

Mansfield Board of Education Facilities Planning

Community Engagement Event | March 15, 2018



Sustainability

Lynn Stoddard
Director, Institute for Sustainable Energy

Transportation

Jon Hipsher and Susan Lussier
M&J Bus Inc.

School Siting

Linda Painter, AICP
Director of Planning & Development

Derek Dilaj, P.E.
Interim Director of Public Works

Sustainability Considerations

Lynn Stoddard

Chair, Mansfield Sustainability Committee

Director, Institute for Sustainable Energy

What is Sustainability?

Meeting the needs of the present
without compromising
the ability of future
generations
to meet their needs.

(1987 Brundtland Report)

In Context of School Facilities Project

- School Placement
- Building Design
- Other Considerations

Sustainability Considerations

School Placement

Building Design

Other Considerations

Community-Centered, Connected

- In the “heart” of the community.
- Within walking distance of stores, schools, community center, library, recreational fields, university, parks, open space.
- Close to existing or proposed higher density neighborhoods.

Complementary Uses

- Could share infrastructure with adjacent uses (e.g., recreation fields, library, parking, parks, swimming pool).
- “Co-location” – use for complementary uses during non-school hours (e.g., senior citizens).

Location Value

- School use of site achieves multiple goals for the community.
- School would add value to surrounding land uses.
- Potential for future uses - building will continue to serve the community if no longer used as a school in the future.

Walking, Biking, Transit Access

- Accessible by walkers and bikers, with existing/potential bike/ped infrastructure.
- Close to areas with existing or planned concentration of neighborhoods with families, minimizing busing distance and costs.
- Close to existing or planned public transit for school and non-school users.

Environmentally Suitable

- No water or soil contamination.
- No impact on wetlands, waterbodies, floodplains, or habitat for threatened and endangered species.
- Requires minimal site regrading. No steep slopes.

Low Environmental Impact

- Redevelop existing buildings or site within developed area.
- Water and waste water infrastructure.
- Minimal impact on traffic patterns, congestion, and air quality and public safety issues related to traffic.
- Potential to minimize lot size and development footprint (5 acre max).

Site Opportunities

- Building can be oriented to take advantage of passive heating and cooling, natural ventilation, daylighting (i.e., elongate the building along east-west axis).
- Natural opportunities for outdoor learning (e.g., forested areas, streams, etc).
- Potential for school garden.

Sustainability Considerations

School Placement

Building Design

Other Considerations

Design for Clean Energy

- Minimize energy use (2nd highest operational cost for schools).
- Apply on-site renewable energy to balance the remaining energy use (“net zero energy”).
- Consider capital and operations costs.
- Model for STEM education.

Design for Reuse and Recycling

- Long-lasting natural, non-toxic, refurbishable products.
- Dishwasher, washable trays, etc.
- Recycling – inside and outside storage areas with easy access.
- On-site composting – easy access to outside bins, near school garden and/or greenhouse.

Sustainability Considerations

School Placement

Building Design

Other Considerations

Other Considerations

- “Deconstruction” for any demolition.
- Use and cost of old, inefficient buildings if no longer used as schools.
- Budget for ongoing repair and maintenance to maintain usefulness and efficiency of facilities.
- Coordination with surrounding towns on school needs and solutions.

