VDOT MAINTENANCE AREA HEADQUARTERS CONSOLIDATION REVIEW

September 21, 2006

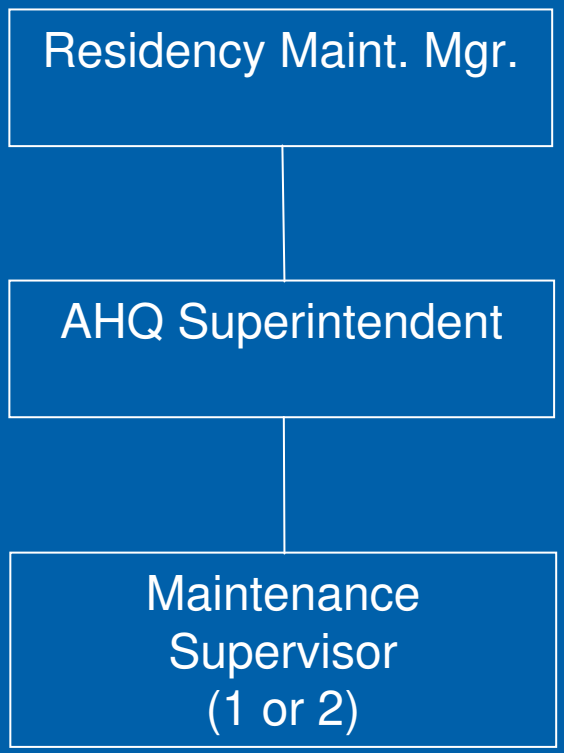
CURRENT CONDITIONS

- 218 AHQ Superintendents
- 212 AHQ locations
- 40 sub-AHQs
- 92 other maintenance properties

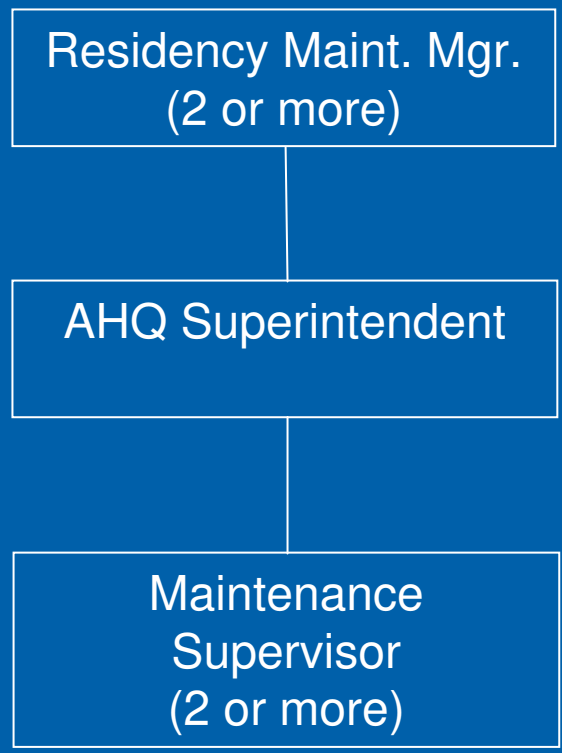
= 344 total facilities

Area Headquarters Organizational Structures

Traditional



Non-traditional



AHQ CONSOLIDATION REVIEW

The review developed a rigorous methodology to address two major questions:

1. How many AHQ superintendents are needed to oversee and manage work?
2. How many locations are needed to support maintenance operations?

FOUR MAJOR STEPS

1. # of AHQ Superintendents
2. # of AHQ Facilities
3. Facility Selection
4. Estimated Savings

