completed in the short term so people can walk and bike along the entire street. They should be added in the following order: first at bus stops, then the East segment, and finally the West segment.

#### **Improve Pedestrian Crossing Conditions**

Safe intersections are essential to a walkable, bikeable street. Recommended improvements for Dale Boulevard, with priority to the Downtown segment, include:

- **High visibility crosswalk marking**, that is, Continental or zebra striping at all marked crosswalks.
- More frequent marked crosswalks in the Downtown Centers and in other locations as walking increases and crosswalks on all four legs in the Downtown Centers. At unsignalized, higher volume pedestrian crossings, rectangular rapid flashing beacons (RRFB) or pedestrian hybrid signals (HAWK) should be considered.
- **Appropriate corner radii** for all users. In general, that means reducing the radius from the current 60-foot radius to not more than 35 feet. The bigger the radius, the long the pedestrian crossing (and, therefore, the pedestrian signal cycle) and the faster motorists will make the turn (and,therefore, increase the potential for collisions with pedestrians). The first improvement has already been made at the western Forestdale Avenue intersection where a corner curb extension was recently installed on the northwest corner, in conjunction with Continental crosswalk striping.
- Slip Lane Redesign. Consider removing slip lanes to reduce crossing distances and improve safety.





Currently missing sidewalks are shown in red: on the north side of the street in the West segment and on the south side of the street in the East segment.



*Curb extension and Continental (zebra) striped crosswalks at Dale Boulevard and Forestdale Avenue.* 

#### 2. Neighborhood Connections

Connections from Dale Boulevard to surrounding neighborhoods and between neighborhoods can be provided by completing and expanding the Neabsco Greenway system. Dale City residents should be able to walk and bike safety anywhere in Dale City and, in particular, to Dale Boulevard and the Downtown Centers from the surrounding neighborhoods.

Currently the Neabsco creekside trail has been improved between Princedale Drive and Lindendale Road. As the adjacent property ownership map shows, a large portion of the remaining segment between Minnieville and Mapledale is parkland. The first priority should be to completing the segment between the Downtown Centers, through the acquisition of easements across private property and construction of the trail. In some locations it may be necessary to use streets to connect trail segments until easements can be acquired.

In addition, there are several potential "spurs" along the transmission line corridor, unbuilt street right-of-way, and other undeveloped areas, also shown on the property ownership map, that should be developed to connect the Greenway to surrounding neighborhoods.

Over time the Greenway system can be extended over time so that every neighbor in Dale City is connected to it.



The property ownership map prepared by the County shows both the primary trail along the Neabsco Creek and spurs connecting to neighborhoods.



Existing trail along Neabsco Creek
Future trail to connect Downtown Centers
Spur trails to connect to neighborhoods

The first priority should be to complete the primary trail along the creek and spurs into the neighborhoods and Downtown Centers.

#### 3. Local and Commuter Transit

Improved transit service and facilities, in combination with better local walking and bicycling access can encourage increased local as well as commuter transit ridership. Local walking and bicycling access provided by recommendations 1 and 2 will allow Dale City residents to get to the community lots and to local bus stops by addressing the critical "First Mile - Last Mile" obstacle to transit use.

Recommendations to improve transit service include:

- · Increase Omni-Ride routes and frequency from the Minnieville Commuter Lot so park-and-riders can avoid driving on the congested East segment of Dale Boulevard.
- Encourage more SLUGing.
- Consider jitney service along Dale Boulevard.
- Consider HOV/right turn lanes east of Benita Fitzgerald Boulevard.

Recommendations to improve transit stops include:

- Provide sidewalk access.
- Locate stops on the far side of the intersection to avoid conflicts with right turns.
- Provide bus pull outs where possible.
- Add lighting.
- Consider new distinctive shelters that make riding the bus more fun and enhance community identity.



Existing near-side bus stop without Existing far-side bus stop with sidewalk sidewalk access is difficult to access and conflicts with right turns.



access is easier to access and does not conflict with right turns or through traffic.



Examples of bus shelters used to enhance community identity.

#### 4. Traffic Management

Overarching any and all of the specific design measures is a suggestion for a change in the approach to traffic operations and analysis. The historical approach to making transportation improvements has been to build more roads that carry cars faster. To provide safe roads, this means wider roads with greater physical separation between cars and people. Currently, along Dale Boulevard this typically means that cars go fast for a segment of road and then wait in long queues. Following this approach of 'accommodating' traffic, the County is typically trying to play catch-up and often finds are insufficient funds to address the observed problems. The perception is this approach carries more traffic volume yet, if vehicle traffic can move more smoothly without the long delays associated with longer queues, slower speeds can result in increased volume (capacity) while maintaining safety. Up to the point that a road operates at capacity, lower speed roads carry higher volumes as depicted in the following diagram.

Speed–Volume



Volume (vehicles/mile) Source: Federal Highway Administration

An alternative approach is to be more proactive and 'manage' traffic. Coupled with reduced lane widths (11 feet), tactile and raised markings, and appropriate landscaping closer to the edge of the road and in medians that does not restrict reasonable lines of sight to and from side streets and driveways can create an environment that encourages moderate speeds. These types of design elements in coordination with traffic signals that are coordinated can at more frequent intervals will contribute to increased vehicle capacity, enhanced safety and a decrease in the barriers to pedestrians and cyclists that higher speed roads discourage. If the speed limit on Dale Boulevard were reduced to 35 miles per hour from Gideon Drive to Hoady Road, it would add only about two (2) minutes to the travel time.

Slower more uniform speeds will reduce the differential speeds between through vehicle traffic and vehicle traffic turning on and off side streets and driveways. The severity of collisions, when they do occur, will be less for both vehicles and pedestrians as shown in the following charts.