Transportation and School Siting

Derek Dilaj, PE

Interim Public Works Director

Linda Painter, AICP

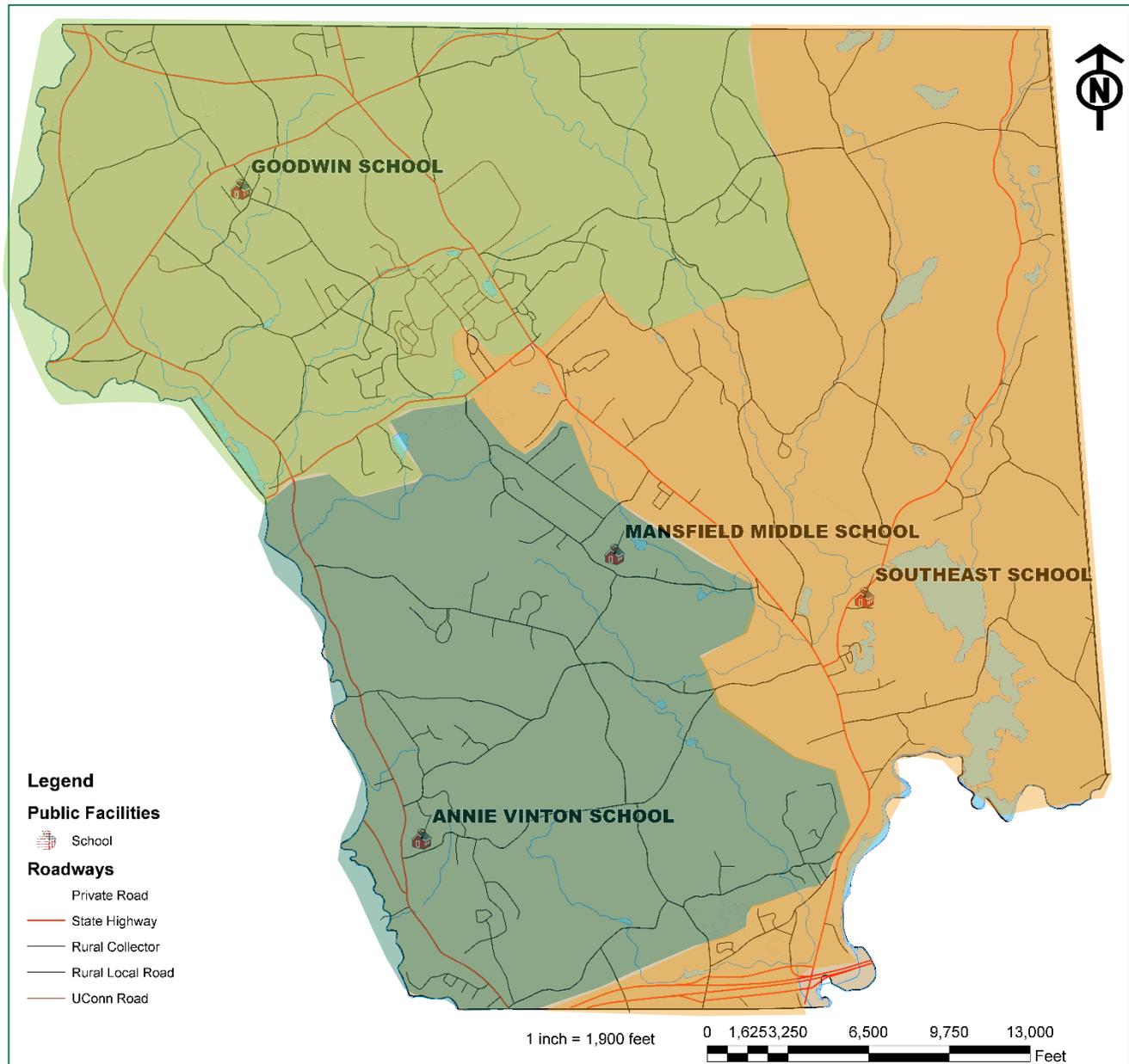
Director of Planning & Development

Jon Hipsher

M&J Bus Company

Susan Lussier

M&J Bus Company



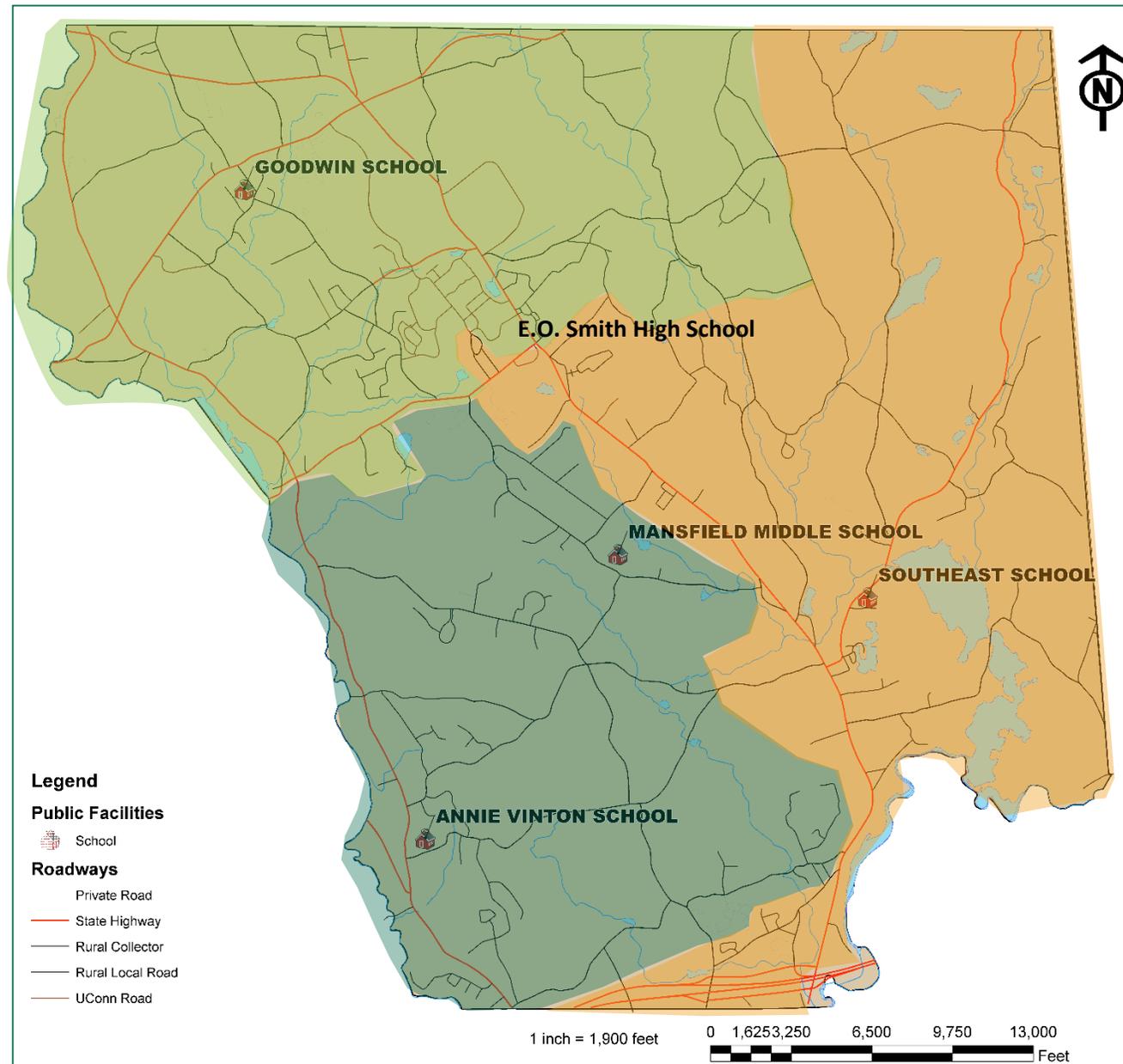
Enrollment (October 2017)

