



Original

**Proposal  
Red Light Camera  
Enforcement Program**

**City of Elk Grove, CA**



**Due: January 5, 2007 – 4:00 PM**



**REFLEX TRAFFIC SYSTEM INC.**

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January 4, 2007

Troy Brown, MPA  
Administrative Services Manager  
City of Elk Grove  
8380 Laguna Palms Way, Suite 100  
Elk Grove, CA 95758

Redflex Traffic Systems Inc (Redflex) is pleased to present our proposal to the City of Elk Grove. Our proposal has been prepared in accordance with the specifications, terms, and conditions shown in the Request for Proposal (RFP) for Automated Red Light Photo Enforcement Services.

The Redflex will provide a turnkey digital Automated Red Light Camera Program that will meet the goals of the City to improve traffic flow, reduce the number of red light violations, and improve community and pedestrian safety. Our solution will work closely and provide red-light violation evidences to the Sacramento County Court System.

Our Solution includes the provision and installation of all equipment necessary to implement, maintain, and operate the program. We will also provide a public awareness/community education campaign. In addition, our Solution includes the provision of training for the Elk Grove Police Department, Sacramento County Court, District Attorney, and other officials involved in the use of the system. Lastly, we will ensure that we provide expert witness testimony in Sacramento County Courts confirming functionality and accuracy of the system.

Our primary and core business focus is photo enforcement and public safety. Redflex has supported programs in the USA since 1986. We are the only vendor with this depth of experience and lineage that currently supports programs dating back to the 1980's without **any interruption of service.**

Redflex Traffic Systems is the largest provider of photo enforcement solutions in the USA. With over 200 employees, Redflex currently supports over 100 municipal contracts from coast-to-coast, including the:

- The largest single red light enforcement program in the USA
- The first mobile speed enforcement program in the USA
- The first fixed Freeway speed enforcement solution in the USA



Redflex has reviewed the City's standard professional services contract. We often incorporate a professional services contract as the basis for an agreement with our municipal client's. To this point, we do not have an issue with the use of the sample contract that the City has supplied as the basis for our agreement.

In instances in the past where we have used similar contract formats, Redflex has come to an agreement with our client to supplement a standard professional services contract to address the unique requirements of the photo enforcement program and to assure compliance with Section 21455.7 of the California Vehicle Code. The categories that are commonly used in a photo enforcement contract include the following: Recitals, Definition of Terms, Contract Term, Definition of Services Provided, Licensing, Representations/Warranties, Termination for Cause/Convenience (including reimbursable equipment related expenses in the event of termination for convenience), Confidentiality, Indemnification/Liability (your sample coverage requirements are reasonable and we may suggest some minor language changes), Notices, Dispute Resolution, Miscellaneous, Designated Equipment Locations, Construction/Installation Obligations, Equipment Maintenance, Compensation and Additional Rights.

In summary, with over 100 municipal contracts in force, including some 50 alone in California, we are confident that if we are selected that an agreement can be reached with the City using your standard professional services contract and insurance requirements as the basis for our contract.

We thank you for the unique opportunity. We are confident in our people, our technology and our approach and are enthusiastic in our hopes to support this important community safety endeavor.

Kind Regards,

A handwritten signature in black ink that reads "Aaron Rosenberg".

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### 3. Qualifications and Experience

In partnering with Redflex, the City of Elk Grove will be supported by a combination of truly unrivaled people, technology, knowledge and experience; which will provide the secure foundation required to sustain a world-class community safety program for the Citizens of Elk Grove.

Redflex currently **supports thirteen programs across Northern California**, including **Marysville, Stockton, Rocklin, San Mateo** and the longest-running program, **the City of Fremont**. This experience is exemplified through the support of our partner cities, local Police Departments across the County and the Superior/County Courts.

We are also pleased to announce that Redflex has been **selected** many great cities like Newark, Riverside and Lancaster.

Our Photo Enforcement Programs have empirically demonstrated to produce the greatest community safety statistics in the industry. These results are so profound, that many of our competitors will actually tout and quote the benefits achieved by cities that have partnered with Redflex.

As demonstrated over the years, Redflex will provide a perfect complement of our state of the art, tried and proven technologies; sterling customer service and the most robust back-office available. This combination offers the City of Elk Grove **guaranteed industry-leading results, without the operational or legal risk** that is often been publicized about less credible and less reliable vendors across the industry.

#### Holistic Approach

We in believe in a more holistic approach to public safety; we are very proud to be working with cities in a consultative manner; which will ensure our programs are in the best interest of the City. For example, in working with the City of Elk Grove, Redflex offers the following City-centric highlights:

- **Caltrans Experience.** Redflex is pleased to be able to provide a proven methodology and demonstrated experience working with Caltrans.
- **Broad experience across the State of California.** Redflex supports over 45 contracts across the State and have been selected by an additional six municipalities; of which we are currently completing contract negotiations. This provides us in-depth knowledge of all applicable codes; statutes and most importantly, all pending state legislation.
- **Real-Time Access to California Department of Motor Vehicle (DMV)** that will provide a truly outsourced operation for the City of Elk Grove.
- **Use our “Strategic” partnership with NLETS** to identify out-of-state license plates.
- The **only vendor** with operational all-digital photo enforcement programs in the State of California that have achieved **the coveted International Association of Chief of Police (IACP) certification.**





Operating a program without achieving IACP certification is a very risky proposition.

- Greatest system performance. Through controlled and audited procedures, the **Redflex system has proven in many jurisdictions to achieve a 90% citable image rate**, which is documented as the highest in the industry. Our industry-leading system performance translates directly into:
  - **Greatest Public Safety.** In program after program, with the Redflex system, cities have reduced intersection crashes in the magnitude of 50%.
  - **Greatest Fiscal Returns.** In program after program, with the Redflex system, cities have generated millions of net surplus revenue.

To substantiate this claim, please see the enclosed article from WTOG Savannah, Georgia.



01/10/05

#### **New Red Light Cameras to Go Live**

Running a red light in Savannah without getting caught is getting harder to do. There are now red light cameras at three busy Abercorn Street intersections.

City officials told us they would start using the cameras today to send out warning tickets, but the cameras aren't ready yet. They are still going through final testing. When they are finally operational, watch out.

There's been a camera operating at White Bluff and Abercorn. New cameras will soon go live at Mall Boulevard and Abercorn and DeRenne Avenue and Abercorn.

"As long as I don't get caught they're great," said motorist Lois Lavrisa.

The city installed them to cut down on accidents. "If that works, then that's one way of having an effective deterrent," said motorist Bill Flammer.

While the cameras are designed to make the intersections safer, they are also a cash cow for the city. So far just the one camera at Abercorn and White Bluff has generated more than \$700,000. That's about 14,500 tickets in past 15 months.

Will the two new cameras be just as productive and profitable? "I anticipate the same thing happening," said the city's Sean Brandon. "Initially, the first few months of a very high number, then constant decrease month after month."

For example, in December 2003, soon after the first red light camera was operating, the city mailed out more than 1,500 tickets. One year later, the number decreased dramatically, to about 700 tickets.

Here's another way to look at it: tickets dropped from 40 a day to 18.

"People are starting to get the idea, they're slowing down more," Brandon said.

#### Critical Information

- Program Size: One Intersection (Abercorn & White Bluff)
- Public Safety: 55% Reduction in Violations (Dangerous Driving)
- Fiscal Return: \$700,000.00 in 15 months



Additionally, Redflex provides the most advanced “State of the Art” proven technologies.

Our technologies provide the most tried, tested and proven configurations in the industry. Some key highlights include:

- 100+ municipal programs across 17 states
- 700+ systems fully operational
- 100% contract renewal
- Extreme climate stress tested
- Remote access
- 24x7x365 “Live” video with recording and instant replay options
- Currently support 7 of 10 of the largest municipal programs in the USA
- Currently support inaugural programs in 8 states across the USA, including the 1<sup>st</sup> program in California.
- Smallest and most aesthetic auxiliary camera housings, with no intrusive road-side cabinet options – smaller than a “hand.”(See Image Above)
- Proven capabilities to implement a full service program in 30 days from the Red Light Program Kick-off.



#### Financial Resources

Unfortunately, as the City will learn, this industry has experienced a **high degree of vendors going bankrupt, insolvent and into receivership**, it is very important to scrutinize each vendor’s financial statements.

Over the past 12 months, no less than two vendors have gone bankrupt, each of these vendors supported cities that believed the **web of stories spun by vendors about being private and very well funded**; which ultimately resulted in horror stories, bankruptcy, City embarrassment and legal issues.

Redflex is the only vendor fully dedicated to the photo enforcement industry, which not only has a long history of **“real” profitability**, that does not need any form of outside funding to support the City of Elk Grove; but that also has a **\$19,000,000** line of credit.

Since the mid-1980s we have successfully partnered with Cities like Chicago, Minneapolis, Albuquerque, San Jose and Scottsdale; several which currently support **the largest digital**



photo enforcement programs in the USA, Redflex has proven its capabilities and has demonstrated its effectiveness in complementing and supplementing existing law enforcement and engineering activities. Also, we appreciate the community's support to move forward with a red light camera enforcement program and recognize that poor implementation, untested technologies and limited large-scale experience can reduce public confidence, reduce public safety and perhaps tarnish the sterling reputation that all involved agencies have developed over the years.

Redflex currently maintains the industry's most robust infrastructure and we have over 180 employees, which are solely dedicated to supporting our photo enforcement programs from coast-to-coast. We currently support more programs than all of the competition combined. We are very proud of our success and more important our lineage and heritage in this industry. **With 90 programs in USA**, we are the longest-established vendor in the industry. We currently support the very first, inaugural programs in eight states, including:

- State of Illinois, City of Chicago
- State of California, City of Oxnard\*
- State of Arizona, City of Paradise Valley
- State of South Dakota, City of Sioux Falls
- State of Ohio, City of Toledo
- State of Oregon, City of Beaverton\*
- State of Minnesota, City of Minneapolis
- State of New Mexico, City of Albuquerque

\*Denotes programs which converted technologies and vendors and replaced incumbent vendors; thereby also transitioning back-offices.

Supporting programs since the mid-1980s, Redflex staff is proud to be the only vendor that has a **100% contract renewal rate** and we have never suffered a negative legal judgment or had a program shut-down for operational issues.

Redflex currently has the processing capacity of an excess of 6,000,000 citations annually. In numerous jurisdictions, Redflex processes in excess of **100,000 red light citations on an annual basis**.

To ensure we provide the City of Elk Grove and its Citizens a program that exceeds their high expectations and building on our success with 45+ cities across the State, Redflex operates the largest Customer Service and Operations Center in the State of California. This office would guarantee the highest service levels possible and customer satisfaction possible.

With our advanced and proven technologies, Redflex has been privileged enough to partner with some of the greatest communities in the United States, including the Cities of Chicago, San Jose, Virginia Beach, Savannah and Albuquerque. Additionally, we are very pleased to have been

"The camera technology proposed by Redflex was determined to be significantly superior to that of the competition."  
Sgt. Ryan Arnold







recently selected by the Cities of Davenport, Iowa; Cincinnati, Ohio; Auburn, Washington; Plano, Texas; Baldwin Park and Newark, California.

I am solid in my recommendation that Redflex is the best company for the City of Columbus, as are my counterparts on the committee. Each member favored Redflex over all of the competition.

Lt. Jeff Blackwell

We are particularly proud to announce that in the last 18 months we have executed 36 new contracts, including great Cities like: **El Paso, Texas, Riverside, California, Columbus, Ohio and Albuquerque, New Mexico.** Each of these cities completed a yearlong diligent RFP and evaluation process and as a result of these efforts; Redflex was selected as the best partner for the City. In fact, the cross-functional selection committee voted **unanimously** in favor of Redflex over all the competition.

As the Selection Committee evaluates our proposal, we are confident that our verifiable capabilities, experience delivering programs of similar magnitude and complexity and our proven public safety benefits will demonstrate that Redflex is clearly the most qualified vendor to support the City's efforts and to deliver a full turnkey system; as clearly specified in the RFP.

Redflex is proud to provide references, as the City has requested, specifically demonstrating our experience on projects of a similar nature...for which the firm has provided the same or similar services and technologies.

Below several customer references, each which offers similar program size, complexity and magnitude as the City of Elk Grove.

**Agency**

Stockton Police Department  
Officer Tony Delgado  
(209) 937-8018  
Tony.Delgado@ci.stockton.ca.us

**All Approaches have combined video & stills**

13 Live Systems

Fremont Police Department  
Geneva Bosques  
(510) 790-6622  
Gbosques@ci.fremont.ca.us

8 Live Systems

San Mateo Police Department  
Lt. Rick Passanisi  
(650) 522-7743  
rpassanisi@cityofsanmateo.org

5 Live Systems

Marysville Police Department  
Sergeant Dennis Hauck  
(530) 870-1026

5 Live Systems



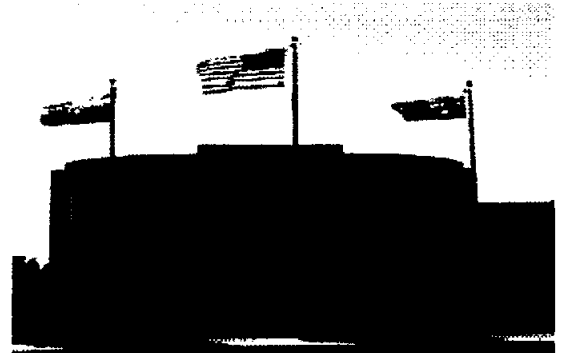


dhauck@marysville.ca.us

City of Culver City  
Sergeant Allen Azran  
(310) 253-6268

26 Systems

To ensure we provide sterling customer service to the City Elk Grove from the very first client meeting, through program kick-off & implementation, for the lifetime of contract, and the Citizens of the City; Redflex maintains a **largest Customer Service, Operations & Maintenance Center based in the State of California**. This office not only guarantees the highest service levels possible, but also provides a local citation processing and operations center for customer management activities like training, system maintenance and program management.



This office provides the infrastructure for processing thousands of citations annually, program management and all ancillary support services.



#### 4. Work Plan

Redflex is very committed to utilizing **City approved local** contractors to aid in the construction and implementation of each system. Redflex provides extensive oversight and construction management during each step of the implementation. Construction efforts follow a comprehensive methodology and guide that has been tried, tested and proven effective for working with local sub-contractors and ensuring all project timelines are met.

To demonstrate our abilities to **effectively coordinate and collaborate** closely with the City, Redflex would like to commit to having all of the City's desired intersection approaches fully operational **within 30 - 60 days** of the Notice to Proceed. In City after City, we have proven to deploy programs of substantial magnitude in this period of time.

For the last year, Redflex has averaged approximately 25 new installations per month, with a peak capacity of 40 new installations in one month. Please note the highlighted task clearly demonstrate the degree and impact of the city staff involvement.