Step 1
NUMBER OF SUPERINTENDENTS

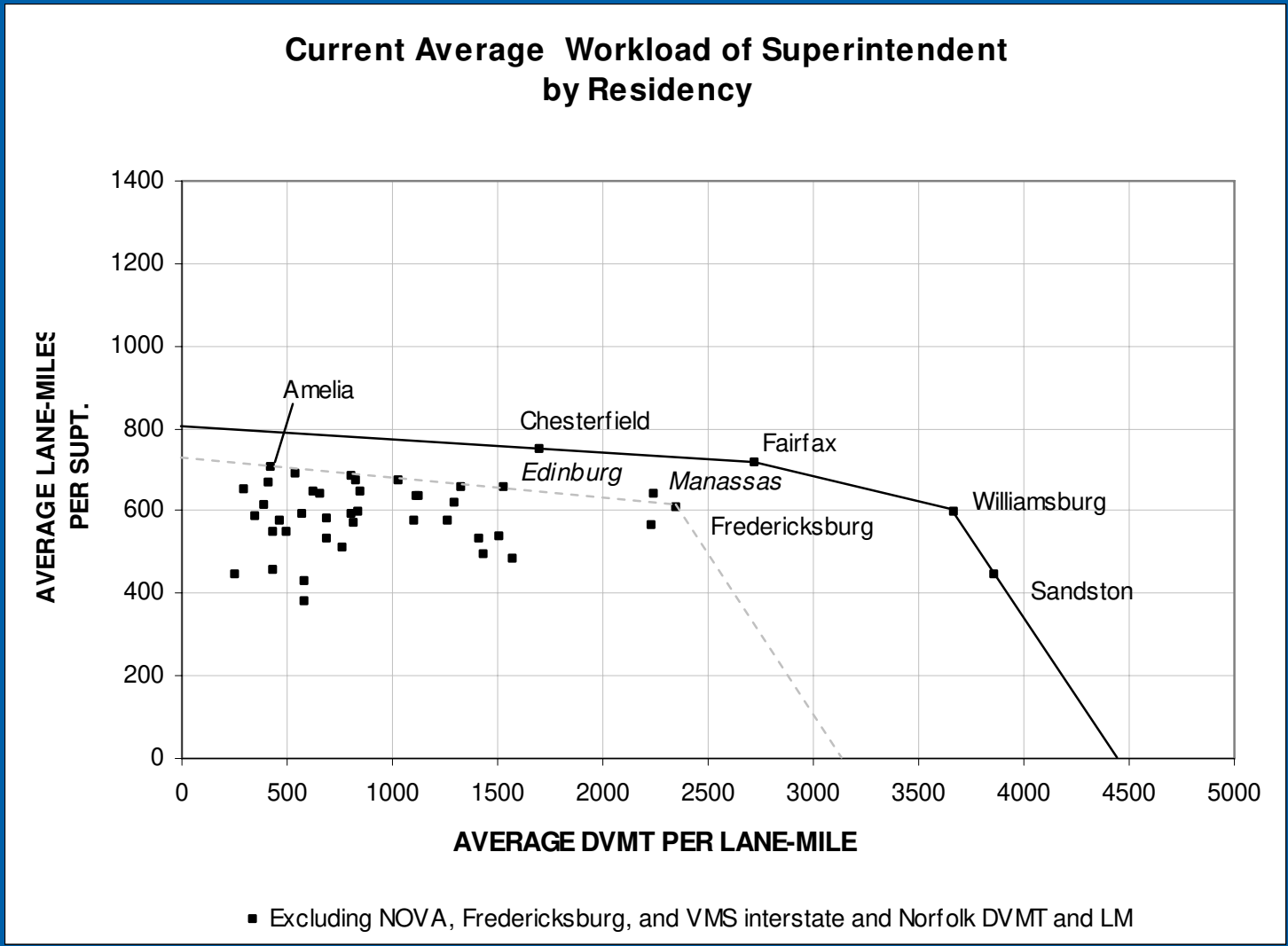
Method

1. Superintendent workload a function of:
   - Lane Miles
   - Daily Vehicle Miles Traveled per Lane Mile
   - Population
2. Calculated workload for all residencies based on these parameters
3. Identified residencies with highest workloads
4. Determined future number of superintendents by adjusting all residencies toward 2005 maximum observed workloads