Fatalities increase as speed increases for people walking and people driving. Source: Towards Zero Together

Using the County's Urban Boulevard standard is a good start to achieving the objective of slower speeds through complete streets design. Nonetheless, it will be prudent for the County to take a more proactive approach to 'managing' traffic design. This will mean developing designs that are even more strongly focused on accommodating pedestrians, cyclists and reasonable driveway access. This approach will require added resources so staff can assemble and analyze local volume and collision records and take a more active role with VDOT to 'manage' rather than 'accommodate' traffic volume. This approach to 'managing' traffic will not only improve vehicle traffic flow, reduce unnecessary delay, and enhance safety but will encourage other modes of transportation by removing barriers and reinforce development of community centers that are desired by the Dale City community. This shift in approach is appropriate as Dale City transitions from a stand-alone residential neighborhood to a suburban activity center with the economic, social, and recreational opportunities that make a community.

#### 5. Streetscape Elements

Provide streetscape elements that support walking and bicycling and reinforce community identity.

#### Lighting for Safety and Identity

Lighting is a fundamental element on a Complete Street. People who are walking, biking and waiting for the bus must be able to see when it is dark. In addition, lighting provides an opportunity to reinforce community identity, both at night and during the day.

Recommendations for lighting along Dale Boulevard include:

- Establish a signature street lighting for:
  - 1. The Downtown Centers
  - 2. Dale Boulevard between the Downtown Centers
  - 3. Dale Boulevard approaching the Downtown Centers from East and West.
- · Complement bus shelters with pedestrian lighting.
- Add street lights at all signalized intersections
- Add missing pedestrian signals and bring all pedestrian landings into ADA compliance at signalized intersections.



Historic replicas.













Traditional.

Modern.

#### Landscaping

Landscaping along Dale Boulevard is important to the community members and to Dale City's identity.

**Medians.** The existing large Bradford Pear trees in the medians provide scale to the wide boulevard, as well as shade, oxygen and other environmental benefits and should be maintained or replaced where possible. When the Bradford Pears need to be removed due to declining health or weak branch structure, they should be replaced by an equally large tree, such as a native Oaks, wherever the median meets the VDOT standards. VDOT allows large trees where 1) the speed limit is 35 mph, as in the Downtown segment of Dale Boulevard or 2) the speed limit is 45 mph and the median is at least 25 feet wide. Currently, most medians in the 45 mph zones are wider than 25 feet, except adjacent to left turn lanes.

However, with the implementation of the Urban Boulevard Standard the median widths will be reduced to 16 feet. If the speed limit is reduced to 35 mph large trees can remain. Where the speed limit remains at 45 mph and the median is narrowed to less 25 feet wide, VDOT standards require smaller trees such as Crape Myrtles.

**Sidewalks.** With the adoption of the Urban Street Standard and redesign as a Complete Street, smaller scale trees can be accommodate along the sidewalk except adjacent to dedicated right-turn lanes or bus pull outs or where there are already large trees outside the right-of-way.

In the Downtown segment, trees could be planted in the buffer between the parked cars and bicycle lane. In the East and West Segments, trees could be planted in the buffer between the pedestrian walkway and the bike path.



Typical existing landscaping along the East and West segments (left) and Middle segment (right).



Typical proposed landscaping along the East and West segments (above upper) and Middle segment (above lower).



Examples of the wide range of street furnishing available. The yellow seating is custom and the others are off the shelf.



The three types of gateway markers appropriate to Dale Boulevard. They can be designed as a single "family" of markers at different scales.



Examples of the wide range of gateway markers used by other communities.

#### **Other Wayfinding Elements**

In addition to community gateway signs, which mark the entry to Dale City, the Downtown, and individual neighborhoods, wayfinding signs can inform people in advance of approaching destinations. Like gateway elements, wayfinding signs should be designed at different scales, in this case, as appropriate to the intended audience.

Signs intended for people who are driving are larger and simpler, with less wording, so they can be read at the typical travel speed along the boulevard. In addition to directing motorists to civic and business destinations, signs calling out parking, including commuter parking lots, may be appropriate.

Signs intended for people who are walking or bicycling are smaller and can contain additional information, including information about the destination or about the cultural or natural history of a place.



Parking for Downtown Shopping

Sylvania

to destinations, they can provide information about the destination, its history or environment. Maps are often included on wayfinding signs.

Examples of wayfinding signs for people who are driving, showing destinations and parking.

DOWNTOWN



#### A VISION FOR WALKABLE DOWNTOWN DALE CITY

Our vision for creating a sense of place for Dale City along the Dale Boulevard corridor is comprised of two nodes, which we've dubbed "The Streets at Minnieville + Dale" and "Mapledale Plaza."

In this vision of a "heart" for Dale City these two nodal places are conceived as conjoined twins. These twinned centers—a couplet that should be planned and programmed to be complementary (fraternal?) rather than identical—are interconnected by an enhanced section of Dale Boulevard. This section of the boulevard is remade as a "complete street" to better accommodate buses, bicyclists and walkers. New off-streets connections are made by completing linkages in the Neabsco Greenway and by adding other trails (sanctioned shortcuts, if you will) through wooded areas to adjacent residential areas. The connection between the conjoined twin centers can also be made by car.



What follows are illustrations of one possible set of visions for retrofitting and revitalizing the aging strip shopping centers in these two commercial nodes along Dale Boulevard, at Minnieville Road and Mapledale Avenue, to make a new, more vibrant heart for Dale City.

#### The Streets at Minnieville + Dale

Conceptually, we propose that for the "twin" we've named the Streets at Minnieville and Dale the focus should be on implementing walkable placemaking. We propose the insertion of intimate civic spaces that will support a greater mix of uses, including new shops and small restaurants that can build on the activity generated by the existing park and ride lot and weekend farmers' market.

This is the most developed node along the Dale Boulevard corridor, with heavy traffic, inadequate pedestrian crossings, and little to no support for cyclists. A challenge, therefore, is to improve the pedestrian and cycling experience as well as the ease of crossing roadways, and to reconfigure and enhance parking areas to support and enable visitors to "park once and walk."