<b>Task</b>	<b>Duration</b>
<b>Dayton Project Plan</b>	<b>60 days</b>
Contract Signing (Estimated contract execution)	1 day
Kick-Off Meeting	1 day
Introduce Redflex Project Manager	1 day
Identify City Project Manager	1 day
<b>Field Technology Component</b>	<b>25 days</b>
Obtain Proposed Intersection List From Client	1 day
Preliminary Field Inspection of Proposed Locations	1 day
Video Survey of Intersection	5 days
Conduct Violation Counts	7 days
Request As Built Drawings from Client	1 day
Received Drawings from Client	3 days
Prep Drawings for Red Lining	3 days
Red Line Drawings Showing Camera Equipment	5 days
Submit Redflex Drawing to Client for Approval	2 days
Client Review Drawings & Provides Comments (estimated)	7 days
Client Return Drawing with Comments	2 days
Second Submittal of Drawing to Client for Approval	4 days
Client Approval of Redflex Drawing	2 days
Submit Bid Packets to Contractor	3 days
Review Quotation and Make Decision	1 day
Submit PEV to Construction Director to Authorize Work	1 day
Submit Signed PEV to Accounting	1 day
Fax Letter of Intent to Contractor	1 day
Submit Subcontract Agreement to Contractor	1 day
File PEV, Subcontract Agreement & Insurance Certificates	1 day
Return Signed Fully Executed Copy of Subcontract Agreement to	2 days

Trade Secret





<b>Task</b>	<b>Duration</b>
Contractor	
<b>On-Site Construction Equipment in City (Intersections 1-10)</b>	<b>3 days</b>
Camera Enclosures (Cabinet-less)	3 days
Flash Enclosures	3 days
Pelco Pole Bases	3 days
Cat 5 Cable	3 days
Pre Construction Meeting/Mark Equipment Locations	1 day
Subcontractor Commence Construction	14 days
Underground Work	7 days
Poles & Wiring	5 days
Equipment Installation	5 days
Photo Enforcement Advisory Sign Installation	2 days
Finalization	1 day
Post Construction Check	1 day
Ship Redflex Camera Equipment	3 days
Installation of Redflex Camera Equipment	5 days
Test Equipment Operability	3 days
<b>High Speed Internet Connection</b>	<b>7 days</b>
Order DSL Service	1 day
DSL Service Provider Assigns Address and Account Number	1 day
POTS Line Installation	4 days
Communications Install - DSL Upgrade	2 days
Test Connectivity	2 days
<b>Requirements Analysis &amp; Ancillary Documents</b>	<b>25 days</b>
Prepare Kick-Off Meeting Presentation	2 days
Prepare Business Rules (Violation Criteria) & Ancillary Documents	2 days
Business Rules	2 days
Warning Letter	2 days
Citation - Notice to Liability (Front)	2 days
Citation - Notice to Liability (Back)	2 days
Instructions Page	2 days
Options Page	2 days
Mailing Page	2 days
Default Letters	1 day
Police Authorization On-Line Access Form	2 days
Public Awareness Material	1 day
Client Kick-Off Meeting/Present Documents	1 day
Client Follow-Up Meeting to Finalize Requirements	1 day
Signoff of Bus Rules & Ancillary Documents by Client	7 days
Submit Application to Request Access to DMV for Plate Inquiry	1 day
Client Submits Letter to DMV to Request Access for Redflex (RTS Agent of PD)	1 day
DMV Authorizes Access to Redflex	7 days

Trade Secret





<b>Task</b>	<b>Duration</b>
<b>Software &amp; Back Office Customization - Smartops</b>	<b>25 days</b>
Schedule Meeting with Software Developer to Submit Requirements	1 day
Requirements Submitted to Software Developer	1 day
Notices Submitted to Software Developer	1 day
Obtain Sign-Off From Software Developer	1 day
Advise Developer of Forecasted Go Live Date	1 day
Develop, Test & Implement Back Office	20 days
Print Sample Notices	2 days
Generate Reports from WebOps	2 days
Provide Access to Police, Court and City Personnel to WebOps	1 day
Implement into Production	1 day
<b>Project Hand-Over to Production</b>	<b>1 day</b>
Schedule Meeting With Ops Manager & PSA	1 day
Submit Processing Requirements for Production	1 day
Obtain Sign-Off From Ops Manager	1 day
<b>Police Personnel Training</b>	<b>5 days</b>
Prepare Training Agenda and Documentation	2 days
Conduct Training	2 days
Submit Training Certificates	1 day
<b>Warning Period</b>	<b>30 days</b>
Warning Letter Period Commences	30 days
Ticket Issuance	1 day

Trade Secret

In addition to our scalability in proven experience in large cities like Chicago, I would also like to reference our capabilities in smaller cities, like Loma Linda, California. In Loma Linda, working closely with the City, we installed 7 new systems in less than 3 weeks from the contract being executed. In El Paso, we installed the first 5 systems in less than 30 days.

For more information on Loma Linda, please don't hesitate to contact Lt. Hector Guerra @ (909) 387-3505 or Sergeant Jack Matthews in El Paso @ (915) 564-7044.

In the **City of Chicago**, Redflex had the first intersection **fully operational in 30 days** and an additional **40 systems operational within a period of 90 days**. For information regarding the City of Chicago, please contact Deputy Director John Bills @ (312) 907-5453.

**Staff Involvement**

During this initial Kick-Off phase of the program, the Redflex team will work closely with the City Police Department, its Department of Public Works including Traffic Engineering, County Courts, City Financial, and the DOT as well as other critical City agencies as a means to develop an integrated project plan and finalize:





- Project work-streams
- Role and responsibility identification
- Milestone identification
- Timeline formalization
- Issue resolution/escalation procedures, and
- Change management

Our Program Management Office has already created a baseline plan for the installation process, which includes the **acquisition of necessary permits; site design**, construction, the identification qualified subcontractors and **equipment testing**; resulting in a successful “go-live” of the full program **within 30 - 60 days**. To achieve this aggressive outcome, Redflex uses our tried and tested **implementation methodology**, which breaks work down in to defined and easy to manage steps. The basic steps include the following:

### **Analysis and Design**

The Analysis and Design phase allows the project team to focus on defining City-specific business processes, collecting requirements and documentation within the City DOT/DPW, Police Department, Traffic Engineering, Court and other critical City agencies, reviewing and developing detailed intersection and engineering drawings, defining system configurations and customizations required and determining external system integration requirements. Additionally, during this phase of the project, the Redflex Project Team will work closely with the Police, Court, DOT and other agencies to identify and codify City-specific citation issuance and processing criteria to ensure the highest quality evidence, most secure chain of custody and highest levels of overall quality assurance possible. Using local State Licensed Professional Engineers, local traffic signal construction contractors, and upon receiving guidance from the approving body of engineers, Redflex will meet the civil and electrical engineering constraints of each intersection in each jurisdiction. Redflex will have developed a design for the Automated Camera Enforcement System, and will be responsible for submitting plans as prescribed by City Code and all necessary permits to the City for approval. Licensed, insured and bonded contractors and traffic signal engineers will complete all Redflex construction. We will make sure that we strictly adhere to all City, County, State and Federal guidelines.

### **Installation**

During the Installation phase the project team performs the tasks of installing necessary equipment, such as the **communications infrastructure, electrical connections**, installing **signage** and configuring Redflex applications to meet the City’s requirements as outlined in the Schedule of Program Milestones. Redflex will perform all the required preparatory and installation work essential for the City’s program for the specified intersection. During the construction phase, Redflex will work very closely with critical City Departments, such as the DOT and to determine the optimum placement of the camera equipment within the City’s identified intersection. These activities include conducting a



detailed **engineering analysis** of each proposed location to layout the equipment's configuration and to contract with local engineering and construction firms to perform the designs, **preparing CAD documents** and installation and integration of the equipment within the City's infrastructure in accordance with the established protocols and procedures that were developed and successfully tested by Redflex. All of these processes will be conducted with "hands-on" oversight and involvement of numerous members of the Redflex Construction and Program Management Teams. Redflex will remain responsible for the design and completion of all required engineering drawings, installation procedures of subcontracting parties, the placement of detection devices, placement of intersection furnishings and all communication and electrical connections.

Working our local partners, Redflex will develop designs and installation plans to explicitly meet all City requirements, while being in strict compliance with City, state and federal guidelines. Redflex will develop design plans and CAD documentation for preparation and approval from appropriate City agencies.

**As a result of the autonomous nature of our system set-up, the City will experience minimal disruption. This includes minimal impact on traffic flows, lane closures and interference from general construction efforts.**

### **Deployment & Testing**

The Deployment phase of the project focuses on deployment planning, developing marketing and public awareness campaigns, program "go-live", and total system testing and training of the identified City Staff. The Redflex team will rigorously test each camera site, program processes and evaluate the output to ensure effective program operations. All violation detection and capture processes and protocols are thoroughly tested and are totally validated prior to the systems becoming operational. These testing procedures include all hardware (camera units, detection devices, interfaces, etc), software and service components (File Transfers, Public Awareness) of the program. These precise testing protocols ensure that a maximum number of violations are being captured and have been empirically tested and proven to enable the industry's leading citation yield rates.

### **Specifications**

Redflex will provide all labor, materials, appliances, tools, equipment, software, facilities, documentation, training, transportation, and services necessary for the Automated Red Light Photo Enforcement Services.

Our proposed solution includes electrical connection to commercial and emergency power supplies, physical installation, connection to existing termination blocks, and connection to telephone lines (if applicable).

The proposed automated red light system will comply with AB 1022 and all California Vehicle Code sections governing their operation including CVC sections 21466 and 21466.5 (Lighting).



Redflex will coordinate installation details and schedules with the City to ensure adherence to the implementation schedule. We will support the entire system with engineering, administration, maintenance, repair, and operational documentation as specified herein. In addition, Redflex will ensure that the equipment, materials, and installation comply with all the provisions of the National Electrical Code and all local electrical, fire, and building codes, local seismic requirements and applicable FCC rules and regulations.

The Redflex Solution is designed to detect potential red light running violation as such the system will:

- Be direction sensitive and lane specific.
- Be capability of monitoring multiple lanes of traffic;
- Have the ability to record event-specific evidence to substantiate multiple, simultaneous and/or concurrent violations occurring during any red signal phase;
- Have the ability to count the number of violations;
- Record digital scene image sets showing a series of views of the vehicle's approach to and travel in the intersection, and clear, unobstructed views along the length of the stop bar to provide visual records of vehicle movement before and across the stop bar with time into red on the recorded data bar.
- Communicate error messages;
- Record data pertinent to each violation that is embedded onto, and associated with, recorded violation images. The data associated to violation images shall contain the following information for each violation:
  - Unique violation identifier incorporating the City/County ID.
  - Location identifier (text) and preferably GPS co-ordinates
  - Date (MM/DD/YYYY) or (DDIMM/YYYY).
  - Time (12 or 24-hour clock).
  - Direction of travel.
  - Traffic signal phase.
  - Time into the 'red' phase.
  - Duration of the prior 'amber' phase.
  - Technology supplier



- Camera identification information
- Lane of travel
- Photograph ID number

### **Program Management:**

For the purpose of the City of Elk Grove we have selected the following project management team. The team is the most the most tenured individuals with the greatest depth of photo enforcement experience in USA. The key personnel include the following individuals:

- Project Manager, Joe Bernard
- Construction Director, Joe Tromba
- Customer Service Manager (Program Manager), Ray Torrez

The Program Manager for the City of Elk Grove is Mr. Ray Torrez. As a resident of Elk Grove his general duties will includes but are not limited to the following:

- Functioning as a coordinator between our staff and the City's staff.
- Coordinating the deployment of Redflex's resources.
- Working with the City's Project Manager to plan all Project activities and tasks.
- Meeting on-site with the City's Project Manager as frequently as deemed necessary by the City, at no additional cost to the City, to report on the Project's status and resolve outstanding issues.
- Preparing monthly status reports and submitting each status report no later than five (5) business days prior to the next scheduled monthly meeting.
- Ensuring tasks identified in the Project Schedule are performed in accordance with the Project Schedule. Acting as our point of contact for all matters relating to the Project.
- Facilitating meetings between the City and Redflex, when scheduled or requested.
- Ensuring the City's Project Manager or designee receive necessary information through regular and called meetings, written documentation, and formal and informal communications.
- Ensuring only competent, qualified experts from Redflex and subcontractors are utilized on this Project.



- Responding in writing to any written request from the City within five (5) business days from the date of request.
- Promptly responding when contacted by the City's Project Manager.
- Coordination with consultants, Sacramento County Courts, and various Departments in the City of Elk Grove. Redflex will coordinate with Sacramento County Courts regarding the implementation and operation of the Program.

Mr. Torrez specific tasks include the following:

- Attend kick-off and monthly progress meetings with personnel from Elk Grove Public Works Department, Police Department and Sacramento County Courts;
- Prepare and update a Program schedule in an electronic format. The Program schedule shall include a typical timeline from acceptance of contract to timeline, including 90-day acceptance period. (MS Project preferred);
- Prepare Monthly Progress Reports - including work accomplished during the past month, work scheduled for the upcoming month, any outstanding issues that may affect schedule and/or budget, and status of budget.
- Prepare meeting agendas, meeting minutes, including action items;
- Working with the Court Administrator and/or Court IT group to determine an effective way to get information for approved citations into the their system.

Mr. Torrez was a police officer for the Fremont PD for over 26 years. His final assignment was managing the Information Technology Unit of the PD.

The City should note that the assigned team also includes the following individuals:

### **Project Manager**

Leading the charge is Mr. Joe Bernard. As the designated Project Manager, Mr. Bernard has lead programs in over 20 individual jurisdictions, incorporating hundreds of operational digital systems. Mr. Bernard will act as the single-point-of-contact for the City during the implementation phase of the program.

Mr. Bernard has been with Redflex for over 9 years and has extensive supervisory experience in project management, operations, and City personnel training. Mr. Bernard has aided in the successful implementation of programs in dozens of cities. He directs and coordinates all activities related to the technology implementation including: project plan development, timelines and goal specification, staffing & scheduling, contingency plan development and resource allocation.



### **Construction Director**

Equally important to ensuring we deliver a program that exceeds the City's expectations and timelines is our dedicated Construction Director. Dedicated to the City is Joe Tromba.

Mr. Tromba is responsible for Field Engineering and Construction. He brings fifteen years of experience to Redflex in engineering and construction. Prior to joining Redflex Traffic Systems in early 2003, he held positions at Verizon Communications, Cox Communications and was owner of C&C Communications, an Engineering and Construction firm. While at Verizon, he was a long range planning manager responsible for fifty two wire centers. At Cox Communications he was responsible for engineering and construction of new build and rebuild. C&C Communications did design work and construction work for utility companies in three states. Joseph Tromba holds a Bachelors Degree in Electrical Engineering, an MBA and a post graduate certificate in International Banking and Finance. Mr. Tromba has personally led the successful installation efforts for an excess of 500 fully digital systems, which is more than all of the competition combined!

### **Additional Resources**

Tony Parrino, Field Installation & Maintenance Supervisor

Mr. Parrino installs and maintains computer controlled digital camera equipment and associated hardware. The Field Supervisor plans and conducts site surveys, camera unit installation and testing, and on-site/off-site system maintenance, including installs, diagnostics and upgrades.

Tony has over seven years of experience with Redflex Traffic Systems and he supervises a seasoned team of technicians who have successfully serviced hundreds of photo enforcement systems across the United States. Retired from the Air Force with 20 years experience as a Communications Field specialist, Mr. Parrino has developed a keen understanding of the client issues involved in planning, executing and managing a major photo enforcement program. With years of experience in air traffic control and close involvement with Air Force Security Police, Mr. Parrino brings a unique blend of interpersonal, practical and technical skills and commitment to his work in implementing effective client solutions for improved Public Safety.

### **Operations Manager**

This individual directs and coordinates all the activities relating to the production and processing of violation transaction and will act as the liaison between violation processing, image transfer and the field technicians. Specific responsibilities include the monitoring of the production process for adherence to quality standards and compliance, the ongoing planning and monitoring of production schedules and workflow demands and the establishment of processes that ensure compliance with customer specifications. The Operations Manager dedicated to the City will be Jennifer Dwiggin.

Ms. Dwiggin has been with the Redflex Traffic Processing Center since 2003, and has been involved in the National Focus on Safety project and over a dozen programs nation wide. Prior to joining Redflex, she held leadership roles at Verizon Information





Technologies (formerly GTE) and CES (formerly Wellmark, Inc.). Ms. Dwiggin holds a Bachelor's degree from Georgia State University in Computer Information Systems.

As we have demonstrated, each Redflex Project Team member is an experienced professional, who has successfully implemented and maintained Red Light Enforcement programs and has been rigorously trained on Redflex's proven methodology and implementation tools that provide rapid, reliable results. The Redflex Program Implementation Methodology allows for systematic and integrated implementation processes. On the basis of our deep implementation experience, Redflex proposes achieving Full Program operation within the City's specified timelines.

We are confident that the Redflex team is the best and clearly the most experienced in the industry and that our proven cost sensitive, low risk solution represents the industry's most powerful combination of all-digital technology, reliability and program success.

In addition, Redflex makes our resources available to our business partners, and the City will not only have direct access to our Program Manager and Director, Construction Manager, CSR, Help Desk, Operations Manager, and Technicians, but you will find that the City will have access all the way through our Executive Management Levels as well, including our CFO Richard Eden and our President & CEO Karen Finley.