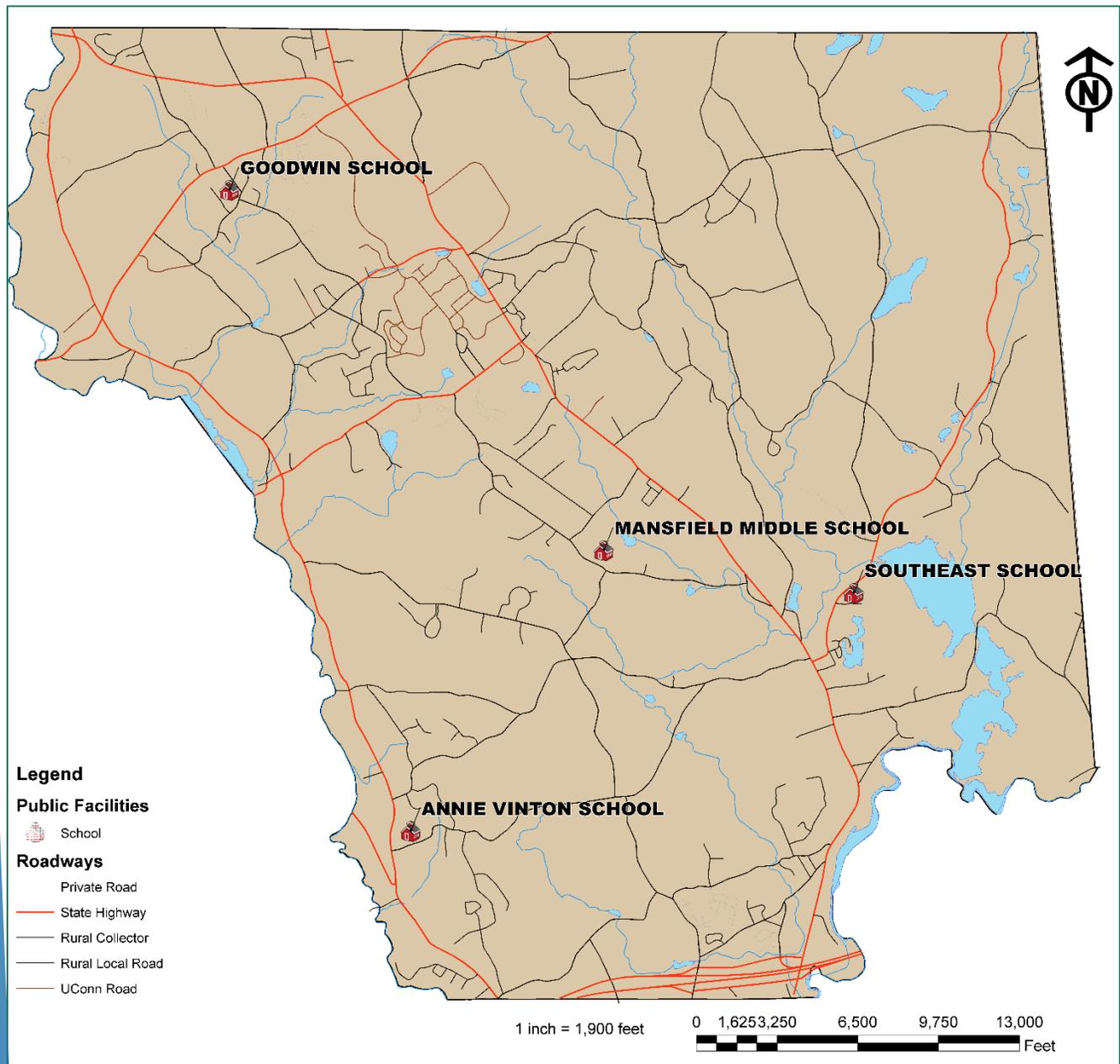
School	Students
Goodwin	176
Southeast	180
Vinton	232
MMS	588
Total	1,176

Estimated Average Bus Ride Duration (minutes)