Crossing Dale Boulevard at Gerry Lane is a challenge for pedestrians.



Existing commuter bus stop at the park and ride lot on Gemini Way.

#### Neighboring: Good Places to Come Together, Shop, Eat and Linger

To the end of encouraging visitors to park once and walk, we propose a new network of small civic plazas connected by pedestrian paths and breezeways and tree-lined streets with sidewalks, outdoor seating and on-street parking, We envision this network overlaid on the existing parking lots of the two strip shopping centers that face each other across Dale Boulevard. Two new signaled crossings would connect across Dale Boulevard further northwest, at points much easier for pedestrian to maneuver than at Minnieville Road (which is also at a lower elevation). One would be formed by the extension of Gerry Lane, and the other one block to the west and the signaling of the lights could be coordinated to spread out traffic that backs up at the Minnieville intersection.



On the extended cross street of Gerry Lane, new stores leased to local businesses ethnic restaurants, a flower shop, a hair salon, a bakery—might appeal to the commuters that park daily in the lot on Gemini Way. Similar convenience businesses could lease small shops (~200-400 sq ft) lining the ground level of a new 2-3 level structured parking deck proposed for part of the current park and ride lot, to replace spaces lost elsewhere in the scheme. Pedestrian paths could connect to the Neabsco Greenway and to residential neighborhoods to the north, as well as to the open breezeway/arcade in the existing strip center, and through to the new pedestrian shopping street.

Two impressive precedents for strip center retrofits that involve remodeling and infill, rather than demolition of existing buildings, are Mashpee Commons on Cape Cod in Massachusetts and the Lake Grove Village Plaza in Lake Oswego, Oregon.

At Mashpee Commons a strip shopping center built in the 1960s, anchored by a grocery store, has been gradually retrofitted and extended since the 1980s with the addition of sidewalks, benches, one-story liner retail buildings to form double-fronted walkable streets, and the addition of second-story office and apartment uses. Charles C. Bohl usefully describes it as an "attachable fragment of urbanism."<sup>1</sup>

At the Lake Grove Village Plaza, another strip center from the 1960s, also anchored by a grocery store, was retrofitted in 2012 with remodeling and upgrades that vastly improved the pedestrian experience and visual character of the place, and attracted new tenants to fill vacancies. The most impressive feature is a pedestrian breezeway with covered canopies, outdoor seating and extensive plantings that connects to new parking at the rear.<sup>2</sup>

## Demographics: Good Places to Engage Kids, the "Young-Old" and Everyone Else, Too

Zooming in, we see details of the scheme. The farmers' market area can support a small green plaza with shade structures for gathering and socializing. The new shops and small restaurants along the tree-lined cross street could have a second story for small offices.



One story liner retail buildings at Mashpee Commons are leased to local "mom and pop" businesses and screen view of parking lots.



The covered breezeway at Lake Grove Village Plaza.

<sup>1.</sup> Mashpee Commons is extensively described in many sources, including Ellen Dunham-Jones and June Williamson, Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs, updated edition (Wiley, 2011) pp. 95-107.

<sup>2.</sup> The project was developed by Eric Shoemaker, then with Beam Development. See Lee Ferhenbacker, "Redevelopment of an aging strip mall offers cues for challenged submarket," DJC Oregon (August 9, 2012) http://djcoregon.com/news/2012/08/09/redevelopment-of-an-aging-strip-mall-offers-cues-for-challenged-submarket/. Photos at: http://rhconst.com/ portfolio/lake-grove-village/.

Our scheme illustrates a potential addition of a new Urban Ecology Center with a distinctive viewing tower (BLUE in the plan). We were delighted to incorporate this great suggestion from a Dale City resident during the town hall-style meeting. A science education center could provide programs for children and residents about the local ecology of Prince William County. See, for example, the highly popular Urban Ecology Centers in Milwaukee, Wisconsin, which offer environmental education and outdoor recreation programs for kids, families and adults, as well as hands-on volunteer opportunities in land stewardship and citizen science.<sup>3</sup>









The Menomonee Valley branch of the Urban Ecology Center of Milwaukee fronts a neighborhood commercial street and backs onto a bike trail.

Design details are of great importance in the process of retrofitting utilitarian and aging strip centers into attractive places that residents will want to visit and linger: outdoor seating, shade trees and structures, minimized or painted asphalt, sidewalks and continuous, convenient pedestrian pathways are some of the desirable features. It is not simply a matter of using landscape to screen and hide unattractive structures from passers-by on the roadway. Nor is it a matter of replicating the characteristics (and high-end chain retailers and restaurants) of nearby new lifestyle developments.



Outdoor restaurant seating at Belmar, a regional shopping mall retrofit in Lakewood, Colorado.



La Grande Orange, a strip center in a residential neighborhood in Phoenix, revitalized with new signage, bright paint, a mural, outdoor seating and indigenous landscaping

Rather, it is a process of cultivating and enhancing the valued elements already existing along Dale Boulevard, such as the farmers' market, the bowling alley, and the Ace Hardware store, while making room (primarily by reconfiguring parking lots) for new structures of moderate size and civic amenities to be carefully added over time. For the southeast quadrant of the Minnieville and Dale intersection, where a drainage pond is currently located, we propose new multi-unit housing complex, marketed either for active adults (55+) who wish to age-in-community or for the millennial generation, who are interested in options other than detached houses. With good design, the utilitarian drainage pond can be reconfigured into an attractively landscaped amenity for new housing development, while also deftly handling stormwater.