### **Training Requirements**

The Redflex **Training Services Department** will help the City develop and enhance their existing knowledge with the skills and competencies that are required to successfully deploy, maintain and operate an effective Red Light Camera Program. Participants will be trained utilizing specific **modules**, each that address specific components of the program; additionally each participant will gain valuable **hands-on experience** using Redflex hardware and software. At the end of each training module, team members have more than their newfound knowledge and skills -- they have the desire to apply them. Training is tailored to meet the needs of the customer, and can be delivered in a variety of formats, including:

- ✓ Pre-designed courses
- ✓ On-site instructor-led training
- ✓ Computer-based training
- ✓ Self-directed training
- ✓ One-on-one training
- ✓ Academic and In-field training
- ✓ Train-the-trainer instruction



Redflex institutes comprehensive training programs of up to **two-days in duration**. Redflex Training Programs adopt **adult learning techniques** and are designed on a competency based learning framework to impart a clear understanding of the overall purpose and operation of the Redflex Photo Enforcement Program. Specific modules are developed to meet the unique requirements of the Courts, Law Enforcement and other relevant City personnel. Specific training modules include information on:

- ✓ Camera equipment orientation
- ✓ WebOps: The Redflex web-based citation authorization module
- ✓ Camera maintenance, support & certification
- ✓ Court documentation, review & defense protocols
- ✓ Strategies for presenting red light camera citations in court

### **Adjudication/Court Implementation & Training**

As mentioned, Redflex provides specific training modules and instruction for parties that will be interfacing and impacted by the implementation of a Photo Enforcement Program. With over a decade of experience, Redflex recognizes the importance of providing focused training with respect to **Court Proceedings**. To this point, Redflex works closely with Court and Law Enforcement personnel and provides specific training on topics such as:

- ✓ Court administration of the program, including introduction & familiarization
- ✓ **Subpoena processing** timelines for evidence development
- ✓ Development and **coordination of hearing schedules**
- ✓ **Evidence introduction** and familiarization
- ✓ Development and coordination for the Juvenile Court process

The Redflex Training programs will be provided to the City throughout the lifetime of the program. We recognize the importance of having educated and trained City staff members with respect to the operation of this program. Additionally, we recognize the staff members **often rotate through various functions and divisions**. To this point; we are pleased to offer **additional training** to all City staff as they become involved with the Redflex program; **at no additional cost** to the City, regardless of the numbers of training sessions required.



## Public Relations Support Services:

Redflex recognizes that a focused and comprehensive **Public Awareness Campaign** is a critical element to the ultimate success of a Photo Red Light Enforcement Program. Redflex will work with the City Prior to the program becoming operational, as well as in an ongoing basis to develop a comprehensive **Public Awareness/Education Campaign**. Based on our experience, we can't stress enough the importance and critical nature of instituting an effective public awareness campaign that is truly targeted towards the citizens of Elk Grove.

Redflex is committed to ensuring that the City has a successful campaign that is built from the Redflex Public Awareness Services Department that provides a "**blitz**" of **public information** commencing prior to program "go-live" and followed by continuing education **activities throughout the life of the contract**, ensuring the continued support of the community. Based on our experience, Redflex is aware of the critical need to communicate effectively with the public when new programs and services are introduced. The support of the public is critical. Various independent public polling has shown that a clear majority of citizens across the USA approve of the concept of photo enforcement. Public awareness serves as a means to continue and build upon the support already developed. One of the most critical messages that need to disseminate to the public are the tangible safety benefits that accrue to every member of the community.

Redflex will support the City with a robust Public Awareness Campaign that will be based on research and public polling to **ensure tailored messaging** for the community.

Redflex will work with the City in the coordination of a major Kick-Off event designed to educate the community about the objective of the photo enforcement program and its applicability as a means to improve traffic safety. Redflex will organize the press conference at the project's commencement and coordinate all logistics, including preparing a sample media packet which may include:

- ✓ A press release
- ✓ An overview of the City's Red Light Camera Enforcement program
- ✓ A project "Fact" sheet
- ✓ A project question and answer sheet
- ✓ A photo enforcement "Facts vs. Myths" handout
- ✓ A map showing photo enforcement intersections and thoroughfares
- ✓ Background on similar successful projects elsewhere
- ✓ A straightforward explanation of photo enforcement technology
- ✓ A profile on Redflex (if desired by the City program manager)
- ✓ Biographical data on principal program administrators
- ✓ An explanation of how the program will be administered

- ✓ A spokesperson contact list

### **The Kick-Off Press Conference**

Redflex will work with the City to ensure that the program receives significant fanfare and publicity which establish a tangible awareness around the commencement of the program. The Redflex System can provide the City with violation images that can be immediately extracted from the system "live" at any designated City streets or school zone. One way to spread the word is to have an elected official safely run the light and in "real-time" to show the images with the press. We have found is powerful way to educate the press as to how the system operates.

### **Press Conference**





## Web Site Development

It is important to utilize this increasingly popular medium for communicating with the public regarding the City's program. Redflex can provide the City with sample web pages that can be utilized to convey information about the program. We will work with the City to provide copy which will highlight the program and address many frequently asked questions.



[Home](#) | [Events](#) | [Jobs](#) | [Services](#) | [Departments](#) | [Report a Problem](#) | [City News](#)

Police, Fire & Public Safety

Search

### Scottsdale's Focus On Safety program and the new Photo Enforcement 101 test

Scottsdale has used photo enforcement on its city streets since 1997 and began a test program on a 7.8-mile stretch of the Loop 101 Freeway on January 22, 2006. The goal is to reduce speeding and lower collisions.

The cameras on city streets have helped Scottsdale improve safety. The city operates nine fixed speed/red-light cameras and four photo enforcement vans.

The demonstration program on the Loop 101 Freeway in Scottsdale is the first use of photo enforcement equipment on a freeway in Arizona and is believed to be the first fixed-site photo enforcement program on a freeway in the nation.



### Related Links

[Scottsdale Police Department](#)  
[City Court](#)  
[City Attorney](#)

### Additional Resources

[Process Server: AZ Photo Safety](#)

### Photo Enforcement

[On Loop 101](#)  
[On Scottsdale Streets](#)

[Get a ticket?](#)

[FAQ](#)

[Locations](#)

[Contact](#)

### Documents

[Public Opinion Polls](#)





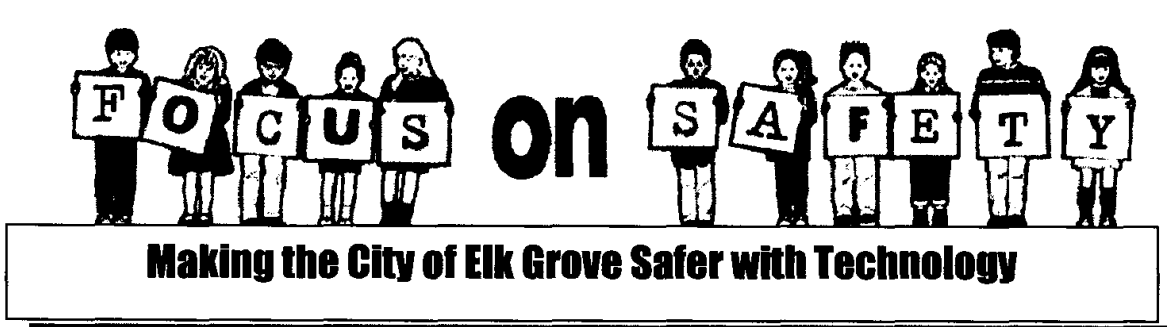
Also, as outlined, we propose utilizing the web to allow defendants to access and view violation images and video and ultimately pay their fine.

Redflex will also work with the City to develop a plan to utilize mainstream media to disseminate critical program information. As part of this plan, Redflex proposes the periodic publication and dissemination of photo enforcement in the news and in community newsletters. It will contain cumulative statistical data on the program, clear up any misnomers regarding photo red light enforcement, and explain how photo enforcement technologies and systems work to save lives. Some possible activities may include:

- ✓ Public Service Announcements (PSAs)
- ✓ Direct Mailings & Informational Postcards
- ✓ Informational Handouts including flyers, billboards, bumper stickers, plastic cards, balloons and community newsletters
- ✓ Street Signs in addition to the intersection specific signs
- ✓ Developing copy for guest columns in local newspapers
- ✓ Coordinating with local newspapers for endorsements on editorial boards
- ✓ Coordinating local columnists in order to brief them on the project and solicit their interest and support
- ✓ Identifying and contacting key electronic (radio and television) media public affairs and news programs to encourage coverage
- ✓ Developing copy for distribution to the media, issue papers that address pertinent public policy issues raised by photo enforcement, as well as answer specific anticipated criticisms of photo enforcement
- ✓ Organizing supplemental news conferences to announce significant project milestones that will regularly identify and position positive messages regarding the photo enforcement program to electronic and print media that support the program's public safety goals
- ✓ Public Opinion Surveys to assess the resident's support of the program
  - Minimum of three discreet surveys
  - Utilize random sampling techniques
  - Sample sizes of a minimum of 400 citizens



Sample PR Material



Paradise Valley Website: Program Information



## Paradise Valley Police Dept.

6433 E. Lincoln Dr. Paradise Valley, AZ 85253

### Photo Enforcement Program

- Police Chief's Page
- Police Services
- Divisions, Bureaus & More
- Other Topics of Interest
- Police Alarm Monitoring
- Photo Enforcement
- Employment Opportunities
- Fire Department
- How to Reach Us
- Town Hall Website
- Site Map
- Home Page

Paradise Valley was the first police department in the nation to institute a traffic safety program using speed measuring devices coupled with still photography and computers to enforce speed laws. In operation, a civilian technician, utilizing a semi-marked police vehicle, deploys a radar device diagonally across the roadway. A vehicle entering the radar beam in excess of a preset speed which is entered into the computer is photographed from the front and rear. Through reading the license plate numbers on the digital images from each deployment, the registered owner of the vehicle is located through the state's Department of Transportation, and a summons is mailed to the owner. If the driver of the vehicle at the time of the violation is not the registered owner the citation is dismissed and the driver is requested to identify the actual driver. If the driver cannot be identified the case is ended. Since the program was instituted in 1987, traffic collisions have been reduced about 45%.

The Paradise Valley Police Department also has a photo enforcement system for red light violators. This system has sensors embedded in the roadway which are connected through a computer to the intersection traffic signals. When the red light phase is active, the sensors detect vehicles which enter the intersection while the light is red. Photographs are again taken and the registered owner is cited. During red, amber and green cycles, the same sensors measure the speed of vehicles entering the intersection, and citations for excessive speed are also issued. As with the photo radar vehicle, only the actual driver of the vehicle is required to face the charge in court.

#### WHEN CAN I VIEW A PHOTO AT THE PARADISE VALLEY POLICE DEPT.?

Photo viewing day is Wednesday only, 8:00 a.m. to 12:00 noon and 1:00 p.m. to 4:30 p.m. at

Paradise Valley Police Dept.  
6433 E. Lincoln Dr.  
Paradise Valley, AZ 85253

Located on the S/E corner of Lincoln Dr. & Invergordon Rd.

Photo Enforcement Information: (480) 348-3686.





Sample Website: Richardson, Texas

The screenshot shows the City of Richardson website. At the top, there is a navigation bar with links for Services, Departments, Resident Interest, Pub. & News, and Calendar. Below this is a 'Monthly Arts' section. The main content area features a 'City News' section with four articles. The first article, 'Red Light Enforcement', is circled in red. It states: 'As a part of Richardson's continuing traffic safety efforts, the City began to use Photo Red Light Enforcement on January 30, 2006. Learn more...'. The other articles are 'Water conservation measures', 'Eastside project brings upscale development', and 'Richardson home child care'. To the right of the news section, there is a 'Richardson Today' section with a 'Click on images above to go to the sites.' prompt. Below that is a 'Homeland Security' section with a 'Great Loud' button and an 'ELEVATED' sign. At the bottom, there is a 'Quick Links' section with various services listed.

Services Departments Resident Interest Pub. & News Calendar Meeting Dates

Monthly Arts

Parts & Rec.

Welcome to the City of Richardson. Here is a guide to our departments, frequently asked questions, phone directory, and e-mail contact information. What is it like living in the City of Richardson? Learn about our location, Plano - Richardson Schools, history, and local activities right here. Read up on our latest economic development, demographics, and more at the Midways Technology Business Council, or take a look at the ULI report on Trans-oriented development. For information on travel and local activities, visit the Richardson convention and visitor center.

**City News:**

**Red Light Enforcement**  
As a part of Richardson's continuing traffic safety efforts, the City began to use Photo Red Light Enforcement on January 30, 2006. Learn more...

**Water conservation measures**  
In an effort to conserve water resources, Richardson is following stage 2 guidelines as established by the North Texas Municipal Water District... Learn more

**Eastside project brings upscale development**  
Eastside development will contain an urban shopping center, more than 400 apartments and office space built around a two-acre park. More Info.

**Richardson home child care**  
Choosing a child care provider is one of the most important decisions. The City of Richardson Health Department conducts regular inspections of child care...

Richardson Today

Click on images above to go to the sites.

Homeland Security  
Great Loud **ELEVATED**

Quick Links  
Animal Shelter | Adoptable | Wish List  
Citizens can Post Lost/Found Animals  
City's Interactive Maps | GIS Info  
Job Openings  
Municipal Code of Ordinances  
Pay Water Bill | Quick log-on  
Pay Traffic Tickets  
Pay for Electrical, Plumbing, & Mechanical Permits  
Police Alarm Permit  
Renew Drivers License  
Reserve Public & Private Meeting Rooms



Press Release (Sample): Richardson, Texas



## Richardson Police Department Press Release

January 16, 2006 8:30 AM

### Red Light Cameras to go Live in Richardson Richardson, TX

As a part of Richardson's continuing traffic safety enforcement efforts, the City will begin to use Photo Red Light Enforcement on January 30, 2006. The use of cameras to capture red light violations comes as part of the City's increasing efforts to make the streets safer for everyone. "I am encouraged to see the installation of our red light camera system and know it will make a great impact to improve traffic safety in Richardson," said Mayor Gary Slagel.

A total of four cameras will be located at three intersections. Initially two intersections will be monitored by cameras--southbound Plano Road at Arapaho Road and eastbound Centennial Boulevard at Greenville Avenue. Within the following few months cameras will also be installed at the northbound and westbound approaches of the Coit Road and Campbell Road intersection. Those intersections have been identified as locations that have a history of collisions caused by motorists running a red light.

Richardson Police Chief Larry Zacharias stated, "For years now, the Richardson Police Department has made red light enforcement a major part of our traffic enforcement plan. Richardson officers have written almost 14,000 citations for running red lights over the past five years. We have dedicated significant resources toward this problem, yet we still see senseless collisions and injuries being caused by red light runners. I believe the photo enforcement will be a valuable tool in helping us reduce violations and collisions."

Until Feb. 28, motorists captured on camera running a red light at those locations will be issued a warning citation. Beginning March 1, citations will be issued to violators. The citations will carry a \$75 civil penalty and will not appear on a person's driving record.

According to the Federal Highway Administration more than 1.7 million intersection crashes occur across the country annually, resulting in over 9,000 fatalities. Each year more than 50% of all reported crashes and 22% of all injury crashes occur at an intersection.

During 2005 approximately 9.1% of all reported vehicle collisions in the City of Richardson were related to red light violations. These types of crashes are usually side impacts and are much more likely to result in heavier damage, serious injury, and even death. Effective traffic management remains a high priority for our citizens, the business community and city officials.



Sample Public Polling Survey

City of Albany Red Light Photo Enforcement Workgroup



In 2003 there were an estimated 259 vehicle accidents at red light intersections in Albany, equating to an estimated \$2,590,000 for bodily injury and \$647,500 for property damage. On October 25, 2004, the Albany City Council approved a workgroup to assess the prospect of Red Light Photo Enforcement. The workgroup is currently looking into red light photo enforcement options to increase the safety of the community with no additional financial burden. The purpose of this survey is to assist the workgroup in assessing the need and public support for a Red Light Photo Enforcement program. *Thank you for your assistance.*

Please check all of your responses.

1. Do you think there is a safety risk as a result of people running red lights?

High Risk  Medium Risk  Low Risk  No Risk

2. How would you describe the problem of red light running in Albany?

Great Problem  Medium Problem  Low Problem  No Problem

3. How do you think the City of Albany will benefit from a Red Light Photo Enforcement program?

Great Benefit  Medium Benefit  Low Benefit  No Benefit

4. How would you describe your support of a Red Light Photo Enforcement program in Albany?

Strongly Favor  Slightly Favor  Slightly Oppose  Strongly Oppose

5. Please provide any comments or suggestions which might assist the workgroup with  
(Attach additional sheets if necessary.)

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**Survey Instructions**  
You have four options in filling out this survey. You can fill out this form and return it

- with your utility billing statement
- to City Hall (333 Broadalbin St SW)
- to the Albany Police Department (1117 Jackson St SE)

Or you can fill this survey online at:

- [www.cityofalbany.net/redlight](http://www.cityofalbany.net/redlight)

Trade Secret

ITEM #6 OF SURVEY CONTINUES ON OPPOSITE SIDE ►





Sample Campaign Branding

# SLOW DOWN ALBUQUERQUE

A high-contrast, black and white photograph of a mountain range, likely the Santa Fe Mountains, reflected in a body of water. The image is used as a background for the campaign branding.