- 3-Tier System

School	AM	PM
Elementary	37-45	45
MMS	37-45	30-40
E.O. Smith	45	30-40

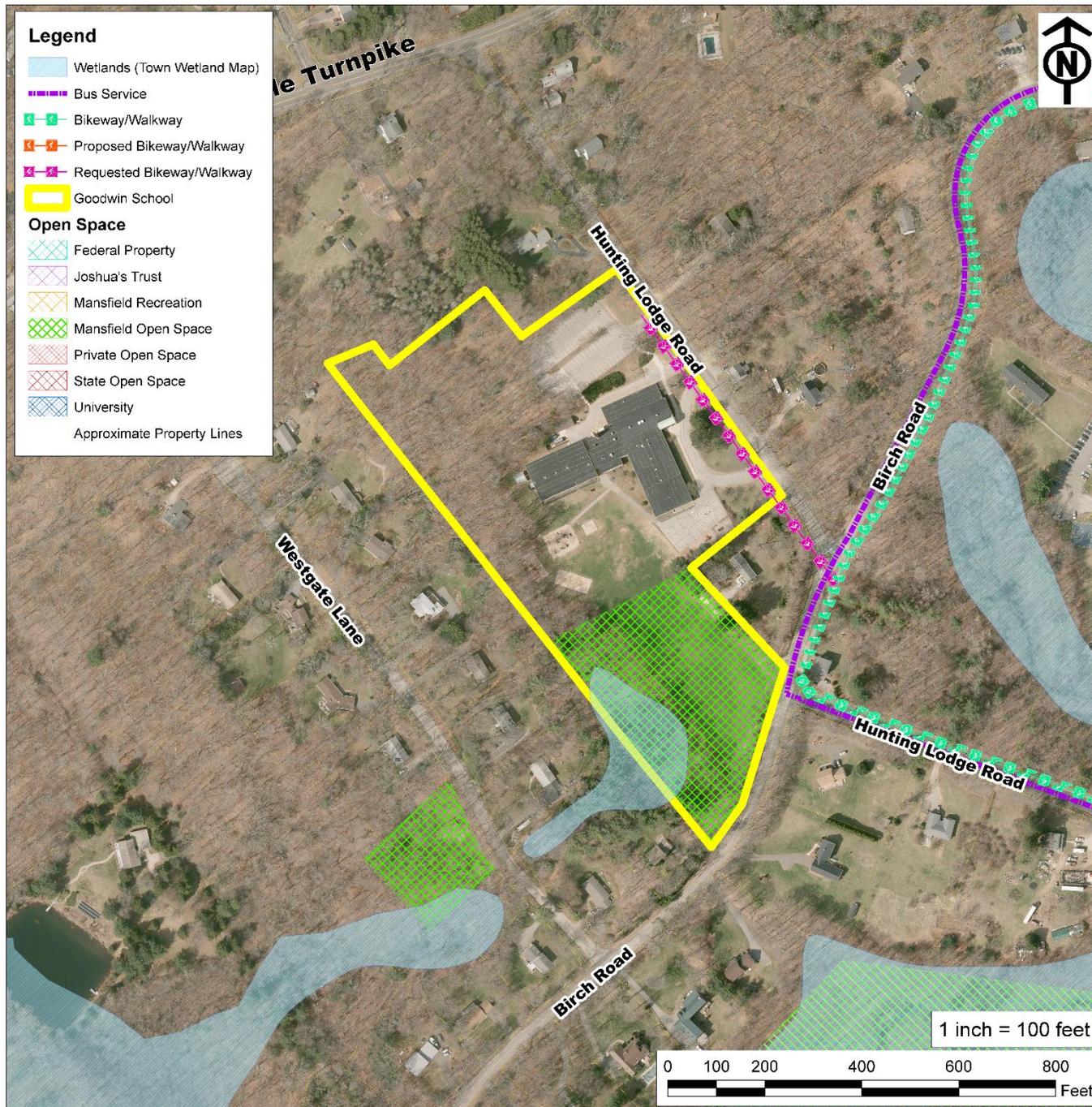




Onsite Site Utility Capacity

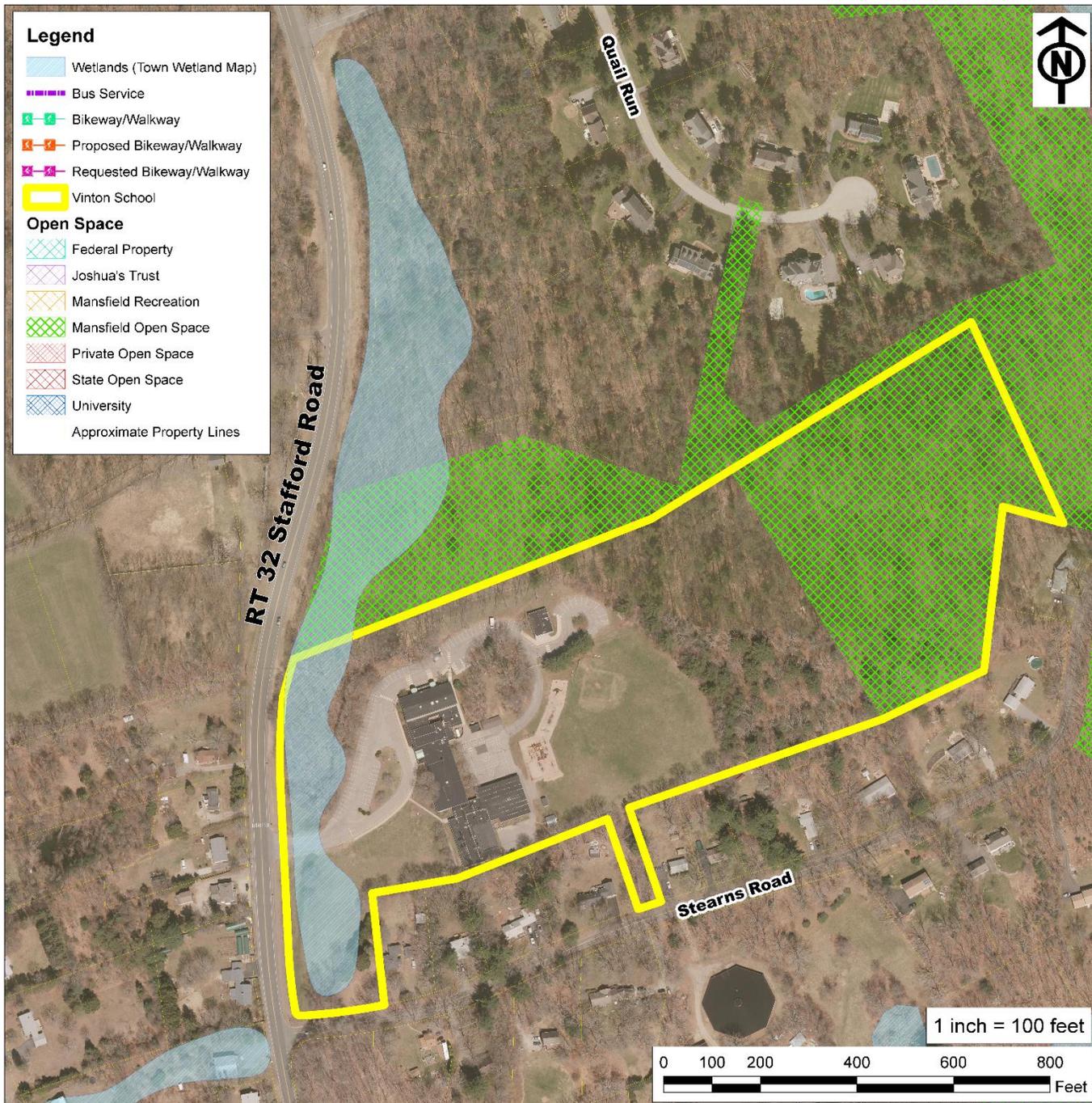
- 2012 Septic Suitability Studies
- 2000 MMS Septic Design Report