A precedent for this is the Aljoya Thornton Place, a continuing care retirement community (CCRC) built as part of a retrofit of a large surplus surface parking lot at Northgate Mall in north Seattle. The parking lot had been paved over the headwaters of Thornton Creek. The retrofit introduced an engineered bioswale, a new soft, green infrastructure that is a complex drainage swale, designed by landscape architects and built by the city utilities department to replace a below-grade, six-foot diameter culvert for gathering surface storm water over an extensive area. The housing, in a mid-rise building with 143 residences, overlooks the bioswale/park-amenity, designed with footpaths, a bridge, attractive landscaping and signage explaining how the bioswale works to better the local environment.<sup>4</sup>



4. A description of Thornton Place in Seattle is included in Retrofitting Suburbia: Updated Edition, p. xviii-xx. It is also described in Ellen Dunham-Jones and June Williamson "Retrofitting Suburbs" in Henry Cisneros, Margaret Dyer-Chamberlain and Jane Hickie, eds., Independent for Life: Homes and Neighborhoods for an Aging America (Austin: University of Texas Press, 2012) pp. 179-196.

To summarize, our visualization of a potential retrofit design for the Streets at Minnieville + Dale includes a local mix of uses and places for Dale City folks and their friends, family and neighbors to linger and hang out:

- · Retrofit with street grids & new intersection
- "Main Street" retail across Dale Boulevard
- Structured parking at park & ride lot
- Shade structures & plaza for farmers market
- Small liner shops at commuter bus stop
- New apartments in a mid-rise building with amenity stormwater park
- Science/ecology center civic anchor

#### In the Meantime

While some of the elements in this design scheme might take time and the involvement of developers and/or public-private partnerships to realize, others could be implemented almost immediately. For example, small plazas for the farmer's market and for one or both of the strip malls could be achieved by marking off one or two parking spaces with asphalt paint, potted plants, canvas umbrellas and some lawn chairs. A mini daily farmers' market stand could be established adjacent to the bus stop to service weekday commuters and build the customer base for the Sunday market. An ecology center could begin programs in a vacant storefront. A crosswalk study could be initiated immediately.

#### Mapledale Plaza

Conceptually, Mapledale Plaza is the half of your conjoined twin downtown that can highlight health, wellness and community building. It is surrounded by excellent existing recreation – the Boys and Girls Club, the Ice Rink and Andrew Leitch Park with the Waterworks Park and the trail-head to the Nebasco Creek Trail. Unfortunately, it would be a challenge to walk or bike between any of these destinations.

This proposal for Mapledale Plaza focuses on connectivity with extended trails, an expanded network of streets, increased potential for new retail/commercial, new residential that can meet the needs of retirees and seniors, and new civic and community destinations.

#### Walk-ability: good for business and for health

54% higher than those with a Walk Score of  $20^{\scriptscriptstyle 5}\,$  and had an increase in net operating income of 42 percent.  $^6$ 

Just by providing good places to walk communities can increase walking by 30% or more. And in a recent study in Atlanta it was found that there is "a strong link between time spent driving and obesity: every additional 30 minutes spent in a car each day translates into a 3 percent greater chance of being obese. The same study finds that people who live in neighborhoods with a mix of shops and businesses within easy walking distance are 7 percent less likely to be obese, lowering their relative risk of obesity by 35 percent. An average white male living in a compact community with nearby shops and services is expected to weigh ten pounds less than a similar white male living in a low density, residential-only cul-de-sac subdivision. The most significant design factor related to the probability of being obese was the amount of shops, offices, and other varied destinations within walking distance of home.<sup>7</sup>

#### **Building Civic Identity**

The additions and adjustments that are being recommended for Mapledale Plaza, are about creating places that support community, community building and a sense of "civic" that we associate with towns. When we think about our "home town" most of us don't think about the kind of strip commercial that is about convenience and day-to-day necessities. Rather, we think about the courthouse square, a great park in the heart of the community and/or the compact collection of shops, eateries, and churches that we associate with a downtown or village center.

Dale City was not designed to have these civic and community gathering spaces – particularly those that are closely associated and physically adjacent so that it is possible to walk from one to the other. Walking experiences are important because they give us opportunities to run into neighbors, see friends and become more engaged with our community as a natural rhythm of life. These community-building experiences transcend the relationships we build through neighborhood schools, the church we attend and the other social organizations and clubs that do not bridge the entire town. This social engagement is in developing a sense of identity as a town and in building a collective and intentional vision of where you're going.

Expanding the potential to bike and walk is one of the best ways for a com¬munity to improve health and it is an important investment in the community's potential to attract the residents and businesses that understand the values of walk-able. It's also good for business: retail properties with a Walk Score ranking of 80-100 were valued

<sup>5</sup> Walk Score<sup>®</sup> is an online logarithmic ranking system that determines the basic walkability of a residential or commercial property. Walk Score uses neighborhood factors such as distance to shops and schools to create a number between 0 and 100 that measures the walkability of any address http://www.walkscore.com

<sup>6.</sup> Pivo, G. and Fisher, J.D. (2010) The Walkability Premium in Commercial Real Estate Invest¬ments. University of Arizona and Benecki Center for Real Estate Studies, Indiana University. http://www.u.arizona.edu/~gpivo/Walkability%20Paper%208\_4%20draft.pdf 7. Frank, L., Andersen, M. and Schmid, T. (2004) Driving, Walking and Where you Live: Links to Obesity. http://www.ahtd.info/yahoo\_site\_admin/assets/docs/JournalofPreventiveMedicine\_ linkbe¬tweendrivingobesity.14484631.pdf



#### The Design Study

In Mapledale Plaza – at Queensdale, Mapledale and Dale Boulevard – we are lucky to have a large undeveloped open space on the right as you enter from Dale Boulevard. The SDAT recommends that this area is an excellent site for a new Dale City Library. Adjacent to the library and backing up to a steep wooded hill is a site that seems particularly well suited for an amphitheater and a bosque of flowering trees (1) that can recall the "white" vista of coming down Dale Boulevard in spring. Significantly, the library can take responsibility for programming the amphitheater: imagine dinner-on-the-ground under the trees and then a gospel singing or a twilight movie in the amphitheater!