**LIVES MAY DEPEND ON IT.**

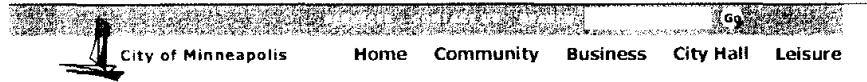


[www.cabq.gov](http://www.cabq.gov)



Martin J. Chavez, Mayor

Sample Bi-Lingual Website



- ^ [Stop On Red Home](#)
- Frequently Asked Questions
  - [English](#)
  - [Español](#)
  - [Somali](#)
  - [Hmooob](#)
  - [Oromo](#)
  - [Vietnamese \(pdf\)](#)
  - [Lao \(pdf\)](#)

### Pare en Rojo-Las Preguntas más Frecuentes

#### ¿Qué es Pare en Rojo?

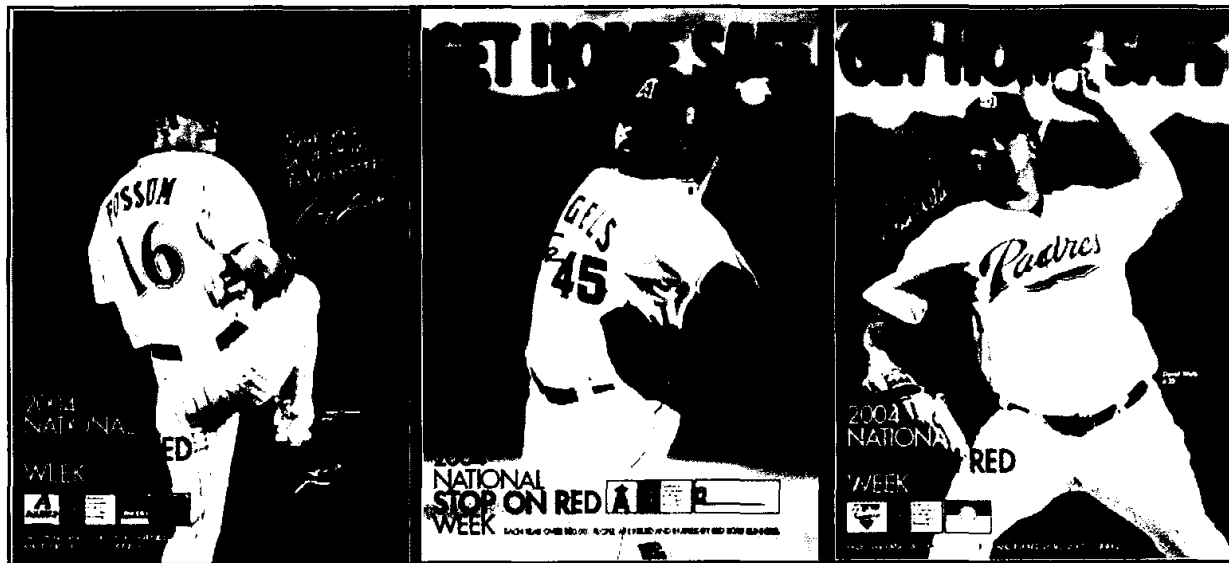
*Pare en Rojo* es un programa innovador de seguridad de tráfico en el cual la policía de Minneapolis utiliza tecnologías para disminuir el número de personas que violen el semáforo rojo para reducir el número de los accidentes. Hasta unos 16 intersecciones se están ajustando a tener cámaras digitales para capturar a los que violen el semáforo rojo en el acto.

#### ¿Cómo funciona?

Cuando un vehículo viole el semáforo rojo en una intersección monitorizada, unos sensores instalados en la calle activan una batería de cámaras. Las cámaras toman tres fotos digitales y graban doce segundos de secuencias de video digital. Estas fotos documentan la violación. El sistema es desencadenado solamente por violadores del semáforo rojo.

#### ¿Qué se considera una violación del semáforo rojo?

Redflex actively sits on the Board and supports advocacy groups, including the festivities of the National Stop on Red Week.





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### **Expert Witness Testimony:**

Redflex Traffic Systems will provide at our own expense, Expert Witnesses to testify as to the accuracy, operations, and reliability of the red light camera system and its related equipment for contested violations.

Redflex will assign a qualified and competent expert witness to testify regarding the accuracy of the system and program. This individual will testify to the accuracy, calibration, maintenance, repair records, technical operational and effectiveness of the Redflex System.

In addition to the expert witness, Redflex provides jurisdictions with **comprehensive adjudication** and court support services, including the development of a **court file transfer interface**, **court training** modules, provisions for **court packages** for each hearing and **expert witness** testimony.

For all installed systems across the U.S., Redflex has analyzed existing data and has determined that our program supports a **99% conviction rate**. In many of our existing programs **less than 1%** of all citations result in court proceedings. The low number of contested cases is indicative of the high quality and high resolution of the evidence that is produced by the Redflex solution.

### **Evidence Packages**

Redflex will provide the City with a **designated court/evidentiary package** for each requested hearing. Court packages are jurisdiction specific, but each typically includes:

- ✓ **Multiple full-color** Scene Violation Images, showing the violating vehicle before entering the intersection during the red light phase, and in mid intersection during the red light phase, with superimposed Databar showing all required violation data
- ✓ A full-color, '**zoomed-in**', **enlarged, license plate Image**
- ✓ **Full motion video** sequences
- ✓ Complete violation data comprising the **data transmittal sheets**
- ✓ **Statement of Technology**
- ✓ **Chain of Custody** of the proper handling of the images along with the proper functioning of the camera system
- ✓ Other information as defined in consultation with the City and Municipal Courts including correspondence regarding the violation.





## Intersection Evaluation

As part of our standard implementation methodology, Redflex works closely with various City agencies, including the Police Department, Traffic Engineering and Department of Public Works in the identification of the City's most dangerous intersections. Redflex and the City will identify and triangulate which intersections warrant automated enforcement to ensure the City meets its specified safety needs. This process includes a detailed review of numerous data points, which include:

- Collision histories
- Collision diagrams: which will provide the City a better understanding regarding the nature and type of collisions
- Engineering studies
- Site walkthroughs
- Geometric analysis
- Pavement analysis

Redflex also completes a detailed video-analysis at each identified intersection. This video analysis will provide baseline violation data for a minimum of 16 hours and during peak traffic times, providing specific details on:

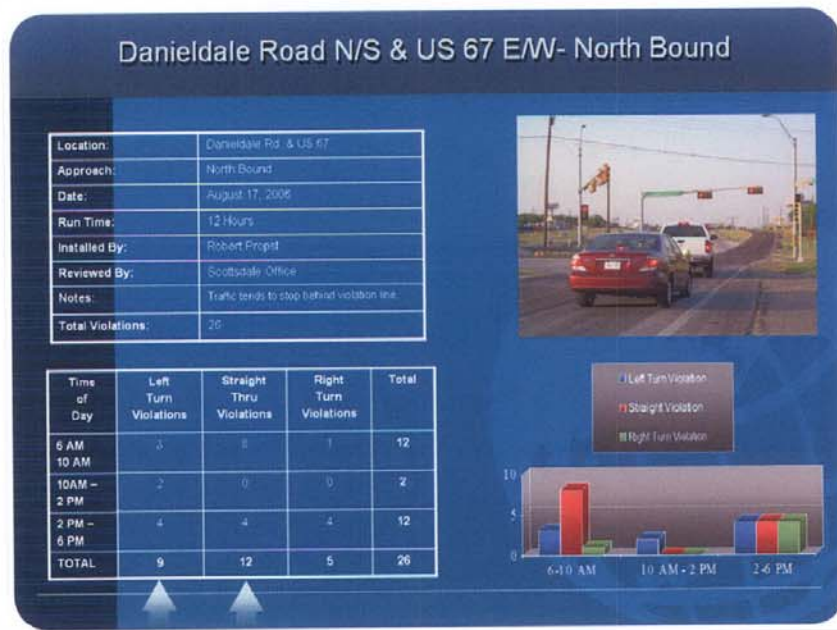
- Volume of Violations:
- By Time of Day
- By Lane
- By Type of Movement

### Sample Video Analysis Table

[Redacted]				
6AM-10AM				
10AM-3PM				
3PM-8PM				
8PM-11PM				
11PM-6AM				
TOTAL				

Completing a detailed video-analysis, will ensure that Redflex and the City truly develop and implement a comprehensive "**Approach Strategy**", that will provide the City with detailed information for accurate fact-based decisions on possible program expansion efforts.

In addition to the aforementioned methodology, Redflex will also work with the City to review, audit and possibly implement additional engineering measures; which will increase the programs overall effectiveness.



Some sample engineering measures are listed below.

### Summary of Engineering Countermeasures to Reduce Red-Light Running

Increase Signal Visibility/Conspicuity	Increase Likelihood of Stopping	Address Intentional Violations	Eliminate Need to Stop
Placement/Number of Signal Heads	Signal Ahead Signs	Signal Optimization	Unwarranted Signals
Size of Signal Display	Advance Warning Flashers	Signal-Cycle Length	Roundabout Intersection Design
Line of Sight: Programmable Lens Signals	Rumble Strips	Yellow-Change Interval	
Line of Sight: Visors/Louvers	Left-Turn Signal Sign	All-Red Clearance Interval	
LED Signal Lenses	Pavement Surface Condition	Dilemma Zone Protection	
Backplates			



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## **Program Installation, Maintenance, and Service:**

Redflex will coordinate installation of equipment with appropriate government agencies, and bear costs for all related entitlements. We will supply a design and installation schedule outlining specific tasks required to design and install a working, fully operational system at Program locations. Upon contract award we will provide a maintenance agreement addressing long-term maintenance and warranty issues.

Servicing over 700 fully operational systems across the USA, Redflex has developed and implemented a proven approach and methodology to system and program maintenance. With resources on-call 24x7, we can guarantee our full compliance with the City's prescribed service levels and maintenance specifications. This includes, but is not limited to, a comprehensive multi-tiered approach that includes preemptive maintenance, daily system checks, physical inspections and emergency response.

### **Preemptive Maintenance**

Regular maintenance inspections are performed to ensure potential problems are identified before a malfunction occurs. Preemptive maintenance is executed on regularly defined schedules by local technicians and ad-hoc in concert when a technician responds to perform any maintenance function during on-site visits and physical inspections.

### **Daily System Checks**

System checks and image quality checks are conducted several times per day. With direct access to each system through our secure network; technicians receive real-time operational feedback on system functioning. These daily system checks ensure proper system functioning and overall system optimization. In fact, upwards of 80% of all technical malfunctions are effectively and immediately remedied directly through our network connections.

### **Physical Inspections & Scheduled Maintenance**

Scheduled Maintenance will be performed on each intersection on a routine basis. All scheduled maintenance activities will be duly documented in the approaches maintenance records, for each system to ensure accurate audit procedures.

### **Emergency Response Maintenance**

Respecting our responsibility of ensuring maximum uptime and system functioning, we are committed to providing a two (2) hour response time for maintenance issues identified as any fault that renders the system unable to perform its absolute necessary functionality. Other issues that may restrict the system's capabilities are also handled in an equally expedient manner; which meets the City's 48 hour response requirements.



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## Maintenance Plan (Detail)

Our maintenance approach is the most comprehensive in the industry. In fact, Redflex offers Service Levels agreements that provide 24 x 7 on-call operators for prompt initial response and is able to replace inoperable equipment within 24- 48 hours.

As outlined above, the Redflex Maintenance Program provided to the City is a comprehensive multi-tiered approach. Through preemptive maintenance, routine on-site maintenance, hourly remote systems checks and ongoing software maintenance and support, Redflex ensures optimal system performance.

## Preemptive Maintenance

Regular maintenance inspections are performed to ensure potential problems are identified before a malfunction occurs. Preemptive maintenance is executed each time a technician responds to perform any maintenance function during on-site visits. These maintenance functions will be performed only after Redflex notifies the City of its intent to do work at the site.

Pre-emptive maintenance includes but is not limited to:

- ✓ Cleaning the camera enclosure glass
- ✓ Inspecting the cabinet for signs of leakage, wear and/or damage and clean as necessary
- ✓ Inspecting cables, connectors and hardware for signs of wear or damage
- ✓ Inspecting poles, bases and enclosures for signs of damage and to ensure proper alignment
- ✓ Inspecting detection devices
- ✓ Testing safety devices for proper operation to ensure safe working conditions for maintenance personnel and the general public in the case of an accident that could expose the public to operating voltages

Each site will be visited on a routine basis to perform preemptive maintenance at a minimum.

Preemptive maintenance tasks will be documented in the intersection maintenance log for every inspection being performed. Entries will include:

- ✓ Date and time inspection performed
- ✓ Technician performing inspection
- ✓ Results of the inspection





- ✓ The next scheduled maintenance inspection due date
- ✓ Reason for inspection (i.e. scheduled or as a result of other maintenance)

Preemptive maintenance inspections will be performed on a rotational basis to ensure each site is visited within a specified time. This will be accomplished by scheduling the next minimum maintenance period based on the last date an inspection was performed. If a technician responds to an outage he will conduct the periodic inspection during this visit and the next scheduled inspection he would be revised based on specifications. This preemptive maintenance program will be monitored and scheduled by the Lead Technician; Redflex Maintenance Technicians and trained local support teams authorized to perform maintenance in accordance with established maintenance agreements.

### **Remote Status Checks**

Remote status checks consist of two distinct segments; **daily operational** and quality checks, which together provide positive, near real time, and **hourly operational feedback** that the system is functioning properly and producing the desired results.

### **Physical Inspection**

Scheduled Maintenance will be performed on each intersection on a routine basis. The schedule depicted is developed to ensure each location is visited at a minimum of once a month. If a site has been recently visited, due to other required activities resulting in a technician performing on-site maintenance, the scheduled visit for the month may be eliminated. These scheduled maintenance activities will be duly documented in the approaches maintenance records and will have satisfied the required monthly visit, provided all checks were satisfactorily performed.

Monthly schedules developed for the purpose of performing recurring site inspections may be revised as additional locations are added to the list of active approaches. The schedule illustrated below depicts the schedule for the approaches active and operational at the time this document was created.

### **Visual Inspection**

While onsite the technician will perform a visual inspection of the area looking for any potential image blocking objects. If an object is found the tech will capture a digital photography of the problem and bring it to the attention of the City. If possible the tech will use the camera from the enclosure to show how the object impedes image quality. The visual inspection will also include the surrounding public and City property, making sure we inform the City of any damage or destruction of their property. We will keep an up to date notification list of phone numbers within the cabinet. The technician will have a digital camera available to document anything they may find out of order.



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### **Wipe Down the Enclosure**

An inherent problem that arises with the program is the enclosures getting dirty. This issue should only be handled by Redflex technicians due to the potential for cameras to move while cleaning. The only way to ensure that all cameras are in correct alignment is with images being taken after the cleaning is complete. At minimum the enclosures will be wiped down and touched up once a month.

### **Incoming AC Voltage**

With each onsite visit we record the AC power being supplied to the cabinet. The technician will use a DVM (Digital Volt Meter) to take a reading each time onsite. Will maintain this record and notify the City of any changes that occur beyond a + / - 10% range.

### **12Vdc Power Supply Check**

Using the DVM, the technician will ensure we have a good 12 volts coming from the power supply. Any fluctuation of 10% or greater the technician will replace the power supply. Assuming the incoming cabinet power has remained constant. The 12 volts is power supply for the loop detection devices. In addition, this power supply maintains serial communication between the cabinet and enclosure.

### **Check Grounding**

The technician will check each of the ground rods assuring all connections are tight; this includes the cabinet, flash and enclosure pole.

### **Clean Enclosure Glass**

Assuring the best environment is available for prosecution rate; the technician will use a high grade glass cleaner. After this the technician will perform tests to check that the image quality has been maintained. The only way to ensure that all cameras are in correct alignment is with images being taken after the cleaning is complete.

### **Confirm Heating/Cooling Units are Operational**

During the cold/hot months the technician will check to see thermostat units are functioning properly.

### **ADAM Unit Communications**

Each ADAM unit, serial communication device, has a status LED. The technician will monitor the status and assure they maintain an open communication channel in both directions. There are 4 possible status conditions; green, orange, red or no indication (out). A status LED showing green is the only true open communications. All other status conditions will be investigated and confirmed in working order.



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### **Sensor Tests**

Using a DVM the technician will test the continuity of the sensors. If the technician finds an inconsistent reading he will investigate further. If no problem is located internal to the camera housing the technician will contact union representation/local technician for further assistance.

### **Street Inspection:**

While onsite the technician will perform a visual inspection looking for the condition of the sensor array alignment and verifying the violation line is in place. If either appears to have an issue the technician will notify the City to have the problem fixed.

### **Communications to Each Computer**

The technician will use his laptop to verify communications are in working order to each computer at the intersection. He will access each enclosure and perform system operations test. The details of those checks are as follows:

## System Operation Checks

### Live View Images

Smartcam allows the technician a couple utilities that allow the Redflex technician to take images. The first is "Live Views". Live Views takes an image without a car committing a violation. Live View images can be taken with any of the high resolution digital still cameras in the enclosure. This process allows the technician to verify image quality along with confirmation that the flashes are firing.