School	On-Site Septic
Goodwin	375
Southeast	750
Vinton	375
MMS	1,000



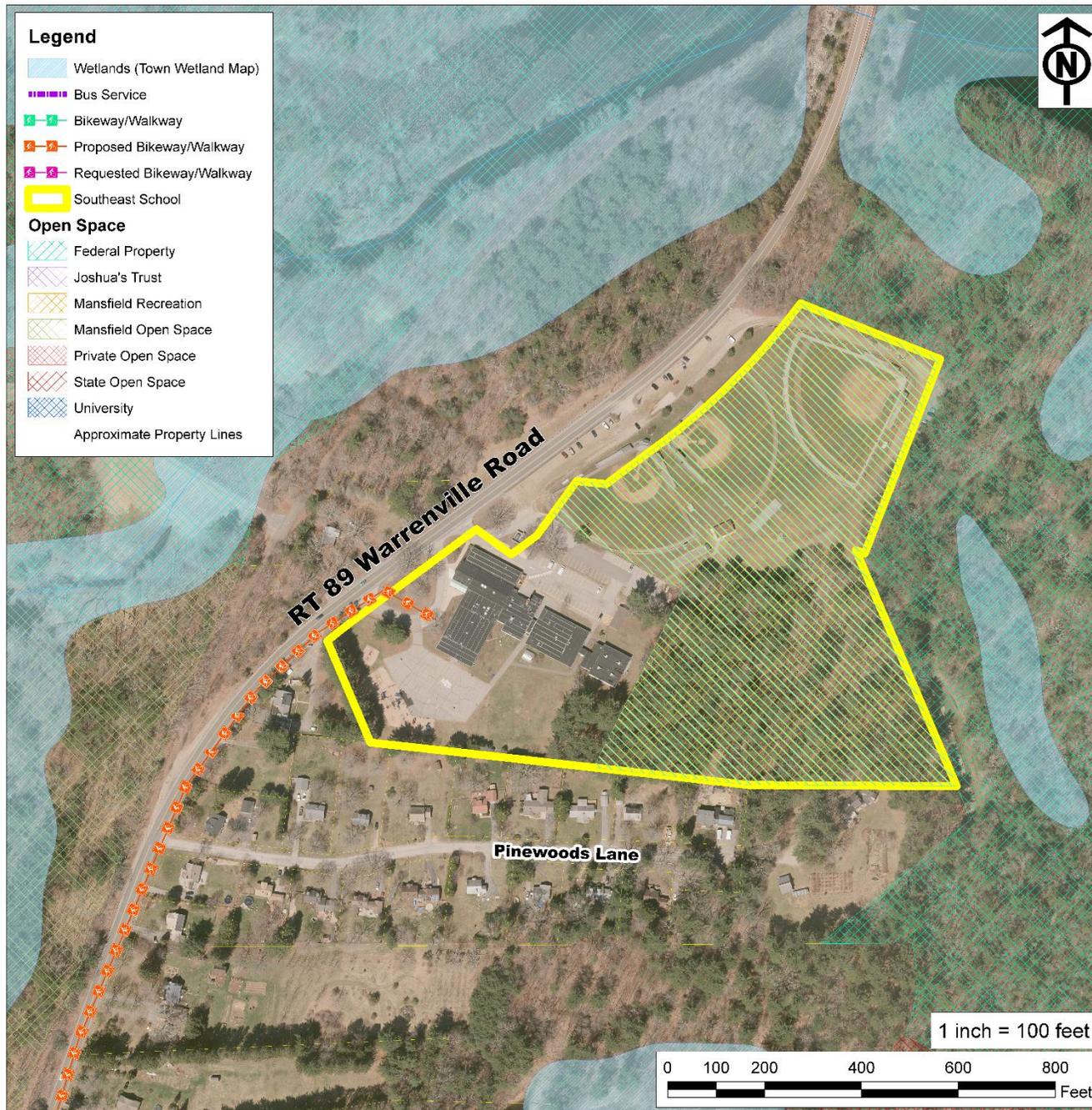
Goodwin

- 12.1 acres
- 3.5 miles from geographic center
- Walkway / bikeway in vicinity & on Priority List
- On Public Bus Line
- Public utilities in vicinity
- Town Open Space on Walkway/Bikeway