The pavilions (3) illustrated along the new tree-lined entry to the Plaza can host food trucks before a movie, craft fairs, Boy Scout car washes and many other community activities.







The library is on axis – accentuating its civic importance – with a new street paralleling Dale Boulevard. This street would be designed as a pedestrian and bike friendly way to move from the Plaza, library and amphitheater to adjacent neighborhoods and to Waterworks Park.

You will also notice that the amphitheater – in this study – is connected by a trail to a proposed birding tower (2) as well as to the existing Ice Center and Boys and Girls Club. The birding tower is on the highest point in this part of town and provides a potential not only to get up high and see the country side and learn about the native flora and fauna, but also serves as marker or beacon for this part of your new "downtown." Night-lights or fireworks from the tower could be part of any community celebration.

Trail connections in Waterworks Park already go down to Nebasco Creek (c). We are proposing an expansion of the trail system by recommending a trail that goes east-west to cross Mapledale and meet up with a new pedestrian and bike friendly street that can provide access to currently undeveloped parcels south of Dale Boulevard. This property is particularly attractive for the growing demand for new housing that can serve those segments of your town that want to stay in Dale City as they grow older, a concept known as "aging-in-community."



Even a small library can be distinctive...



-colorful, contemporary, & civic!



*Example of a birding tower.* 

#### Aging in Community

Aging in community is a comprehensive concept that is not only about developing a social structure of neigh-bors, friends and family who provide support as your citizens age but also about the physical aspects of a community that allow those 55+ members of your community to stay close to "home" when they are ready to downsize or when they no longer can or choose to be dependent on automobile transportation for day-to-day needs from the necessities to the social.

New housing south of Dale would be in easy walking distance of a market, the proposed library and amphi-theater and with an infusion of folks who need "things to do" it is easy to imagine a demand for coffee shops, internet cafes and eating options of all sorts. Of course, these are things that everyone in the community can benefit from having and it amplifies the potential for seniors to run into friends and family and to become Dale City's welcoming cohort for newcomers who frequent these downtown assets.

Seniors can stay involved and engaged by visiting the existing day care, through volunteer activities at the proposed library or by being part of the programing team that keeps the amphitheater a destination for the community. In the words of Rabbi Zalman Schachter-Shalomi, it provides the opportunity for seniors to go from "age-ing to sage-ing!"

#### Senior Housing that promotes Independence

Walkability is particularly important for seniors to maintain their independence. AARP among other organiza-tions consider it an important factor in livability. There are three new housing types proposed in the five minute walking radius (a) of Mapledale Plaza.

**1. Cottages on a green**. This mix of small (800 – 900 sq. ft.) single-family detached homes and duplexes are sometimes called courtyard housing. This housing can easily be marketed as starter homes or as options for downsizing. The duplexes can offer the owner an income stream or a convenient place "next door" of an el-derly parent or an adult child. This housing type is illustrated just across Queensdale from Mapledale Plaza – flanking the new street that links Waterworks Park to the Plaza.

**2. Greenhouse senior housing**. The greenhouse concept is an alternative to the institutional setting of a traditional nursing home. A "greenhouse" is designed as a big house with private rooms surrounding an open kitchen, seating areas and garden space. The



Cottages clustered around a shared green space.



Multi-story and single-story "greenhouse" senior housing.





common areas give residents a high potential for independence – they can make their own coffee, share cooking, gather in small groups or collectively around the dinner table. Trained caretakers supervise and are available at various levels depending on the needs of the residents. Greenhouses are usually single story but the concept can also work in multi-story buildings with each floor serving as a "house."

**3. Mid-density aging-in-place complex.** Illustrated at the proposed extension of Ridgefield this 5-7 story building takes advantage of the topography to support a parking deck that becomes the garden terrace/podium for a residential mixed-use development that can provide housing options for independent living, assisted living and numerous levels of additional care and support as residents age-in-place.

#### Other ideas

Additional concepts illustrated in this scheme include a redevelopment of the abandoned service station in the northeast corner of Queensdale and Dale into a day spa or other health related services. And new offices buildings (7) on opposite corners of Mapledale and the proposed new east-west street south and parallel to Dale Boulevard.

#### **Rigefield Trail**

There is an existing right-of-way south along Ridgefield (b.) This can be a link in the overall trail system that connects many residential neighborhoods and Enter¬prise Elementary School south of Dale Boulevard to the Boys and Girls Club, to the proposed library and to the new "downtown" of Mapledale Plaza.

The intersections of Dale Boulevard with Nassau, Mapledale/Queensdale and Ridgefield should be redeveloped with pedestrian and bike safety as a highest priority.

#### LONG-TERM OPTIONS AT MAPLEDALE PLAZA

Over-time, as Mapledale Plaza becomes more of a des¬tination and there is demand for additional retail, com¬mercial and office space, the site's configuration allows for the addition of new mixed-use building paralleling the tree-lined street that enters the Plaza from Dale Boule¬vard. A parking deck may be required (and can be incor¬porated as illustrated, left) but with more walking, biking and use of the local tram transferring surface parking to businesses that generate activity, property tax and sales tax may NOT require the additional expense of a deck.

Multi-level senior care residence.









This illustration of long-term opportunities also show s the potential for additional housing or office "behind" the cottage housing (4.) The slope of geography here would allow for parking below.

#### In the Meantime...

There are many things that Dale City can do to build potential and to get people in the habit of coming together for community activities that anticipate and build enthusiasm for some of these recommendations.

Occupy the future library site with a temporary "village" of shipping containers that have been converted for pop-up shops, cafes and vendors. Have food-truck events on the site and host fund-raisers for the future library.

Take part of the parking lot and make it into a "beach" for the summer. Host sand castle contests, kite playing and other family-friendly events "at the beach."

Paint your parking lots with themed identity and branding for the "new" Dale City. Paint super-graphics at major Boulevard crossings that promote the community!