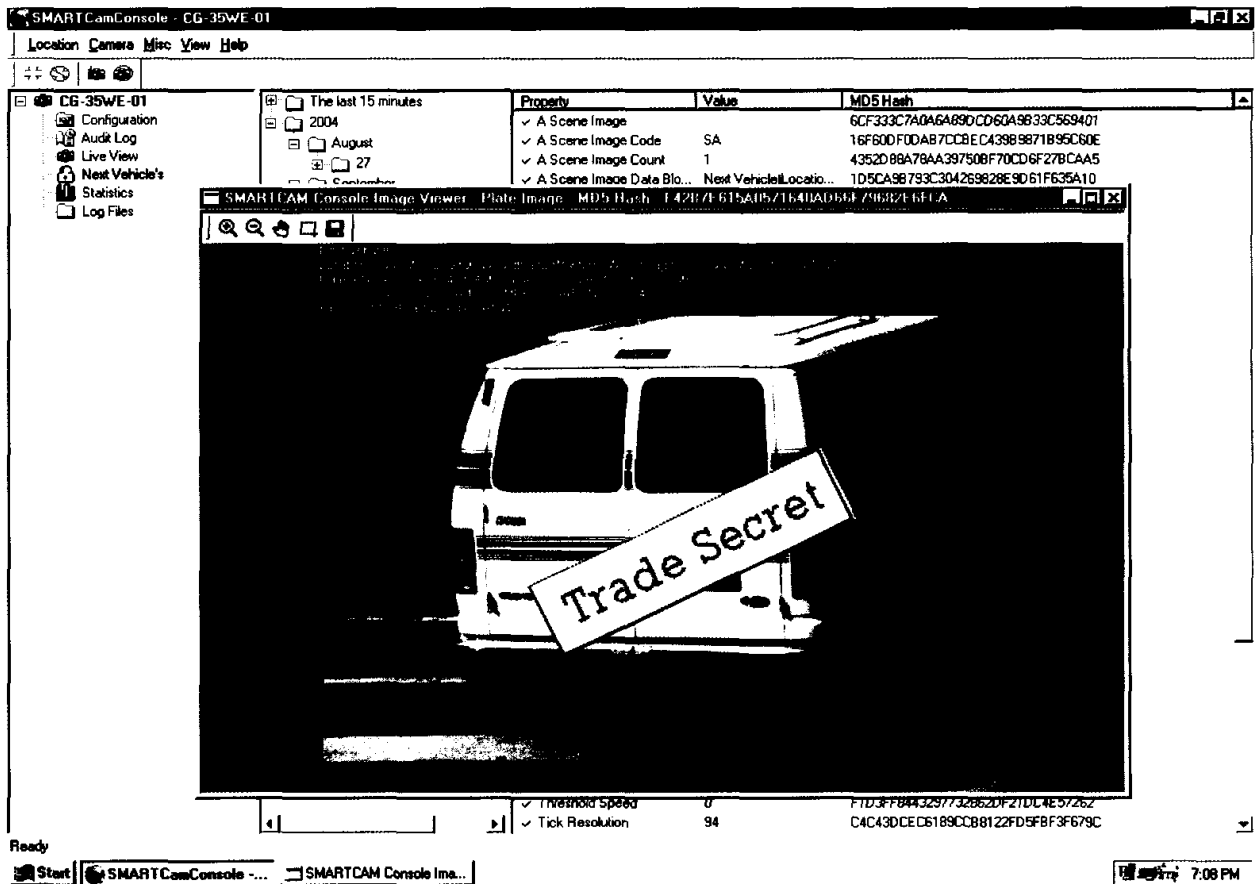






**Next Vehicles:**

The other image utility available to the Redflex technician is Next Vehicles. Next Vehicles not only confirms image quality but also test various aspects of the system. Next Vehicles takes all high resolution still images that would occur with a true violation without having the red light. This shows the technician that placement is correct for each still image and they are working correctly.





**Confirm SDCM Communications:**

Smartcam has a confirmation that each detection device (SDCM) has communications working in both directions. The SDCM detects any car riding through the detection zones and allows the software to recognize the phase sequence of the approach. If a technician finds that a SDCM is not reporting properly they can attempt to REBOOT or PING the SDCM.

Trade Secret

Enforcement
Security
Data Storage
Watchdog

**Active Enforcer**

Redflex Traffic Systems Site Controller

**Enforcement Mode**

Multizone

Enabled

- General
- Exception Handling
- Controller
  - Site Controller**
  - Debug
  - Debug2
  - Phase Configuration
- Data Block
  - Redlight
  - Speed
  - Redlight and Speed
  - Face
- Slave Camera
- Lane Configuration
  - 1
  - 2
  - 3
  - N/A
  - N/A
  - N/A

COM Port	COM2
Baud Rate	38400
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

Loop Separation		
Lane 1	184	Centimetres
Lane 2	182	Centimetres
Lane 3	183	Centimetres
Lane 4	0	Centimetres
Lane 5	0	Centimetres
Lane 6	0	Centimetres

Software Version: 10.2

FPGA Version: 10.2

FPGA Major Type: Redlight

FPGA Minor Type: Loops

Maximum Message Life: 500 Milliseconds

Ping
Reboot

CONFIDENTIAL

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### Phase Configuration:

As mentioned the SDCM allows the software to recognize the phasing sequence of the approach. There is a mapping screen that allows the technician to confirm communications are working properly and the system is wired correctly.

Enforcement | Security | Data Storage | Watchdog

Active Enforcer

Redflex Traffic Systems Site Controller

Enforcement Mode

Multizone

Enabled

- General
- Exception Handling
- Controller
  - Site Controller
  - Debug
  - Debug2
  - Phase Configuration**
- Data Block
  - Redlight
  - Speed
  - Redlight and Speed
  - Face
- Slave Camera
- Lane Configuration
  - 1
  - 2
  - 3
  - N/A
  - N/A
  - N/A

Phase Input Mapping

L	T	R
T	3	1
2	4	7
1	N	1

Phase Mappings

Lane 1	<input type="checkbox"/>
Lane 2	<input type="checkbox"/>
Lane 4	<input type="checkbox"/> U
Lane 5	<input type="checkbox"/> U
Lane 6	<input type="checkbox"/> U

Flashing

Report flashing phase

Flash Duration

Mapping Setup

Custom

Standard

Fully controlled phases

Red and Amber connected to 3 and 4

Red and Amber connected to 1 and 2

Red and Amber connected to 5 and 6

Turn Arrows

Green left turn arrow connected to 1, optional Amber arrow connected to 2

Green right turn arrow connected to 5 optional amber arrow connected to 6

Legend

L: Left Turn

T: Straight Through

R: Right Turn

N: Not Connected

Short Phase

Don't allow short phases

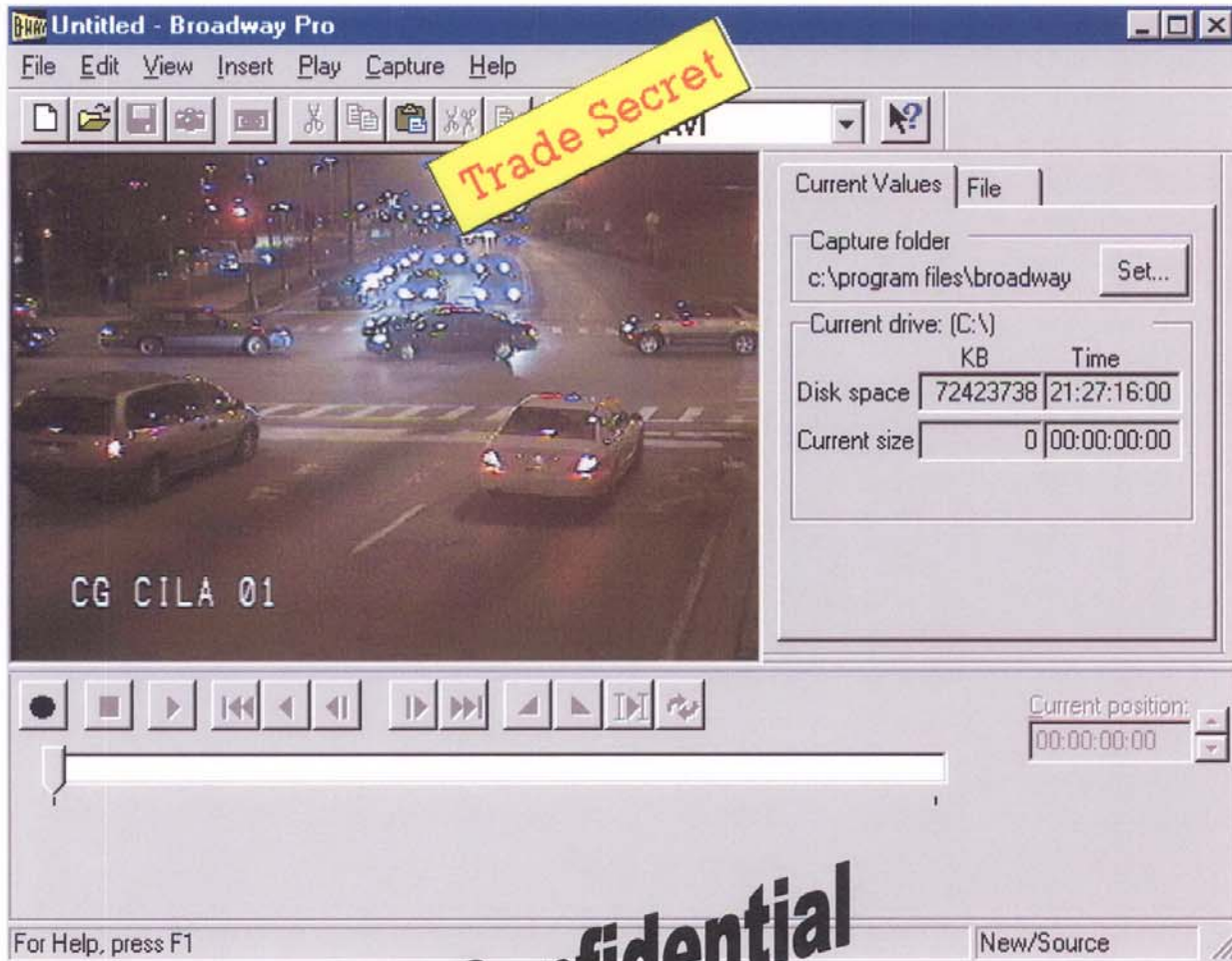
Timeout

CONFIDENTIAL

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### Violation Video Check:

With each violation a 12 second video clip is attached. The technician can check this feed via Broadway Software. This software looks at the direct input video feed from the enclosure. The alignment and quality of the video is shown through the Broadway Software GUI.



### Streaming Video Check:

Every approach will be set up with a streaming video server. This streaming video feed will also be checked and confirmed to be in good working order. This feed can be accessed at the intersection via Explorer. The technician can set up frame rate, color and other various broadcast settings.



### Communications to Processing:

The technician will confirm communications are working from each enclosure to the Redflex processing center. This can be done by "pinging" the specific IP address from the approach computer. Also, the technician can contact local technicians to confirm the approach IP is showing up good on the "What's Up" utility.

### Valid Certificate:

Each enclosure computer has a certificate which must be updated. While onsite the technician will confirm the certificate is not within a 30 day window of renewal.



**Remote Inspection**

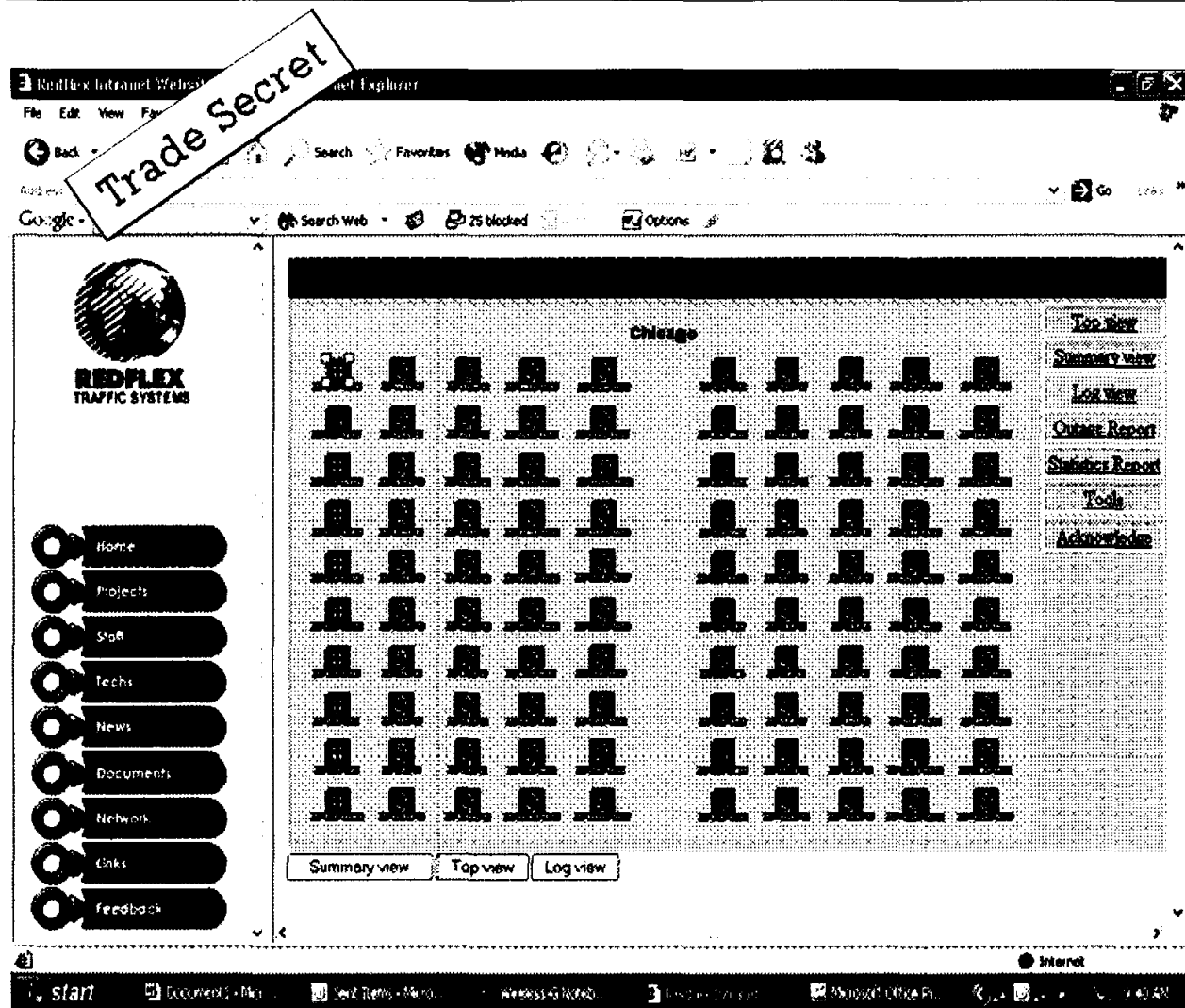
**Communications check**

A network utility allows the City of Elk Grove dedicated technicians to view the network status of all intersections. The start page of the What's Up Utility allows the user to identify the number of devices specific to the City. Looking below Chicago has 100 devices at 60 intersections that have been assigned an IP address. This includes streaming video routers, enclosure computers and Cisco routers stationed in the cabinets.

Map	Issues Up	Issues Down	Issues with Service Down	Event View
ALBUQUERQUE	0	0	0	Status
BAKERSFIELD	0	0	0	New Map
BEAVERTON	0	0	0	Load Map
CARY	0	0	0	Upload Map
CHANDLER	0	0	0	Notifications
CHICAGO	100	0	0	Receive Notification
COMPTON	0	0	0	Performance Graphs
CULVER CITY	0	0	0	Users
DAYTON	0	0	0	Log View
DEL MAR	0	0	0	Tools
EL CAJON	0	0	0	
EL MONTE	0	0	0	
EMERYVILLE	0	0	0	
ERDMITAS	0	0	0	
ESCONDIDO	0	0	0	
FAIRFIELD	0	0	0	
FORT COLLINS	0	0	0	
FERRIS	0	0	0	
GARDINGROVE	0	0	0	
GREENVILLE	0	0	0	

A second screen within the utility gives the user a color coded activity chart of each devices communications. There are three color indications for every device assigned to an independent IP Address. Green,(all communications are reporting properly and within a specific time parameter), yellow (the devices is working but is either outside the time parameter or periodically dropping out), red (the device is not responding at all).