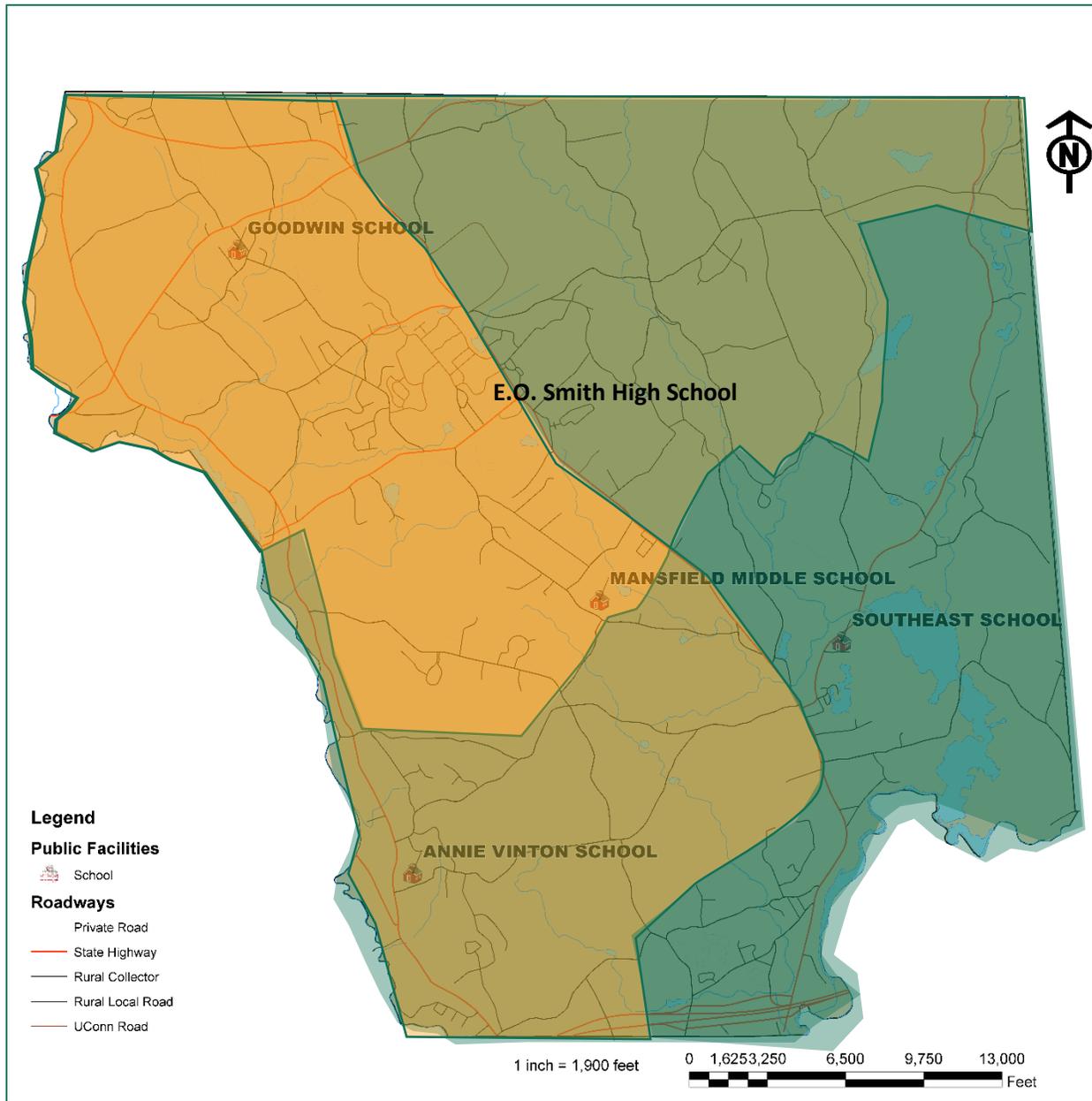
Vinton

- 22.2 acres / 15.8 acres
- 3.3 miles from geographic center
- Open space on Parcel



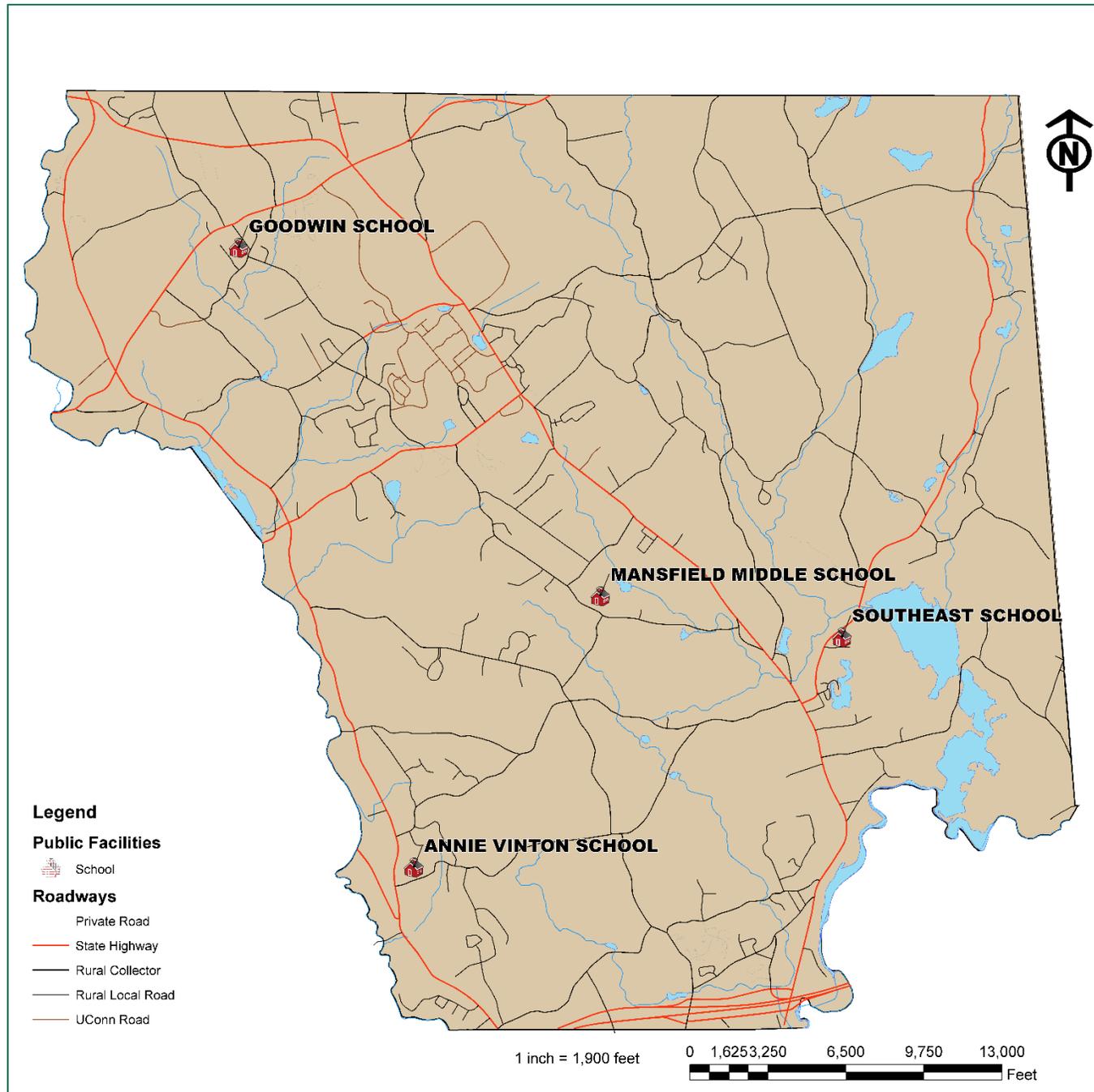
Southeast

- 18.3 acres
- 2.2 mi from geographic center
- Walkway / bikeway under design
- Access to Public Library
- Federal Lands (Mansfield Hollow)
- Southeast Park