Close half of Dale Boulevard once a quarter for a bicycling day: a ciclavia.



#### **IMPLEMENTATION STRATEGIES**

#### **Public Policy for Town Centers**

The public policy directives for commercial centers, or 'Town Centers,' are clearly annunciated according to County ordinances [Sec. 32-280.30.]:

"The purpose of town centers is to promote the development of a pedestrian-oriented and fully-integrated mixed use community where public facilities and services can be efficiently provided and where environmental characteristics are sensitively considered."

But what does the private developer need to accomplish these purposes?

#### **Redevelopment of Commercial Centers**

We have found from many other projects across the country that when reconstructing a commercial center, there are a number of factors that affect the decisions on potential projects. In addition to responding to the market demand, there are program and design considerations; specifically:

- Redevelopment is easiest when a project adds substantial new rentable space, and does not involve a substantial loss (demolition) of the existing, rentable space.
- If the project requires aggregation of properties, i.e. combining different ownerships or leases, there is a time factor that increases costs and reduces the financial viability of a project.
- Office space, in the current market, does not strongly benefit the bottom line. However, spaces that are flexible as residential or commercial spaces can respond to the market demand.
- If there are residential units the number needs to be substantial enough, approximately 100 units or more, to be financially strong.
- Additionally, the common spaces must be attractive within the project to pull people into the commercial center.
- Structured parking is not a very probable option for a suburban location such as Dale City, but significant parking is needed for retail spaces in this district. This could be partially accommodated with shared parking, satellite parking, and transit-oriented development for reducing the number of required spaces.

Basically, projects with the highest density, not having to build structured parking, with a minimal need for aggregation of parcels, and without substantial demolition of existing rentable spaces, are financially strongest. Substantially-sized, mixed use projects are also typically phased, sometimes over many years.

#### Implications for Redevelopment Needs

An important implication of these findings is that the land use regulations need to be responsive to developer's needs, as well as being clear on public policy, if the County is to encourage mixed use reinvestment.

The redevelopment of properties could be substantially different in each case. This could include pad development, which adds stand-alone buildings on a previously developed lot, and 'tiered' development; I.e. buildings behind other buildings, on the larger lots. And with different users/leases, there could be alterations required as the project proceeds. With these and other possible variations in construction, this suggests that flexibility in the regulatory standards are needed. To accomplish this flexibility in the permitting and design approval stages, a different process is likely needed for review and decisions.

#### How to Encourage Quality Redevelopment

The recommended approach is to create an environment, through improved regulation and administration that encourages redevelopment as a planned approach. To create a better regulatory environment, the guiding principles are:

- Change Perceptions Reducing the cost of doing business in Dale City improves the potential for higher quality redevelopment in projects and greater private investment.
- Partner for Project Excellence Drafting regulations that provide flexibility in the design of building and sites, after ensuring a baseline of quality, establishes the approach to redevelopment as a partnership between the developer's designers and the community.

#### Master Plan Development Entitlement Process

To change perspectives and partner with developers, the recommendation is to provide a new master plan process for approval of projects above a certain size.

The Master Plan Development regulation as a zoning overlay that allows larger-scale, phased development projects, with standards, thresholds, and procedures for entitlement based on a two-step process of a master planned development concept approval followed by project permitting through site plan review. This is proposed as a means to allow and encourage larger-scale, multi-phase, mixed-use development.

The process provides flexibility in design standards and allows developer involvement in the drafting of those standards. The County must first determine the baseline of required minimum and maximum design standards, and then will negotiate all the other standards in the Master Plan with the developer based on a project master plan. Examples where this approach has been completed successfully include:

- Westwood Station in Westwood, Massachusetts This was originally proposed as a 4.5 million square foot mixed-use development in a new district near the Town's rail station. The Master Plan Development zoning regulations for the project were adopted by the municipality to allow a substantial shift in the scale and intensity of development in this moderately-scaled community in suburban Boston. While the project has been downsized since the recession, the project is still proceeding under the previous zoning.
- Wayland Town Center in Wayland, Massachusetts As a community without a historic 'town center,' the sale of a former Raytheon office site near the town's main intersection provided enough land to allow a developer to propose a new mixed use center project. To facilitate the phased development and leasing of the project a two-step, Master Plan Development and Site Plan Review regulation was adopted by the town. The project has an anchor supermarket and has leased most of the commercial space, and is currently finalizing the separate residential project and exploring the options for a municipal library.

The proposed steps for MPD project approval up to building permit and construction could include:

- Pre-Application Meeting with County staff which would not be required, but allowed and encouraged;
- Preliminary Plan Recommendations based on a submittal to the [ultimate] special permit granting authority, which will result in responding with a non-binding decision that would include recommendations for submitting a design of the project for the next step;
- Master Development Plan submitted before the same authority where a Master Plan is proposed showing the project development concept, with design standards specified, and approved as a Special Permit with conditions for the subsequent Site Plan Reviews as project elements are brought forward;
- Site Plan Reviews as a typical site plan review, which uses the approved Master Development Plan and the approved Design Standards within a standard review process.

#### **Design Standards and Criteria**

The design standards that cannot be altered by a Master Development Plan special permit should be specified. These standards could include:

- Bulk and massing such as minimum and maximum height or number of stories
- A requirement to provide a mix of uses in the project and the range of those uses

- Standards for site access and travel ways designed for pedestrians and bicycles as well as cars, with multiple pathways
- A requirement to Include civic spaces and gathering places
- · Minimum standards to provide densities that promote efficient use of land
- Inclusion of 'green' design elements

The design guidelines are meant to apply to the "public realm;" those building forms and spaces that are subject to public view from public areas and in public use. Interior spaces and building code compliance are not the subject of these guidelines but may be considerations under the design standards.