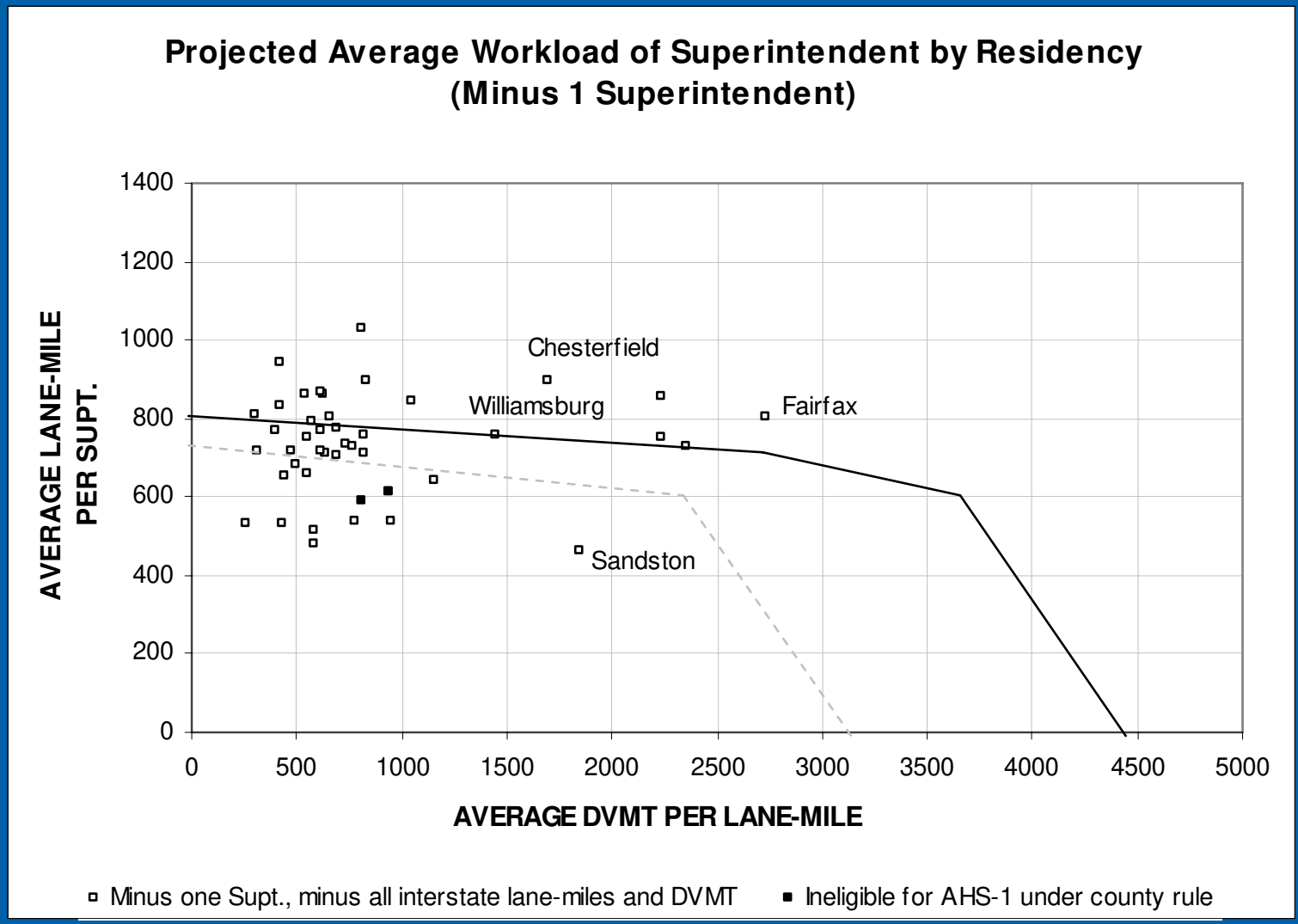
Analytical Constraints

- Retain a minimum of one superintendent per county
- Preserve existing residency boundaries
- Do not exceed maximum observed workloads after proposed changes