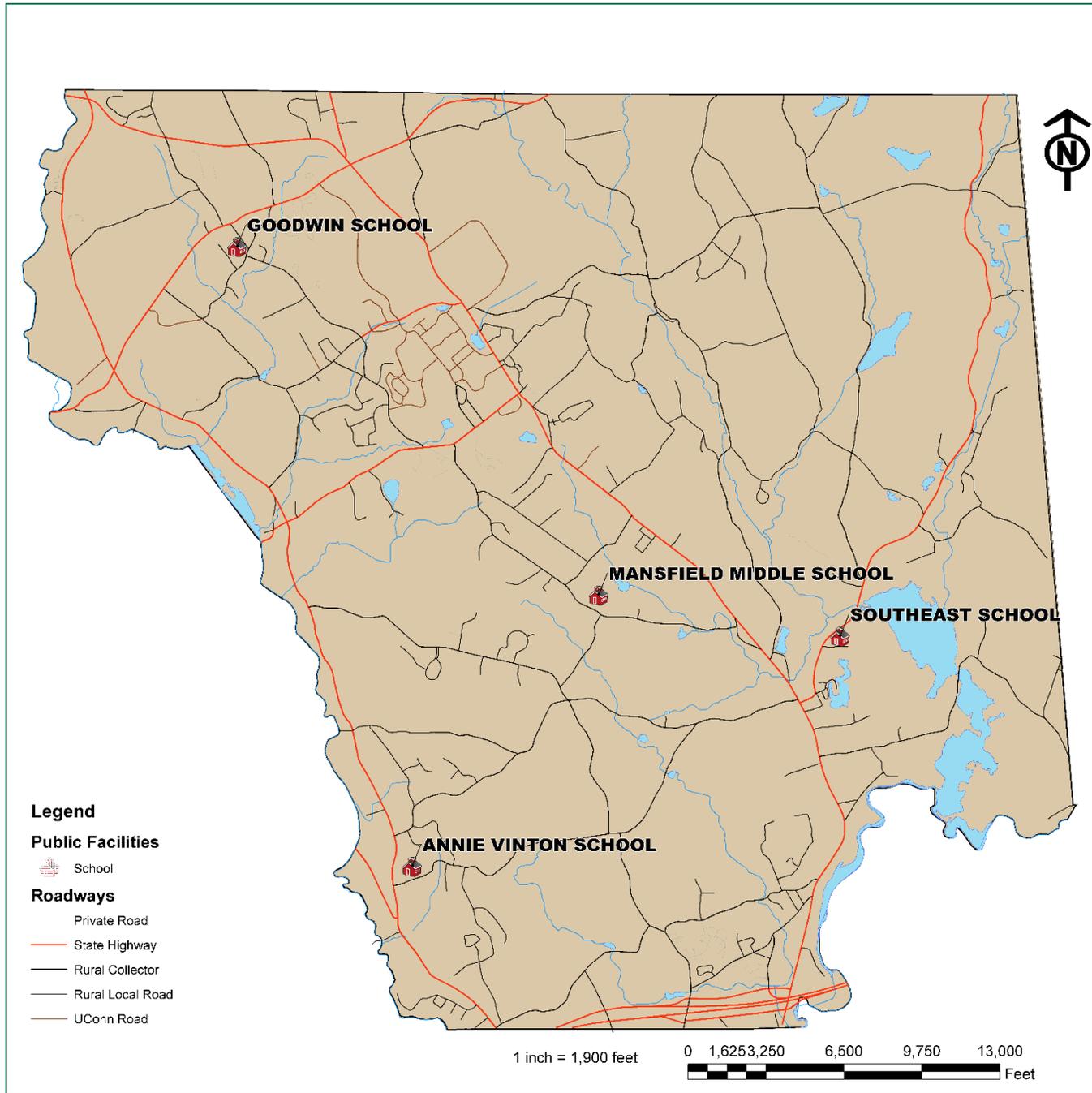
Estimated Average Bus Ride Duration (minutes)

- 3-Tier System
- Later elementary start and end times would be required
- Average rides are estimated to range from 45 minutes to possibly 70 minutes



Infrastructure Capacity

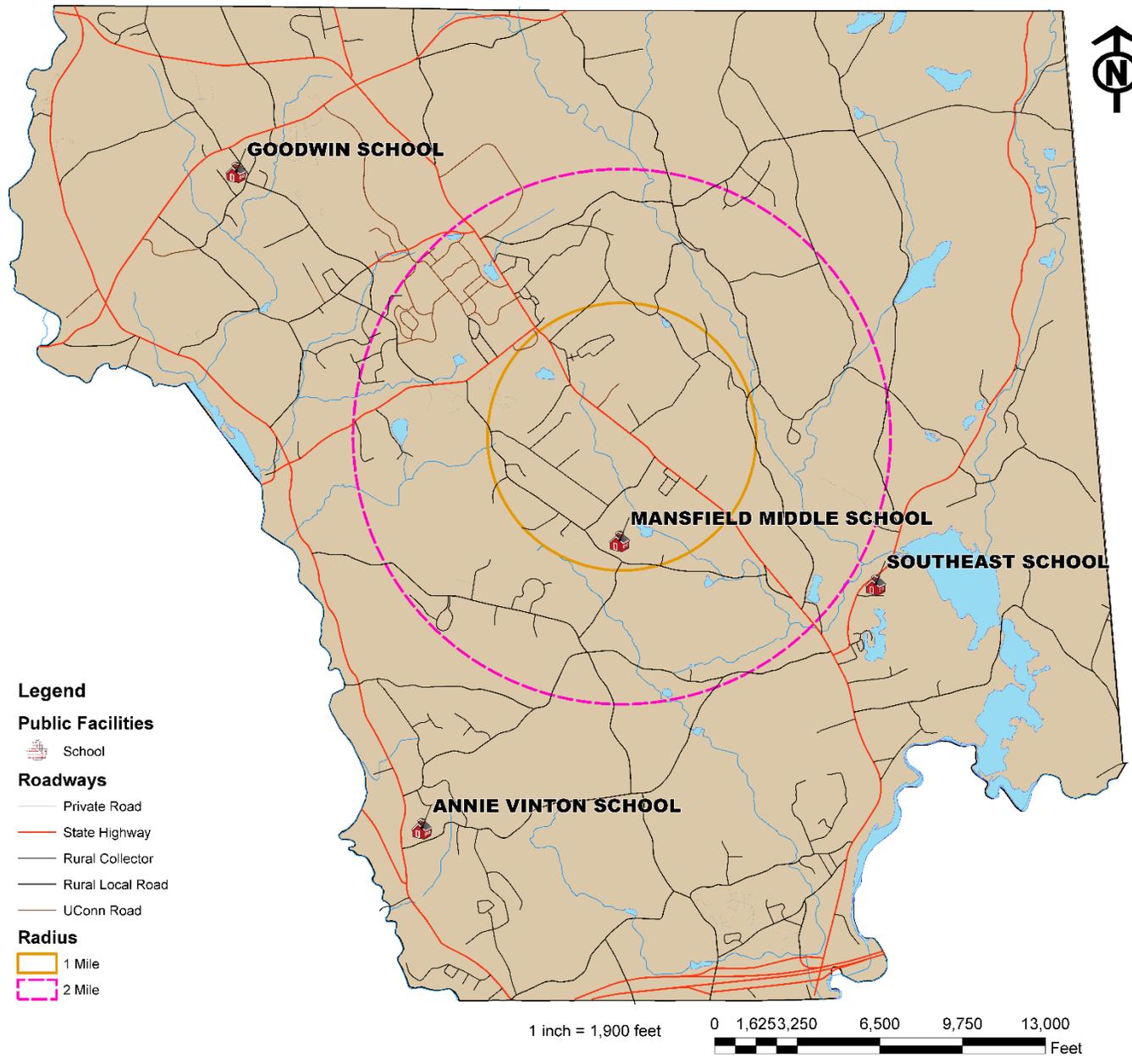
- Neither the Goodwin nor Vinton sites have the septic capacity to accommodate all elementary students
- Addition of elementary school at/near MMS requires confirmation of available septic capacity



