



County of Fairfax, Virginia

Potential Fairfax County Photo Red Light Program

Board Transportation Committee
December 10, 2013



Introduction

- Fairfax County previously had a PRL program
 - 2000 till 2005
- State enabling legislation allows re-establishment of Photo Red Light (PRL) programs, if certain engineering and safety requirements are met
- Locations will require VDOT approval



Current Legislation

- Allows re-establishment of Photo Red Light Programs
- Establishes requirements for:
 - engineering and safety / accident studies
 - minimum signal clearance intervals
 - public awareness and notice programs
 - ongoing evaluation and certification requirements
- Requires law enforcement officer to swear / affirm certificate of violation
- Establishes maximum \$50 fine



Existing PRL Programs in Northern Virginia

	Intersections in PRL Program	Intersection Approaches in PRL Program	<i>Additional Pending Intersections</i>	<i>Total Signalized Intersections (Approx.)</i>
Arlington	4	4	7	225
Alexandria	3	3	-	250
Fairfax City	3	4	3	61
Falls Church	2	4	-	15



Other Virginia Jurisdictions with PRL Programs

- Virginia Beach
- Newport News
- Chesapeake
- Albemarle County
- City of Richmond

Note: Some of these programs are limited to only one intersection



Intersection Selection Factors

- Accident rates
- Red light violation rates
- Difficulty of apprehending violators
- Ability to apprehend violators safely within reasonable distance
- Results of Engineering Safety Analysis



Engineering Safety Analysis

- Intersection and Signal Data
 - Visibility / line of sight / signal head placement and dimensions
 - Engineering countermeasures / pavement markings
- Signal timing and phasing
- Vehicle detection evaluation
- Traffic volumes and movements (time of day / type of vehicle)



Engineering Safety Analysis

- Crash and Enforcement Data
 - 3-year history
 - Violation and accident rates
 - Enforcement issues
- Significant inter- and intra-agency cooperation and coordination required
 - FCDOT
 - FCPD
 - VDOT



VDOT Review and Approval Process

- Complex Process
- Request for land use permits to install Photo Red Cameras within VDOT right of way will fall under provisions for Special Request and Installation Process.
- Input / Decisions required from:
 - Regional Traffic Engineer
 - Area Land Use Engineer
 - Central Office Traffic Engineering Division
 - District Administrator



Photo Red Operation

- Certificates sworn / affirmed by law enforcement officer (Legislative Requirement)
- High rejection rate (right turn on red, emergency equipment, funerals, etc.)
- Additional manpower required for affirmation of violations
- Significant initial planning and engineering cost
- May recoup ongoing operating costs



2000 – 2005 Photo Red Light Program

- Fairfax County PRL program from late 2000 until mid 2005
- At its peak, there were 13 cameras used in a total of 15 locations.
- County owned the equipment
- Program was supported by 2 FTE positions in FCDOT and 5 FTE positions in FCPD
- Over time the number of violations dropped at intersections with cameras
- Program ended with expiration of legislative authority



Evaluation of Previous Virginia PRL Program (2004)

- Programs were technically feasible
- Most of the Northern Virginia programs had costs that were higher than revenues.
- However:
 - Did not account for cost of alternate safety improvements
 - Did not account for possible societal benefits
 - *Data was limited due to ending of the programs (3 to 6 years total)*



Crash Evaluation Based on Fairfax County Data Only (2004)

- **Crashes Attributable to Red Light Running:**
 - Decrease in crashes (-24% to -33%)
 - Decrease in injury crashes (-20% to -33%)
- **Rear End Crashes Attributable to the Red Light:**
 - Increase in rear-end crashes (50% to 71%)

***Likely reduction in the severity of crashes and injuries
but not explicitly studied***



Annual Net Revenue (2004 Data)

Jurisdiction	Net Revenue (NPW)	Annual Net Revenue
Fairfax County	(\$276,692)	(\$97,811)
Alexandria	(\$218,755)	(\$40,382)
Arlington	\$46,463	\$12,499
Fairfax City	\$59,610	\$11,004
Falls Church	\$1,541	\$545
Vienna	(\$195,825)	(\$52,677)

NPW: Revenue calculated in Net Present Worth



Summary

- 2012 Code amendment allows for renewal of Photo Red Light Programs by localities.
- PRL programs currently exist at 12 intersections in several NoVA jurisdictions. Some intersections have cameras on more than one approach.
- PRL programs in several other Virginia jurisdictions
- Current technology provides more information than the PRL program that ended in 2005



Summary - Crashes

- Likely to reduce total crashes caused by red-light running at selected intersections
- May increase rear-end crashes at selected intersections
- May reduce severity of crashes at selected intersections



Summary - Costs

- Significant start-up costs likely for location selection and safety studies:
 - Engineering Consultant to perform Engineering Safety Analysis for a 25 camera program.
 - Additional hours for follow-on evaluations to determine effectiveness.
- Ongoing operational costs may be offset by revenues:
 - 2 Police Officers and a unit supervisor for 25 camera program (\$300K + personnel costs)
 - Fewer incidents would be actual violations based on criteria included in the enabling legislation (approx. 2/3 Reduction)



Questions?