“What’s Up” is a tool that allows the user to attempt establishing a communications tunnel if they find a device not responding. There is a PING button which will attempt to open up communications to any specific device mapped out on the color coded page.



### Streaming Video Checks

Elk Grove streaming video feed is check at a minimum of once per day. This allows the technician an easy view of the enclosure and approach environment. These checks have lead to quick response times in dealing with the enclosure glass being marked or smeared by things such as eggs. The streaming video is logged daily with any problems being noted.

Calendar		October 04 - October 10	
<p>Monday, October 04</p> <p>8:00am 8:30am Streaming Video Checked, all intersections are good.</p>		<p>Thursday, October 07</p> <p>8:00am 8:30am Checked Streaming Video, all is good.</p>	
<p>Tuesday, October 05</p> <p>8:00am 8:30am Streaming Video Checked, all intersections are good.</p>		<p>Friday, October 08</p> <p>8:00am 8:30am Checked Steaming Video, all intersections are ok.</p>	
<p>Wednesday, October 06</p> <p>8:00am 8:30am Streaming Video Checked, found Kedzie and Belmont Images wei</p>		<p>Saturday, October 09</p> <p>8:00am 8:30am Checked Streaming Video, all intersections with no problems.</p>	
		<p>Sunday, October 10</p> <p>8:00am 8:30am All intersections streaming video are good.</p>	







## Importer Activity Checks

Detection Count Report: Daily a report is automatically processed and emailed to each technician in regard to detection variance. The report will notify the technician if an approach has not produced a violation that day. The email also contains information letting the technician know if detections have dropped off significantly, as opposed to not showing up at all. The report gives the technician data pertaining to each approach and if there has been a change of 15% or greater. If an approach has not reported a violation the day prior the technician will remotely dial into the computer to run checks. These steps include confirming the cameras are operational by taking Live View shots and Next Vehicles. Also, the video is confirmed to be working along with the phase configuration reporting properly. Finally the technician will check the Downloads folder to determine if violations have been generated not just transmitted. If any of these checks do not come back 100% the technician will visit the approach that day to investigate.

Detection Count Variance 10-11-2005
File Edit View Insert Reply

Trade Secret

From: [redacted]

To: [redacted]

Cc: [redacted]

Subject: Detection Count Variance 10-JAN-2005

Sent: Mon 1/10/2005 12:18 AM

The following cameras have been flagged as having no detections for yesterday: 09-JAN-2005

City Name	Last Date
-----	
Albuquerque	
-----	
Beaverton	
-----	
BE-ALLO-01	1 days ago
BE-BEHI-01	1 days ago
BE-BEHI-03	2 days ago
BE-CHWA-01	2 days ago
BE-CHWA-03	15 days ago
BE-HASF-03	2 days ago
-----	
Bakersfield	
-----	
BA-CAOA-01	1 days ago
BA-COTR-03	1 days ago
BA-MIRE-01	2 days ago
-----	
Chandler	
-----	
Chicago	
-----	
Cary	
-----	
CA-CACO-01	2 days ago
CA-CPHH-01	1 days ago
CA-CPKF-01	2 days ago
CA-KFCF-01	2 days ago
CA-KFMA-01	2 days ago
CA-MACH-01	5 days ago
CA-MAKF-01	2 days ago
CA-MAWA-01	2 days ago

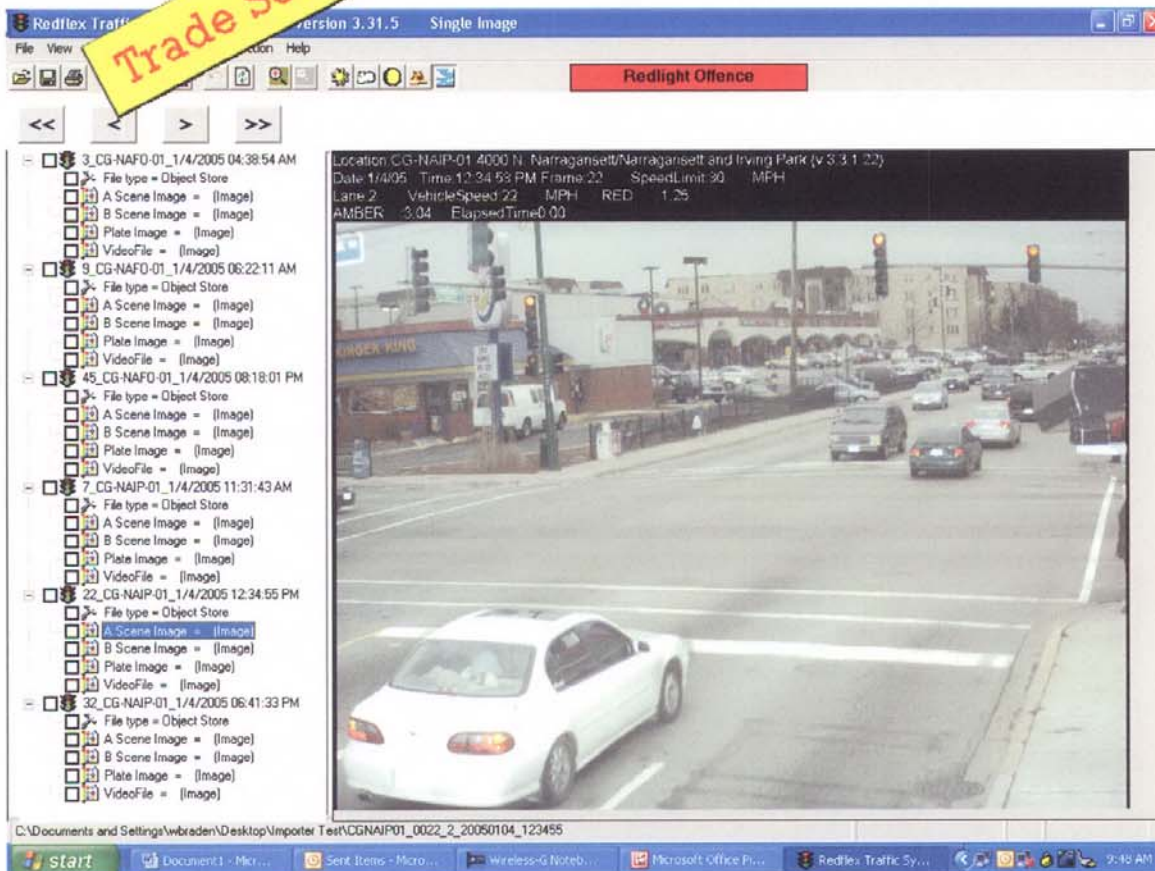


## Image Quality checks

### Importer Images

Local technicians will remotely download 100s of images daily. Every camera from each enclosure is viewed by the technician daily. Most cameras are viewed ensure image quality. The downloaded file contains both the still images and the attached video. Once the violation files are downloaded the technician uses Redflex licensed software, Smartview to view the images. The software allows the technician to view each still image individually. Smartview also enables the technician to ensure the data bar information is correct on each approach. If any camera does not produce a quality image the technician will remotely access the computer and take test shots. Depending on the image quality the technician will take steps remotely to remedy the problem or go onsite to fix any pending issue.

**Trade Secret**





**Reject Verification/Fault Isolation**

**Maintenance Filter**

Every local Redflex technician has a program available that allows them to search out image quality issues. The maintenance filter allows the technician to identify problems with images from the prior day. There are several fields the technician can use to search for problems. They include reject reason, date and intersection. Every day a dedicated technician runs a report from the prior day to determine any course of action required to maintain our goal of 85% prosecution rate. The maintenance filter allows the operations department to review the images and keep an accurate account of any reason it might not meet the high standards held by Redflex.

**Trade Secret**

**REDFLX TRAFFIC SYSTEMS Maintenance Report Filter**

**Choose A Report**

Rejects by intersection and lane    
  Rejects by intersection only    
  Incidents by lane detail

**Filter Options**

Contract: BEV ▲, BKF ▲, CHA ▲, CHI ▼  
 Reject Category: All Options ▲, Camera Malfunction ▲, Hold ▲, Non-prosecutable ▼  
 Status Codes: All Options ▲, Not ready to verify ▲, Ready To Verify ▲, Accepted by Hold Operator as Verifier ▼  
 Reject Reason: All Options ▲  
 Number Of Records To Print: Top 40 ▼

Starting date of report: 1/1/05  
 Ending date of report: 1/10/05



After the technician determines the field in which they will search potential problems a report is generated. This report contains an incident number that is specific to each individual violation. The violation can now be viewed thru Smart Ops.

**Trade Secret**

RTS Mainte	ports Filter Results	
CG-WE95-01	2 No Offence - Screeching Stop	5
CG-71AS-01	2 No Offence - Screeching Stop	5
CG-NOKO-01	1 No Offence - Turn Trigger	5
CG-KEBE-01	1 No Offence - Turn Trigger	4
CG-MAWE-01	3 Plate Not in Frame	4
CG-BEKE-01	4 No Offence - Screeching Stop	4
CG-DIHA-01	3 Emergency Vehicle	4
CG-PUCE-01	2 No Offence - Screeching Stop	4
CG-KORO-01	2 No Offence - Other	4
CG-NAFO-01	1 No Offence - Turn Trigger	4
CG-PEWE-01	1 No Offence - Turn Trigger	4
CG-KEBE-01	1 No Offence - Screeching Stop	3
CG-AS71-01	3 No Offence - Screeching Stop	3
CG-WE95-01	3 Emergency Vehicle	3
CG-PUCE-01	3 Plate Obstruction	3
CG-PU55-01	2 Plate Obstruction	3
CG-PEWE-01	2 No Offence - Screeching Stop	3
CG-NAFO-01	2 No Offence - Screeching Stop	3
CG-FONA-01	2 No Offence - Screeching Stop	3
CG-CEPU-01	2 No Offence - Screeching Stop	3
CG-WE47-01	2 Emergency Vehicle	3
CG-PU55-01	1 No Offence - Turn Trigger	3
CG-AS71-01	1 No Offence - Turn Trigger	3
CG-AS71-01	1 No Offence - Other	2
CG-AS71-01	1 Rear Plate Camera Blurry	2
CG-BEKE-01	1 No Offence - Turn Trigger	2
	1 No Offence - Screeching Stop	2

Sheet 1



## Daily Operational Checks

The central server automatically downloads digital violation images from the camera locations in the City to designated Redflex servers. From this automated reports are generated by the system and reported to the System Engineer, the Production Support Administrator, the Camera Systems Analyst and the Technician Supervisor. These key individuals evaluate the daily activity of the intersection cameras and the central server to determine if there are any anomalies in the data provided.

The daily operational systems checks are performed on each individual camera and are accessed remotely via the system's computers through the secure, high-speed communication connection. The systems checks as described below include verifying that the system parameters are properly configured, verifying that software settings are accurate, confirming that the download folder is properly configured, authenticating that the detection system is exhibiting proper activity and signaling sequencing, and completing a real life offense simulation (usually triggered during a green phase) to validate it is capturing images successfully.

System parameters that are verified include:

- ✓ The camera has a valid certificate to ensure it is authorized to process encrypted information
- ✓ The enforcement mode is enabled and in the correct mode
- ✓ The enforcement mode is set to the proper application
- ✓ The amnesty period (time in the red phase at which point the cameras can capture offenders) is properly configured
- ✓ The detection device that interfaces to the external input signals at the intersection is configured and functioning correctly
- ✓ Each lane enforced has the appropriate image capture settings configured to capture the offending vehicle at the appropriate time during the violation, and that it is set to the correct enforcement mode

The software settings are checked for accuracy. These settings include:

- ✓ The speed limit is selected to be imprinted on the violation
- ✓ The data block has accurate information identifying the proper location, machine identification and software version used
- ✓ The individual aperture, focus, zoom and exposure are properly configured for each individual camera



The download folder is the place in the camera system where offense files are stored locally until the import server housed at the Redflex Operations Center successfully downloads them. The Download folder acts as a temporary storage facility at the intersection that can handle thousands of offense files. This folder is checked to ensure proper connectivity to the importer server at the Redflex Operations Center by verifying:

- ✓ The software is configured to place the offense files in the proper file folder location
- ✓ The file folder location has the correct security access and is accessible to the import server

The detection systems are checked for proper activity and signaling sequencing:

- ✓ Ensure the detection device is communicating with the main camera system
- ✓ Ensure red and green phase indications are represented for each signal phase change. Still images can be captured in real time remotely to verify that the phase message received from the detection device corresponds to the phase shown in the live still image taken
- ✓ Ensure each lane being monitored by the detection device has the appropriate number of messages to capture an offending vehicle

A Real Time offense simulation system check is performed during the “green phase” of the signaling to verify proper operation and sequencing of image sets. This final check simulates an offense to verify all system parameters, including image capture and encryption packaging are functioning properly.

### **Daily Quality Checks & Issue Tracking**

Images are viewed by the Violation Processing Department as they are downloaded by the system, processed and forwarded to the City for authorization. If a Processing Associate discovers a quality problem such as an image being blurry, incorrect camera alignment or the video is not functioning properly, they log the malfunction on an internal website, which is monitored by the Technical Services Department. The Camera Systems Analyst (CSA) monitors the website during the day to accept inputs from the Processing Associates, performing initial evaluations on the validity of the submitted reports, and logs them as discrepancies in the maintenance log as needed. This helps to ensure timely repair by a member of the Technical Services Staff.

Once the discrepancies are logged, the CSA develops a work order to be assigned to the Technician responsible for handling the City’s system issues. The work order provides a means for tracking open and resolved issues as well as providing a means to track on-going system issues and to identify opportunities for system enhancements.

When the Maintenance Technician is assigned the work order, they perform any remote repair activities as previously discussed to remedy the problem. If at any time the problem



cannot be resolved via the remote capabilities previously described, the work order is turned over to the local repair facility to repair the problem at the intersection or the Technician is deployed to the site to resolve issues that may be outside the scope of services performed by the local facility.

The screenshot displays the SMART Cam Console interface. On the left, a file tree shows a hierarchy of folders for dates: 2004, April, 14, 16, 26, and 27. Under the 27th, there are several file folders for specific times, such as 16:00-16:59 (11) and 16:45:01 (filetype: 16:45:01). The right pane shows a table of properties for a selected file.

Property	Value	MD5 Hash
✓ A Scene Image		ED0A70C018D0FE51BCFCE2FDC7A1EA86
✓ A Scene Image Code	SA	16F6DDF00AB7CCBECA438B9871B95C60E
✓ A Scene Image Count	1	4352D88A78AA397508F70CD6F27BCAA5
✓ A Scene Image Data Blo...	Next VehicleLocatio...	4CAA579378B749FD5138E0620C9567B8
✓ A Scene Image Last Pha...	RED	9E504F78533D17A708DA5A10E9A5A66F
✓ A Scene Image Last Pha...	118.02	AE1D3328DCF2709792FC07808E97E29D
✓ A Scene Image Time Red	17.97	92D1823EB48070B3467EEF949F0CC386
✓ A Scene Image Timestamp	04/27/04 16:45:15	F80F58DE56D61DAC932528769657866
✓ B Scene Image		68FDFA79343FE5528C8538981E0E997F
✓ B Scene Image Code	S8	DE51F92D873F7876A371E75DC6DFF1F4
✓ B Scene Image Count	1	4352D88A78AA397508F70CD6F27BCAA5
✓ B Scene Image Data Blo...	Next VehicleLocatio...	592E48E2269E10CE5A58B8E80A555A1A
✓ B Scene Image Last Pha...	RED	9E504F78533D17A708DA5A10E9A5A66F
✓ B Scene Image Last Pha...	118.02	AE1D3328DCF2709792FC07808E97E29D
✓ B Scene Image Time Red	20.30	667F1ACDE982A4C0600C6A8B3AE3720
✓ B Scene Image Timestamp	04/27/04 16:45:17	CB14D6531ECCCE0A8538B41885394D433
✓ Deployment ID	EL-ECEN-01_20040	0425851C2A6D0A4CCCF6745E0535F851
✓ Deployment Start Date	04/27/04 16:41:26	8539D63A2C326186DB281541A055A08
✓ Face Image		822DA5F5F7619A6EA8AD37459F4430A5
✓ Face Image Code	F	5D180F5178CAA12FA306815EC44D5C
✓ Face Image Count	1	4352D88A78AA397508F70CD6F27BCAA5
✓ Face Image Data Block	Next VehicleLocatio...	4CAA579378B749FD5138E0620C9567B8
✓ Hostname	EN-ECEN-01	9735F001840505D7142E9C4710ED231D
✓ Lane	2	6D5ABAB865E9FF214873E89184AFE6E8
✓ Lane State No	13	72CD0FD98475FF6F794C96D91E6CDFE
✓ Location	EL-ECEN-01	CF2FD9478675893956FD20CDFCEC8954
✓ Location Code	EL-ECEN-01	CF2FD9478675893956FD20CDFCEC8954
✓ Loop Separation	152	53276C24626A58A1128B69BF05ADD105
✓ Plate Image		B544356C7C1A223266CA3D8D98C84A49
✓ Plate Image Code	S8	DE51F92D873F7876A371E75DC6DFF1F4
✓ Plate Image Count	1	4352D88A78AA397508F70CD6F27BCAA5
✓ Plate Image Data Block	Next VehicleLocatio...	E5796A084F9E390A149510A44A5568E3
✓ Plate Image Last Phase	RED	9E504F78533D17A708DA5A10E9A5A66F
✓ Plate Image Last Phase ...	118.02	AE1D3328DCF2709792FC07808E97E29D
✓ Plate Image Time Red	19.06	35403836A4456870CED7217595D5AFF2
✓ Plate Image Timestamp	04/27/04 16:45:16	48D34E4682011E142A583877C93CF20E

As part of our diagnostic procedures and protocols, simulated incident capturing is performed to further test system operation during the “normal” traffic phase allowing vehicle movement.