Estimated Average Bus Ride Duration

- Provides opportunity for 2-Tier Bus System (High School/Middle School or Middle School/Elementary)
- Potential later starting time for E.O. Smith
- Average Duration (minutes) would be about the same as currently (see below); some routes may increase by approximately 10 minutes

	AM	PM
Southeast	37-45	45
MMS	37-45	30-40

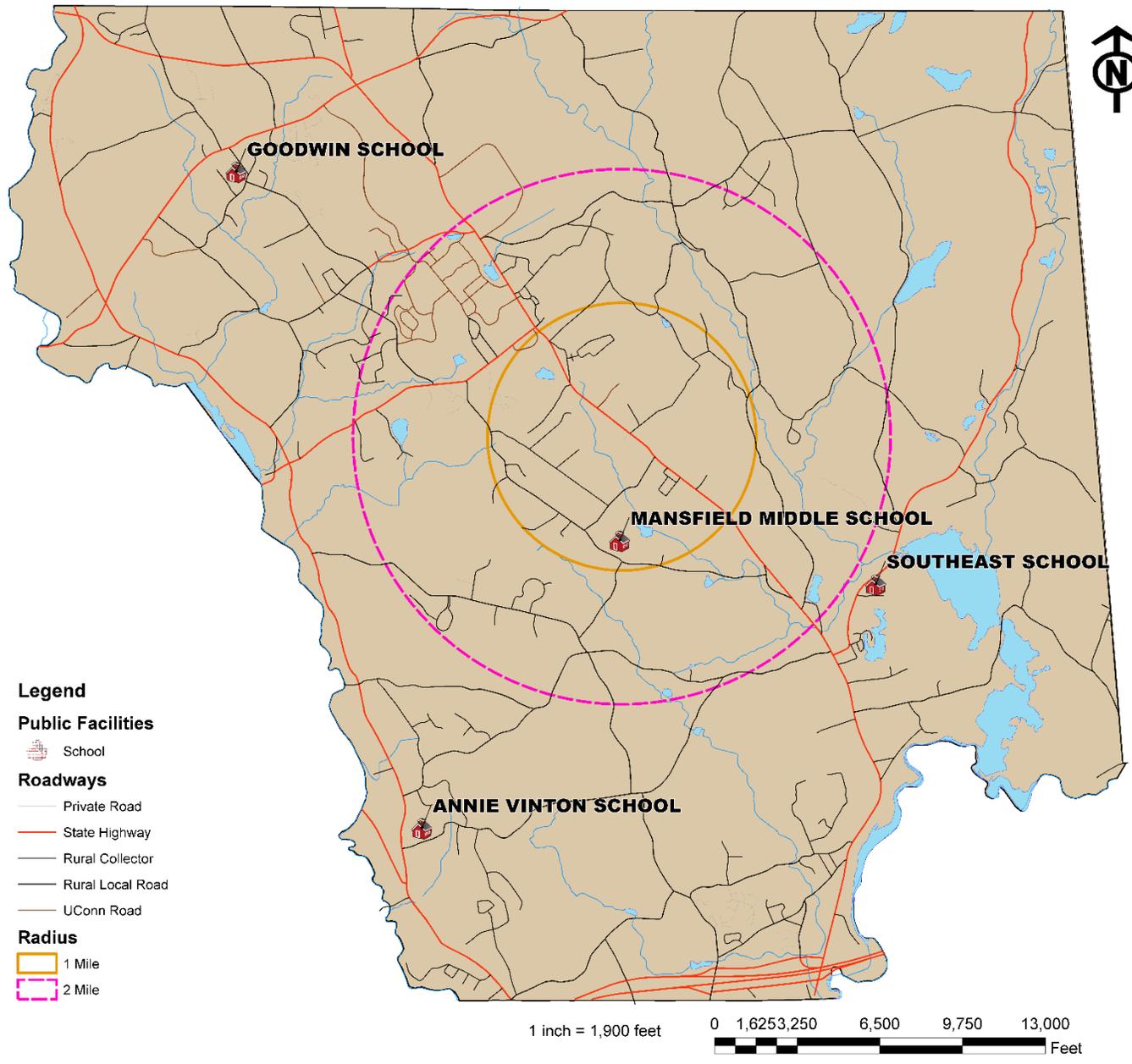


Other Town-Owned Property

- Town-owned property is generally either:
 - Developed with a municipal facility; or
 - Open Space; more research needed to determine which parcels could be developed.

Private Property

- Multiple sites that could potentially meet facility needs



Siting Considerations

- Sustainability Criteria for School Siting
- Availability of infrastructure
- Location near centroid
- Potential for co-location with another municipal facility
- Potential for reducing acquisition costs