The principles of design, which could reinforce the public goals, include:

- Support town center vitality with uses and spaces that contribute to the commercial and entertainment experience of the district and promote attractive-ness for visitors and patrons of the area.
- Reinforce the aspect of a civic place with spaces for small public gatherings and discourse.

#### Adoption of the Regulations

The adoption of these regulations is best suited with a developer with an interest in the project who would provide input to consider on the regulations and design guidelines. However the project would typically require a fairly long lead-time as suggested by the table below.

Element	Actor/Agency	Timing
Revision to Master Zoning Plan	County	by 2nd year
Add Master Plan Process/ hybrid FBC	County	by 2nd year
Adopt Design Guidelines	County	by 2nd year
Design Public Infrastructure Elements	County, State	By 2nd year
Infrastructure Construction	County, State	by 5th year

#### Financing the Changes

In addition to private investment needed to redevelop the town center, public finances are needed to effect the changes proposed in this plan. Dale City has resources available through State law to support the kinds of projects that would create the big moves contemplated here. See the table below for list of financial resources that can support these redevelopment plans. Importantly, state law allows public project funding to be linked to the private investment.

A very common way to fund public projects is through proffers which are exacted from the developers proposing projects and applied through the County's project funding process. Another way of supporting the infrastructure improvements, which are the centerpiece of public investment, is through Tax Increment Financing.

Tax Increment Financing programs, also known as TIF's, are ways to finance infrastructure improvements based on the future tax increases that are obtained after redevelopment of a property. The tax rate could remain constant but there is an increase in taxes accruing from the value after the property is improved and the land is reassessed based on those improvements. This increase in taxes is the increment that can be earmarked to pay down capital project bonds for infrastructure that would support that redevelopment. This allows a direct link between the infrastructure that supports a private development and that private development. This makes the project more attractive to the private developer as that portion of the taxes paid by the developer's project goes specifically to infrastructure that supports the same project.

Financial Resources	Supported Projects
Proffers	Parks/Open Space, Library, Fire & Rescue, Transporta- tion, Schools
Tax Increment Financing	Infrastructure
VA Housing Authority	Mixed Income Housing
Tax Credits	Employment centers, Housing, Historic, New Market, Renewable Energy
Private Fundraising	Institutions, Museums





#### JUNE WILLIAMSON, TEAM LEADER

June Williamson is an architecture professor at The City College of New York/CUNY. She has taught and practiced in Boston, Salt Lake City, Atlanta, Los Angeles and now, New York City. Her deep interest in rethinking suburban landscapes stems from growing up in several: Metairie in Louisiana, Needham and Westwood in Massachusetts, Mt. Lebanon in Pennsylvania, New Malden in Surrey, England, and even Ras Tanura, a gated company compound in Saudi Arabia modeled on a 1940s U.S. subdivision.

She was advisor for Build a Better Burb, an ideas design competition for the suburbs of Long Island, which is documented in her newest book "Designing Suburban Futures." June is co-author, with Ellen Dunham-Jones, of the book "Retrofitting Suburbia," winner of the 2009 PROSE Award for Architecture and Urban Planning from the Association of American Publishers, and her writing has been published in the book "Writing Urbanism: A Design Reader," "Independent for Life," and "The Diverse Suburb: History, Politics, Prospects" as well as the journals Places, Harvard Design Magazine, Urban Land, the Journal of Urbanism, and Thresholds.



#### PATRICIA SMITH, ASLA, AICP

Pat Smith has more than 30 years experience providing planning, urban design and landscape architecture services to private and public sector clients, 20 as the principal of her own firm. She is a licensed Landscape Architect, Certified Planner and Certified Arborist. She is committed to a community-based design process. Her recent focus has been on transforming streets into places that relate to adjacent land uses, provide balanced access for pedestrians, bicycles, transit and vehicles, and incorporate streetscape

improvements and gathering places; and transitioning auto-oriented corridors and districts into livable communities. Pat has been the lead consultant and/or Landscape Architect/planner on many award-winning street design, active transportation and Complete Streets plans and projects, including Monica Boulevard and the Design District in West Hollywood; a plan to provide pedestrian and bike access to Los Angeles' Union Station; street standards and street design manual for the City of Los Angeles' Mobility Element; Eastside Access Light Rail corridor improvements designed to reinforce transit nodes and link them with walkable, bikable streets; and Los Angeles Sports and Entertainment District Streetscape Plan. Recent urban design/land use plans and design standards/guidelines to retrofit suburban shopping

centers include Warner Center and Orangefair Specific Plans. Her urban design/street standards for Downtown Los Angeles have helped guide its recent transformation from auto-oriented to a walkable, livable community.



#### **EDWARD STARKIE**

Mr. Starkie has 23 years experience in real estate that includes moving complex projects from conception and feasibility analysis to financing and development strategies. A particular career focus has been the economic structure of vital urban places, of downtowns and neighborhoods that are pedestrian and transit oriented environments. His work has received four awards from the American Planning Association in the areas of main streets and downtown revitalization, and he contributed to the current EPA

guidelines for promoting Smart Growth. His recent work has also gained an award from the California Preservation Foundation and a Charter Award from the Congress for New Urbanism. Mr. Starkie is a financial advisor for private and public development who brings a unique, pragmatic approach that results in projects that are feasible, profitable, and contribute to community livability. Mr. Starkie also has also served on the faculty of the University of Oregon Urban Architecture Program and the Portland State University Urban Planning and Architecture programs.