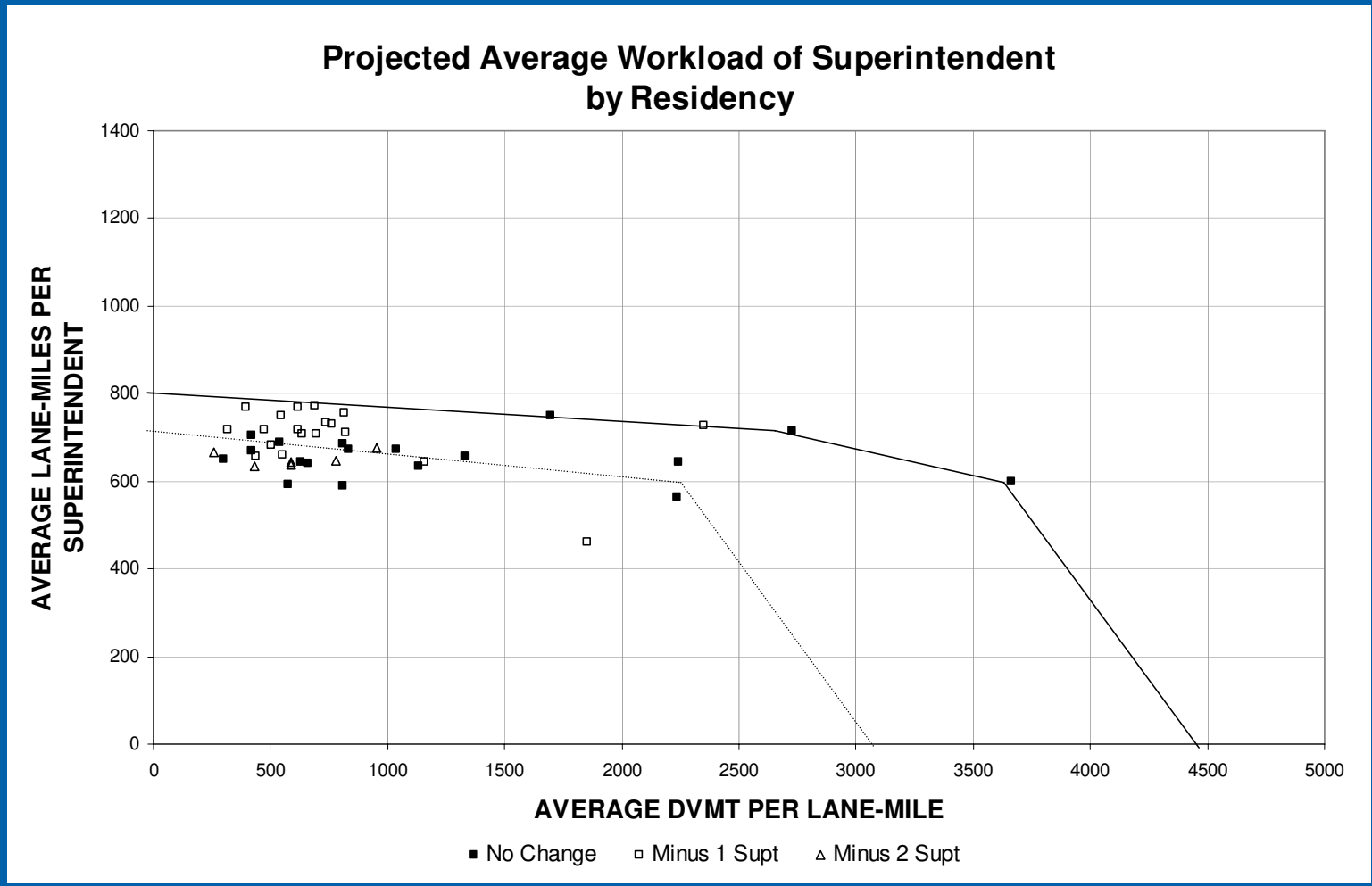
Step 1 (continued)
NUMBER OF AHQ SUPERINTENDENTS



Step 1 (continued)
NUMBER OF AHQ SUPERINTENDENTS



Step 1 (continued)
NUMBER OF AHQ SUPERINTENDENTS



Step 2
NUMBER OF FACILITIES

The Two Primary Influences

- Travel time for effective response in inclement weather and emergencies
- VDOT's unique role in storage of deicing chemicals
  - Cost of storage facility construction prohibitive to task contractors
  - Environmental requirements for storage
  - Multiple sites required for effective distribution

Three-Part Method

- Establish baseline number of facilities = number of superintendents
- Adjust number of facilities to provide adequate chemical storage capacity
- Adjust number of facilities to meet acceptable travel time

Residency need for deicing chemicals based on

- A 2005 AASHTO commissioned study of chemical application recommendations applied to a five-day storm for central Virginia
  - Application rate of 250 pounds per lane mile
  - Application interval of 3 hours
- Using National Weather Service meteorological data for frequency of freezing precipitation over a 50 year period

Chemical Application Rounds



# of rounds x chemical lane miles x application rate
= **tons of storage capacity**

Travel Time based on snow removal chemical application interval

- Maximum chemical application interval of 3 hrs
  → one-way winter travel time maximum of 90 minutes
- Winter travel time is twice that of good weather travel time
  →Maximum allowable good weather travel time

= 45 minutes

- Acceptable for ordinary maintenance / emergencies
- Current condition for many locations

Pilot Summary Results

Residency:	Lexington	Charlottesville	Amherst
Current Number of AHQ Superintendents:	5	5	4
Recommended Change:	-1	-1	-0
Amended Number of AHQ Superintendents:	4	4	4
Baseline Number of Facilities:	4	4	4
Adjustment in Facilities Needed for Chemical Storage:	+1	+0	+1
Adjustment in Facilities Needed to Meet Acceptable Travel Times:	0	0	0
Total Number of Facilities Needed:	5	4	5
Current Number of Facilities:	10	7	5

Current Status of Review

- Methodology applied statewide and sent to Districts for review in early August
- Districts submitted proposed exceptions September 5th
- Commissioner and Executive Staff currently developing final recommendations and action plan