## Emergency versus Non-Emergency System Issues (Service Levels)

Redflex has primary responsibility for the daily operation of the systems, including a maximum two (2) hour response time for maintenance issues identified as any fault that renders the system unable to perform its absolute necessary functionality. When issues arise that may impose a limit on the system's capabilities or which may cause the City a slight inconvenience, Redflex handles those concerns in an equally expedient manner.

To assist the City in defining the category and how issues will be addressed, Redflex uses the following Fault Definitions:

Fault means anything, which does or could result in the supported system not performing in accordance with the specified functionality.

1. **Category 1 fault** means a Fault, which renders the system unable to perform absolutely necessary functionality, such as a power outage or when a vehicle crashes into a pole and knocks it over.
2. **Category 2 fault** means a Fault which is not a Category 1 Fault, but which imposes limits or restrictions on use of important functionality of the system, such as a flash is burned out or one camera is not working or one lane is not responding during the remote check.
3. **Category 3 fault** means a Fault which is neither a Category 1 or 2 Fault, but which may cause City to suffer inconvenience in performing regularly used functions of the system such as the communication company changes the I.P address without advising Redflex of the change, which causes the images to be stored at the intersection until communication is reestablished (i.e., delays image processing and the ability to access the streaming video component).
4. **Category 4 fault** means a Fault which is neither a Category 1, 2 or 3 Fault, such as a dark image.

## Response Times

Once the fault has been identified the response times for correcting the fault (as described above) will be followed:

For a Category 1 Fault, response by Redflex within 2 hours

1. For a Category 2 Fault, response by Redflex within 5 hours
2. For a Category 3 Fault, response by Redflex within 1 working day
3. For a Category 4 Fault, response by Redflex within 2 working days (Redflex is typically dependent on the **local communications service provider** that will only commit to having the communication issue resolved within 48 hours)





## Equipment

Redflex is conscious of the environmental impacts that a red light camera system can create. We are committed to coordinate with the City to ensure the system utilizes minimally obtrusive new poles to minimize impacts to curbside and streetscapes.

The placement of our equipment is flexible and is not dependent on the ability to utilize existing infrastructure. The camera enclosure physical dimensions for a single monitored approach of four traffic lanes are 6.8 x 5.0 x 22.0 inches (748 cubic inches), with a flash enclosure of 17 x 11 x 8 inches and a pole mount cabinet 24 x 24 x 13 inches.



The Redflex Camera Units can be pole-mounted in **vandal and weather resistant lockable housings** and each pole is inset into **breakaway concrete footings**. The Camera housing units were designed to preserve the overall effectiveness of the Red Light Enforcement Program's operation and to protect the Redflex Camera Units from extreme weather conditions and vandalism **ensuring minimal "downtime" and easy maintenance**. Poles are typically 10 feet high, which protects the housings from defacement and ensures effective multi-lane image capture.

### Cabinet-Less Configuration

The camera housing of a cabinet-less or cabinet-free configuration include heaters and fans (to eliminate condensation), CPU, SDCM, cards, hubs and routers and all the connections; thereby eliminating the need for bulky roadside or pole attached cabinets.

This is an image of the inside of our "cabinet-less" system. All required components and connections are internal to the housing, thereby eliminating both roadside and pole-mounted cabinetry.



*Note: There are many untested and new systems in the market that promise aesthetically pleasing configurations, unfortunately, in reality these systems require a completely non-integrated set of off-the-shelf cameras with exposed cables, no housing locks; in summary – a totally ineffective backyard solution.*

## Single Camera Configuration

To address the unique needs of some cities, Redflex has developed an effective “next generation” solution that provides the smallest system in the industry.

This set-up eliminates the multiple camera configuration



The smallest enclosure in the industry with the highest resolution camera = superior performance.

The new Slimline Series is built on the Redflex advantage, but is the least invasive and most aesthetic solution in the industry. This system can be mounted on free-standing poles or using the City's existing infrastructure.



- **Aesthetics:** smallest system footprint in the industry
- **Modular & Flexible:** Capable of being mounted to free standing pole or existing city infrastructure
- **Ultra Sharp Image:** New image sensor with 12.4 effective megapixels
- **Non-Intrusive:** Virtual & Video, Lidar and Radar Options
- **Reliable:** Continuous shooting at up to 8 frames per second
- **Precise:** GPS support for recording of location information with violation data
- **Enforcement Efficiency:** Simultaneous violation capture across all movements
- **24/7/365 Enforcement:** Integrated low watt illumination with ultra-fast recycle intervals
- **Convenient:** Wireless Transmitter for transferring image files directly over wireless LAN & remotely configurable
- **Live Full Motion Video:** Live multi-angle full motion video with playback and archiving features

Each Redflex housing & pole system is professional engineered and built to industrial standards from the ground-up, including:

- ✓ **Weather, bullet, and vandalism resistant** enclosures built to the standards of the National Electrical Manufacturers Association.
- ✓ **Waterproof** (salt and freshwater) and dust-proof to IP65 with sealed access panel.
- ✓ Built from stainless steel or toughened aluminum; **Zinc dipped and powder painted in a neutral color or a color desired by the City** to match existing street furnishing
- ✓ **Doubled-walled** for extra protection and heat convection.
- ✓ Equipped with shrouds that allow rotation and pivoting on the pole for optimal alignment.
- ✓ Designed to **aesthetically blend** with City's environment and current traffic control setup. No additional obtrusive mastarms or overhanging elements required.



Enclosure was painted black as requested by the City of Chicago

- ✓ Securely locked into place with eight guide bolts that are securely covered by another shroud to prevent tampering. These can only be accessed from within the Housing. Housing locks are fashioned from toughened steel with a single key engaging the three-way bolts.
- ✓ Camera Units are easily reachable without the utilization of lifts. Redflex has successfully deployed systems that include automated raising and lowering mechanisms, which utilize "garage door" motors and controls.
- ✓ Fitted with polycarbonate, **bullet-resistant**, N1J Standard, Ballistic Resistant Protective Material (U.S. Justice Department) toughened glass windows.



- ✓ **If desired, our camera units can effectively utilize much of the City's existing infrastructure, thereby minimizing required hardware and encroachments.**

Our systems have operated in the most severe climates from the heat of Arizona, the Middle East, Bahrain and UAE to the torrential precipitation of Oregon and South Dakota. Additionally, we have operated successfully for years across the Ohio, Illinois and most recently Minnesota and have been successful at capturing violations and prosecuting violators across all four seasons and in all possible weather extremes.

**Most importantly, we have built and tested in America since 1986.**

Redflex will provide the City with all new and approved product releases and system upgrades for the lifetime of the contract.

Redflex will gladly install "warning signs" in advance of each photo enforced intersection in full compliance with Traffic Engineering requirements. The warning signs will be posted in accordance with the California Vehicle Code.



As you see above, in some of our partner cities we have posted signs at both (1) in advance of the enforced intersections, (2) on mastarms and (3) at major City entrances. As you see from the image to the right, we have worked with various agencies to develop variations of the standard warning sign.

Working with the City of Virginia Beach, we developed unique program branding, which we can replicate for the City of Elk Grove.





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## **Program Implementation:**

The Redflex Solution will work with the City of Elk Grove to develop a citation that meets the needs of the City and the County Court and any pertinent judicial requirements. We will develop warning letters that will be used during the warning phase.

As outlined above, using our structured methodology, Redflex will work close with the various City agencies, including Police, Courts and Legal to determine the specific elements that will constitute *prima facie* evidence and citation content. Historically, Redflex proposes including information such as:

- A Unique Sequencing & Numbering For Photo Enforcement Citations
- **Affidavit of Non-Liability & Nomination Form**
- **Adjudication/Appeal Instructions**
- General Program Information, such as "How to Read the Databar"
- Payment Coupon & **Payment Instructions**
- **Web Address** (URL) for On-Line Video Viewing & Payment
- 1-800 Hotline
- The **Signature** and Number of the Issuing Officer

Redflex will work with the City of Elk Grove to develop a citation that meets the needs of the City and any pertinent municipal judicial applications.

## **Citation Numbering Sequencing**

In accordance with the City, each citation can have a unique citation numbering sequence to enable the Courts and the City to distinguish between photo enforcement citations and conventional citations. Redflex develops a unique numbering sequence that is applied to both original citations and citations that have been reissued to a nominated driver per the Affidavit of Non-liability process.

## **Instruction Sheet**

In addition to providing an approved citation including an Affidavit of Non-liability (Nomination), Redflex will provide the City with an instruction sheet that will accompany each citation. This instruction sheet will include all pertinent information regarding Court procedures, payment processing, photo viewing scheduling, background information regarding the program and the technology and additional information as specified by the City.





## Fleet & Rental Vehicles

The ability to nominate a driver enables an effective means for issuing citations to fleet and rental vehicles. Specifically, when a citation is mailed to the fleet owner, the vehicle can be traced to the driver who was assigned and renting the vehicle during the violation date/time. Once the fleet owner sends the affidavit of non-liability and nominates the accurate driver, the first citation is dismissed and a new citation with the same sequencing with an additional character is promptly issued. Ultimately, depending on the type of violation, the registered owner may be responsible for the violation fine, if a nominated driver is not identified. Redflex works closely with rental car agencies and in many situations, rental agreements now outline that the renting party will be automatically charged should this type of infraction come to pass.

## IT Interfaces

Redflex System provides electronic file interfaces that enable electronic files to be downloaded to the specified City Systems in an automated manner or with the utilization of an FTP site. The file transfer interface will include a seamless transfer of citation information, adjudication information and other relevant data. With in-house database administrators and software engineering services, Redflex will be able to ensure the effective development of specific interfaces with City IS systems, including MCIS/CJIS systems. Redflex currently supports seamless data integration and has developed system interfaces for various IS systems across the country.

The Redflex Program is supported by Oracle Database which enables easy, straightforward integration and data exporting to existing City systems.

Redflex is well versed at integrating with any type of court software and we would be up to the task of partnering with the court in making the transition. Typically, we create a data file on a nightly basis. The file is placed on our FTP server where it can be accessed and extracted by the City IT systems.

As outlined, we can put the file either on our system or on the court system. It is entirely up to the customer. We can also create separate files for the court and the City in different formats if need be.

As outlined, Redflex can provide the City of Elk Grove with the most comprehensive Violation Processing System. With the staff and infrastructure to effectively support the processing millions of citations annually; Redflex is uniquely positioned to support the City of Elk Grove with the latest technologies.





With over 80 US-Based programs currently supported by Redflex, many of our programs support in excess of **100,000 citations annually with zero defect and error.**

Processing Center: Printing, Folding, Mailing



It is important to note that Redflex currently is working with the California Department of Motor Vehicles, as well as out-of-state DMVs and NLETS systems. The following are samples of the citations issued and the type of information that is inclusive of a citation. Please keep in mind that the information can be customized to specifically meet the needs of the City of Elk Grove.

The following is an image of a sample citation:



### Sample Citation (Front)

NOTICE OF TRAFFIC VIOLATION									
The City of Los Alamitos Police Department <b>NOTICE TO APPEAR</b> Automated Traffic Enforcement LA001901PEA									
DATE OF VIOLATION		TIME		DAY OF WEEK					
14-Dec-2005		2:29 PM		Wednesday					
NAME (FIRST, MIDDLE, LAST) JOHN [REDACTED]									
ADDRESS [REDACTED]									
CITY			STATE			ZIP CODE			
CYPRESS			CA			90630			
VEHICLE ID		STATE CLASS		COMMERCIAL		AGE		BIRTH-DATE	
[REDACTED]		CA C		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		62		1/5/1942	
SEX	HAIR	EYES	HEIGHT			WEIGHT			
M	GREY	BROWN	6'00"			230			
VEH LIC NO		STATE			<input type="checkbox"/> COMMERCIAL (Veh Code, § 15210(p))				
1VAB005		CA			<input type="checkbox"/> HAZARDOUS (Veh Code, § 953)				
YR. OF VEH		MAKE		BODY STYLE					
2000		TOYOTA		SEDAN					
REGISTERED OWNER OR LESSEE [REDACTED]									
CITY			STATE			ZIP CODE			
CYPRESS			CA			90630			
CODE AND SECTION			DESCRIPTION						
VC 21453(c)			Failure to Stop at Red Arrow						
LOCATION OF VIOLATION Katella Ave & Los Alamitos Blvd (WB)									
<input checked="" type="checkbox"/> VIOLATION WAS NOT COMMITTED IN MY PRESENCE. THE ABOVE IS DECLARED ON INFORMATION AND BELIEF AND IS BASED ON PHOTOGRAPHIC EVIDENCE									
I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THE FOREGOING IS TRUE AND CORRECT.									
05-Jan-2006		DAVID DORRANS		SIGNATURE			146		
DATE ISSUED		DECLARANT		[Signature]			ID NO		
<b>YOU MUST RESPOND TO THE COURT ON OR BEFORE:</b>									
<b>WHEN:</b> 14-Feb-2006		<b>TIME:</b> Dept B							
<b>WHAT TO DO:</b> FOLLOW THE INSTRUCTIONS ON THE REVERSE									
<b>WHERE:</b> SUPERIOR COURT OF CALIFORNIA WEST JUSTICE CENTER 8141 13TH STREET WESTMINSTER, CA 92683 714-896-7111									
Notice to Appear form approved by the Judicial Council of California Rev. 08-20-05 (Veh. Code, § 48518)					SEE REVERSE TR-115				
<b>Certificate of Mailing</b>									
I, TIM MONTALTO of Redflex Traffic Systems Inc., 16520 N 74th Street, Scottsdale, Arizona 85260, do certify that I am over 18 years old and not a party to the above entitled case. On 03-Jan-2006 I placed this Notice to Appear in an envelope addressed to the registered owner, lessee, or identified driver as shown above, sealed it, and deposited the envelope in a United States Postal Service receptacle located at the Airpark United States Postal Service office in Scottsdale, Arizona. In the ordinary course of business, the envelope is sealed, affixed with proper postage, and mailed. I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct.									
DATED: 03-Jan-2006		TIM MONTALTO		Code of Civil Procedure 1013a(2), 2016 (5)					
JOHN [REDACTED] CYPRESS CA 90630									





Sample: Bi-Lingual Affidavit of Non-Liability

CITY OF EL PASO CIUDAD DE EL PASO	PHOTO ENFORCEMENT PROGRAM PROGRAMA DE CUMPLIMIENTO CON LA LEY CON FOTOS	RED MEANS STOP ROJO QUIERE DECIR ALTO
--------------------------------------	--	--

1. **Information:**  
DMV records indicate that you are the registered owner of the vehicle depicted in the citation images committing a traffic violation in the City of El Paso

- You must complete all the information in the bottom section and return the completed form. This information is required even if you were the driver of the vehicle.
- If you have sold the vehicle, or were not the driver at the time of the violation, please check the appropriate box below.
- **IF** you **WERE** the driver, check the appropriate box and fill in the form completely.

2. Right to View Video:  
• **You are encouraged to view the video of this violation prior to your court appearance date** by calling the El Paso Police Department at (XXX) XXX-XXXX to schedule an appointment.

3. DO NOT CALL THE COURT REGARDING THIS NOTICE.

1. **Información:**  
Los registros del Departamento de Vehículos Motorizados (DMV) indican que usted es el dueño del vehículo representado en las imágenes de está boleta en la cual esta cometiendo una infracción de tránsito en la ciudad de El Paso.