#### **CHERYL MORGAN, FAIA**

Cheryl is a licensed architect and Emerita Professor of Architecture in the School of Architecture, Planning and Landscape Architecture of Auburn University. In thirty years of teaching she worked with architectural programs at Georgia Institute of Technology, Oklahoma State and California College of Arts and Crafts. For the last 12 years of her teaching career she was the Director of Auburn's Urban Studio in Birmingham, Alabama. Under Cheryl's leadership, the Urban Studio's Small Town Design Initiative Program worked with

over 75 small towns and neighborhoods in Alabama. Morgan practiced architecture and urban design in the San Francisco Bay Area. She worked with a number of firms including Environmental Planning and Research, Gensler, and the Gruzen Partnership. Before coming to Auburn in 1992 she was an associate with the Berkeley firm of ELS/ Elbasani and Logan. Morgan's professional practice now focuses on urban design, community planning and graphic design. She is also an experienced facilitator. Cheryl holds two degrees from Auburn University: a Bachelor of Architecture and a Bachelor of Arts (Sociology). Her Master of Architecture degree is from the University of Illinois, Champaign/Urbana. She is certified by the National Council of Architectural Registration Boards and is a member and Fellow of the American Institute of Architects. In 2011 she was presented with the Alabama Chapter of the American Planning Association's Distinguished Leadership Award recognizing her as a "Friend of Planning." In 2012, she received Auburn University's Achievement in Outreach Award.



#### **DAVID MARKLEY, PE**

David Markley is the founding Principal of Transportation Solutions, Inc (TSI). Established in 1987, TSI provides specialized consulting services in transportation planning, traffic operations, and traffic design for a diverse client group throughout the Pacific Northwest. TSI has successfully completed hundreds of projects in both the public and private sectors, often under critical time pressures involving complicated decisionmaking. In the public sector, we have met the budget, time, quality, and reporting requirements

of federal, state, and local government agencies. In the private sector, we have met the needs of clients by meeting budget guidelines and improving efficiency. David leads all work associated with special event facilities and supports other projects through strategic planning, public involvement, and expert testimony. David has a reputation for developing creative transportation strategies that effectively address both project and community objectives and is regularly asked to work on non-traditional projects that require adapting conventional analysis to fit unique applications. His abilities to address the core problems and develop fair and equitable solutions that work have earned him the respect of developers, agency staff, elected officials, and neighborhood leaders. Before establishing Transportation Solutions, Inc., David was a founding principal of The Transpo Group and worked with JHK & Associates and Tudor Engineering Company.



#### **KEN BUCKLAND, AICP, LEED AP**

Ken is a Principal and Senior Planner with The Cecil Group, a planning and urban design firm. He brings to his teams over 30 years of experience in land planning, including environmental planning and zoning regulations. Ken has practical experience having been a public sector planner 'working in the trenches' in three communities in Connecticut and Massachusetts. He is very knowledgeable on a wide variety of regulatory and land management approaches including incentive zoning, green design, form-based codes, design guidelines, community centers, brownfields, tax increment financing, mixed-use, and transit-oriented development. His work includes projects throughout the Eastern U.S., applying creative approaches in planning, zoning, infrastructure and development for projects that cover community-wide plans, districts and neighborhoods, environmental management, downtowns, military installations, civic facilities, mill reuse and industrial development.

#### JOEL MILLS (AIA STAFF)

Joel Mills is Director of the American Institute for Architects' Center for Communities by Design. The Center is a leading provider of pro bono technical assistance and participatory planning for community sustainability. Its processes have been modeled successfully in the United States and across Europe. The Center has been the recipient of a numerous awards recognizing its impact. In 2010, the Center was named Organization of the Year by the International Association for Public Participation (IAP2) for its impact on communities and contributions to the field. In 2013, the Center received a Power of A Award from the Center for Association Leadership, and a Facilitation Impact Award, given by the International Association of Facilitators.

Joel's 20-year career has been focused on strengthening civic capacity and civic institutions around the world. This work has helped millions of people participate in democratic processes, visioning efforts, and community planning initiatives. In the United States, Joel has worked with over 100 communities, leading participatory initiatives and collaborative processes that have facilitated community-generated strategies on a host of issues. During the past five years, this work has catalyzed over \$1 billion in new investment. His past work has been featured in over 1,000 media stories, including ABC World News Tonight, Nightline, CNN, The Next American City, Smart City Radio, The National Civic Review, Ecostructure Magazine, The Washington Post, and dozens of other sources. He has served on numerous expert working groups, boards, juries, and panels focused on civic discourse and participation, sustainability, and design. He has also spoken at dozens of national and international conferences and events, including the World Eco-City Summit, the Global Democracy Conference, and many others.

#### **ERIN SIMMONS (AIA STAFF)**

Erin Simmons is the Director of Design Assistance at the Center for Communities by Design at the American Institute of Architects in Washington, DC. Her primary role at the AIA is to provide process expertise, facilitation and support for the Center's Sustainable Design Assistance Team (SDAT) and Regional and Urban Design Assistance Team (R/UDAT) programs. In this capacity, she works with AIA components, members, partner organizations and community members to provide technical design assistance to communities across the country. Through its design assistance programs, the AIA has worked in over 250 communities across 47 states. In 2010, the Center was named Organization of the Year by the International Association for Public Participation (IAP2) for its impact on communities and contributions to the

field. In 2013, the Center received a Power of A Award from the Center for Association Leadership, and a Facilitation Impact Award, given by the International Association of Facilitators. In 2015, the Center received the Outstanding Program Award from the Community Development Society.

Erin is a leading practitioner of the design assistance process. Her portfolio includes work in over 100 communities across the United States. A frequent lecturer on the subject of creating livable communities and sustainability, Erin contributed to the recent publication "Assessing Sustainability: A guide for Local Governments". Prior to joining the AIA, Erin worked as historic preservationist and architectural historian for an environmental and engineering firm in Georgia, where she practiced preservation planning, created historic district design guidelines and zoning ordinances, conducted historic resource surveys, and wrote property nominations for the National Register of Historic Places. She holds a Bachelor of Arts degree in History from Florida State University and a Master's degree in Historic Preservation from UGA.

#### **THANK YOU!**

Many thanks to the residents, business owners, institutions, and City staff and officials who participated in the Dale City SDAT and worked with the team to develop the vision expressed within this report.