- Usted debe completar toda la información en la sección inferior y volver la forma completada. Esta información se requiere incluso si usted es el conductor.
- Si usted vendió el vehículo o no estaba conduciéndolo cuando se cometió la infracción, por favor marque el cuadro apropiada (indicado abajo).
- **SI** usted sí **ERA** el conductor, marque el cuadro apropiada y complete la forma en su totalidad.

2. **Derecho a ver el video**  
• **Le hacemos un atento llamado a que vea el video de esta infracción antes de la fecha de comparecencia ante el tribunal.** Para concertar una cita hable a el Departamento de Policía de El Paso a el (XXX) XXX-XXXX.

3. NO LLAME AL TRIBUNAL CON RESPECTO A ESTA NOTIFICACION.

**Fill Out Completely and Mail to/ Complete la forma en su totalidad y envíelo por correo:**  
Traffic Enforcement Office P.O. Box El Paso, TX

VIOLATION NUMBER / NÚMERO DE VIOLACIÓN: \_\_\_\_\_

PLEASE CHECK THE APPROPRIATE BOX BELOW. SIGN AND MAIL THIS COMPLETED FORM WITH A COPY OF YOUR DRIVER'S LICENSE.  
POR FAVOR MARQUE EL CUADRO APROPIADO ABAJO, FIRME Y ENVÍE ESTA FORMA CON UNA FOTOCOPIA DE SU LICENCIA DE CONDUCIR.

**CHECK ONE/MARQUE UNO:**

**I sold the vehicle prior to the violation date to the person named below**  
Vendí el vehículo antes de la fecha de la infracción a la persona nombrada abajo

**The person named below was the driver of the vehicle**  
La persona nombrada abajo era el conductor del vehículo.

**I was the driver of the vehicle (Not an admission of guilt. You must fill out the form completely)**  
Yo era el conductor del vehículo (esto no es una admisión de culpabilidad). Usted deberá llenar la forma en su totalidad.

Print Actual Driver's Name: \_\_\_\_\_ Driver's License / ID No: \_\_\_\_\_  
Escriba el nombre del conductor en letras de molde No. de licencia de conducir/No. de identificación

Address: \_\_\_\_\_ Issued In the State Of: \_\_\_\_\_  
Domicilio Expedido en el estado de

City, State, Zip Code: \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
Ciudad, Estado, Código postal Fecha de nacimiento

Sex: \_\_\_\_\_ Hair: \_\_\_\_\_ Eyes: \_\_\_\_\_ Height: \_\_\_\_\_ Weight: \_\_\_\_\_  
Sexo Cabello Ojos Estatura Peso

**DECLARATION / DECLARACIÓN**  
I CERTIFY UNDER THE PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.  
YO CERTIFICO BAJO PENA PERJURIO QUE LO QUE ANTECEDE ES LA VERDAD Y ESTA CORRECTO.

Signature: \_\_\_\_\_ Print Your Full Name: \_\_\_\_\_  
Firma Escriba su nombre completo en letras de molde

Your Phone Number: \_\_\_\_\_ Date: \_\_\_\_\_  
Su número de teléfono Fecha

**Toll Free Information Line/Línea Telefónica Gratis de Información (1-877-84SAFE-T) horario de 9 AM-4 PM (MST).**

- You may call (1-877-84SAFE-T) between the hours of 9 AM-4 PM (MST) for information regarding this notice and red light camera enforcement.

Trade Secret





Sample: Citation Back (Cary, NC)

**SAFELIGHT CARY**

**SECTION A: PLEASE HELP US BY PROVIDING INFORMATION AS TO THE DRIVER OF THE VEHICLE**

Trade Secret

**AFFIDAVIT (COMPLETE FULLY IF YOU WERE NOT THE DRIVER)** Notice

I, \_\_\_\_\_  
Full name required (if a corporation, the full name of the authorized person completing this Affidavit is required with the corporation name.)

Address \_\_\_\_\_ City/State/Zip Code \_\_\_\_\_  
declare that at the time of the offense as stated in this notice

I was not the driver of the vehicle and I do declare that at the time of the offense, the vehicle bearing license number \_\_\_\_\_: (Check one of the following)

was being driven by \_\_\_\_\_  
Last Name First Name Middle Initial

Street Address \_\_\_\_\_ City/State/Zip Code \_\_\_\_\_

was disposed of by me on \_\_\_\_/\_\_\_\_/\_\_\_\_ to \_\_\_\_\_  
Name Address City/State/Zip Code

was stolen or illegally taken at the time of the offense and was reported to the \_\_\_\_\_ Police Dept. on \_\_\_\_/\_\_\_\_/\_\_\_\_

Police Report Number \_\_\_\_\_ Signature \_\_\_\_\_

Subscribed and Sworn to before me, a Notary of the State of \_\_\_\_\_, on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

**Notes**

- It is sufficient evidence of 20-158, that the person registered as the owner of the vehicle was operating at the time of the violation. However, liability of the owner may be removed if the Affidavit above is completed and returned within 30 days of the date indicated on the front of this Notice.
- Your responsibility can only be transferred if the driver you identified accepts the responsibility.
- This notice may be withdrawn before or after the penalty is paid.
- No points will be assessed to your driving record and no record of this offense will be sent to your insurance company or to the Division of Motor Vehicles.

**IMPORTANT: THIS Affidavit must be returned in the enclosed envelope within 30 days of the date indicated on the front of this Notice. THIS INFORMATION MUST BE FACTUAL AND COMPLETE. THE MAKING OF FALSE STATEMENTS IS AN OFFENSE AND CARRIES SUBSTANTIAL PENALTY. You may fax this form to 480-607-8752 or mail it directly to the Traffic Enforcement Office P.O. Box 15485 Scottsdale, AZ 85267-5485.**

Please include your notice number on all correspondence and provide your phone number: \_\_\_\_\_

**SECTION B: RIGHT TO VIEW VIDEO**

- You may view the violation images and video, to do so you must contact the Safelight Cary Photo Viewing Office at 919-388-9129. At that time, the Photo Viewing Representative will schedule a date and time for you to appear. The office is located at 315 N. Academy Street Suite 204 Cary, NC 27513
- Photo Viewing Hours: Monday, Wednesday and Friday 3:00PM - 7:00PM and Tuesday and Thursday 10:00AM - 2:00PM **BY APPOINTMENT ONLY**

**SECTION C: RIGHT TO A HEARING**

**YOU HAVE A RIGHT TO A HEARING:**

- To contest whether the alleged offense was in fact committed, or
- To submit to the Hearing Board matters in extenuation of the Penalty, or
- For any other reason
- If you choose to have the matter reviewed by the Town's Hearing Board, **YOU MUST SUBMIT A \$200 BOND PAYMENT** prior to scheduling a hearing.
- To schedule a hearing you must contact **THE SAFELIGHT CARY PHOTO VIEWING OFFICE AT 919-388-9129**. At that time, the Photo Viewing Representative will schedule a date and time for you to appear.
- Hearings are held at 318 North Academy Street Bldg B Cary, NC 27512. **BY APPOINTMENT ONLY.**
- **IF YOU FAIL TO PAY YOUR FINE OR SUBMIT THE BOND PAYMENT BY THE "RESPOND BY DATE" INDICATED ON THE FRONT OF THIS NOTICE, YOU WILL FORFEIT YOUR RIGHT TO A HEARING.**

**SECTION D: PAYMENT METHODS**

- Please do not send cash.
- Make Check or Money Order payable to "Safelight Cary".
- Payments by Personal Check, Money Order or Visa/MasterCard are accepted. Please mail in the enclosed envelope along with the payment coupon.
- For Credit Card payments, please complete the information on the front of this Notice.
- Credit Card payments can also be made online at: <http://www.map.saflex.com/smartpay/paymentinfo.asp>
- A \$30.00 administrative fee will be assessed for rejected or declined payments.

**FOR QUESTIONS REGARDING PAYMENT, CONTACT THE CUSTOMER SERVICE CALL CENTER TOLL FREE AT 1-877-847-2338 BETWEEN 9:00AM AND 4:00PM (MST). PARA PREGUNTAS CON RESPECTO AL PAGO, CONTACTE EL PEÑE del CENTRO de la LLAMADA del SERVICIO de CLIENTE LIBRETA EN 1-877-847-2338 ENTRE 9:00AM Y 4:00PM (MST).**





## Chain of Custody

The System safeguards the image and data files against alteration by giving each element a unique digital signature to confirm its authentic status. Public key cryptography and additional encryption processes secure the transmission process. Using public key cryptography, keys are created in matched pairs. Encrypt with one half of a pair and only the matching other half can decrypt it. This allows Redflex to capture and transmit evidence over a virtual private network. The digital signatures are created and used to deal with key management and the effective deployment of symmetric ciphers. The resulting hybrid cryptosystems use public key methods to manage keys for symmetric ciphers. Redflex creates PKIs, public key infrastructures to make these benefits widely available for our customers. This process ensures evidence integrity.

The Redflex Solution provides the industry's leading secure chain of custody. This is enabled in the fact that Redflex is the only fully vertically integrated provider of photo enforcement solutions. Since Redflex manufactures the camera units, operates the back-office, processes the citations and maintains the system; this means that nothing leaves the Redflex "umbrella" and the City is secure from unwarranted legal risk and improprieties. The chain includes multiple levels of tightly integrated security including:

- ✓ Digital encryption at the point of Image Capture, **including digital signature encoding** to impede any possible electronic record tampering
- ✓ Violation Verification, which includes **digital certifications and audit trails** for each system transaction
- ✓ **128-bit encrypted Notice Authorization Module** that deploys robust user management and security protocols, with explicit authentication and user access protocols
- ✓ Citation Processing which includes digital certificates, digital signatures and audit trails

Each transaction is documented, audited, and archived, resulting in a vertically integrated solution and permanent safeguards throughout the entire lifecycle of the enforcement process. Redflex is the only program that does not require data and images to be physically and/or electronically transferred between different vendors and/or City agencies, which result in a preserved and secure chain of custody.

We spend millions of dollars in advancement such as the implementation of various **co-location facilities**. As result of our robust network, that includes **database redundancy, disaster recovery, intruder alert and offsite co-location**; Redflex has developed a network that is not constrained by bandwidth or capacity. To this point, the Redflex network is accessible via the web, to City personnel 24 x 7 x 365, with no downtime.



Even in the extreme circumstances where the integrity of our processing facility has been compromised, with a co-location facility, the City of Elk Grove would not skip a beat with respect to archiving and more importantly; the work in progress.

### Data Bar

Each of the high resolution digital images produced by the system includes an encrypted databar, which “stamps” pertinent violation information of the image at the very **point of capture**. The databar includes a **256-character** field that can be customized to suit the City’s specific preferences and requirements. The standard data elements that are **encrypted at the point of capture** on each image and this information cannot be manipulated by Redflex or the system. Typical data fields include:

- ✓ A unique violation number and sequencing
- ✓ Date (mm/dd/yy)
- ✓ Number of seconds of amber aspect displayed, accurate to 1/10<sup>th</sup> of a second
- ✓ Number of seconds of red aspect displayed, accurate to 1/10<sup>th</sup> of a second
- ✓ Location code or identifier, including, but not limited to: city, street and direction of traffic
- ✓ Vehicle speed
- ✓ Posted speed
- ✓ Lane of violation

#### Sample Databar (Scene A)

Location: CG-HADI-01 N 1200 Halsted St (N) / Division St. Chicago (v.3.3.1.11)  
Date: 8/17/04 Time: 3:58:30 PM Frame: 10 Speed Limit: 30 MPH  
Lane: 2 Vehicle Speed: 29 MPH RED: 1.252000 AMBER: 3.024000 Elapsed Time: 0.000000

Looking at the encrypted data bar from “real” violation images, one can clearly see the pertinent data fields are clearly and visible. Of special importance is (1) RED: 1.2520, which means the light has been red for 1.252 seconds, (2) AMBER: 3.0240, which means the amber time was 3.024 seconds and (3) Elapsed Time: 0.000; which means this is the first image captured to this set of violation images.

#### Sample Databar (Scene B)

Location: CG-HADI-01 N 1200 Halsted St (N) / Division St. Chicago (v.3.3.1.11)  
Date: 8/17/04 Time: 3:58:31 PM Frame: 10 Speed Limit: 30 MPH  
Lane: 2 Vehicle Speed: 29 MPH RED: 2.504000 AMBER: 3.024000 Elapsed Time: 1.252000

Continuing, the pertinent data fields are clearly visible and have been **automatically adjusted** for the Scene B images. Of special importance is (1) RED: 2.5040, which demonstrates that the Scene B image is captured later in the red phasing (2) AMBER: 3.0240, which should not adjust seconds and (3) Elapsed Time: 1.2520; which means this image was later in the sequencing, as 1.252 seconds has elapsed between the Scene A image and the Scene B images, which is consistent to the adjustment of the RED timing.





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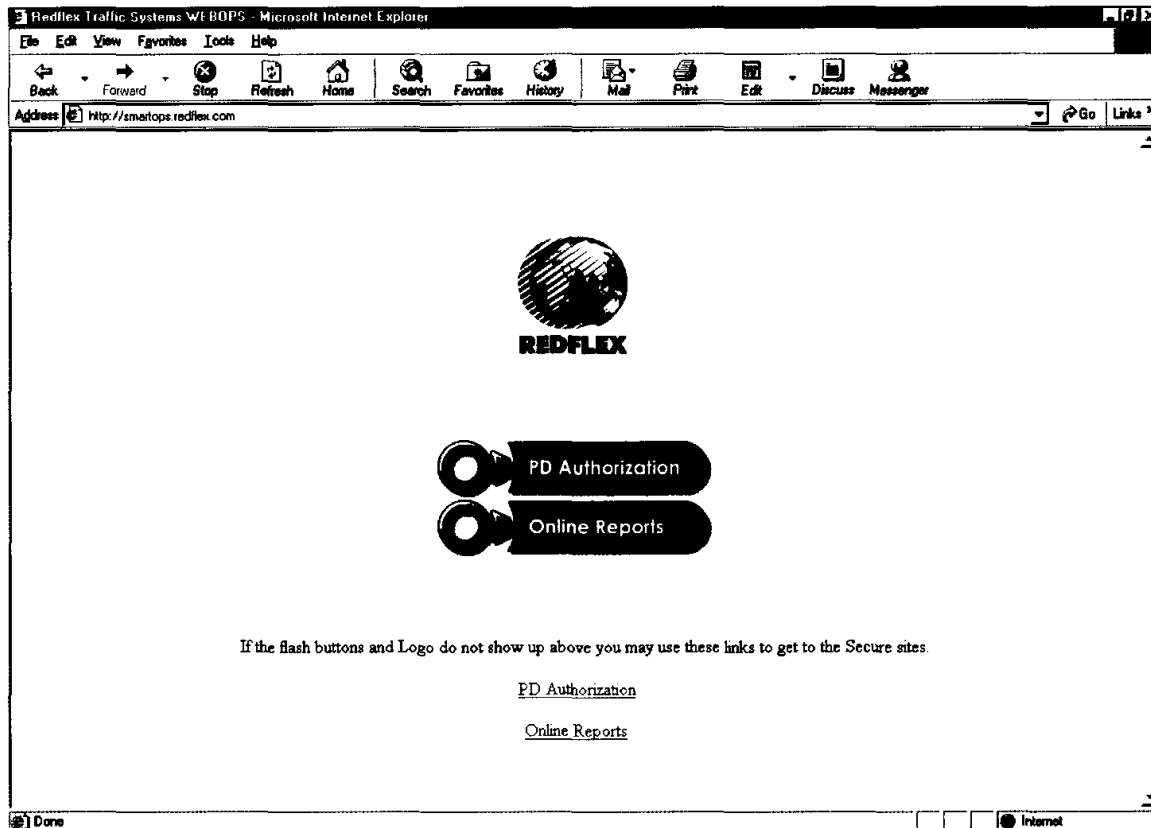
## Citation Processing

Redflex provides a **web-based on-line** application called WebOps for Police citation review and authorization. This application is completely web-enabled and can be accessed by assigned users through any computer that has Internet access. The application is available for assigned Law Enforcement personnel and is completely **secure using robust user management and Internet security protocols**. The application was developed in conjunction with various law enforcement agencies to **ensure ease-of-use** and intuitive navigation. Once an officer is logged-in to the application, he/she will be able to see all violations waiting for review. Each citation notice includes all required information and authorized police personnel have the option to review each notice and indicate violation acceptance or rejection. When violations are accepted, the application **utilizes digital signatures** confirming City authorization of the notice.

The following pages will demonstrate the exact process the City will utilize when reviewing and authorizing citations using the WebOps web-based application. The WebOps application requires no special software or databases; it is completely accessed through the Internet and only requires that a user has Internet access.



When accessing WebOps, the following screen will be displayed:



The PD Authorization module is the tool that is used to retrieve, view, and authorize traffic incidents and information.

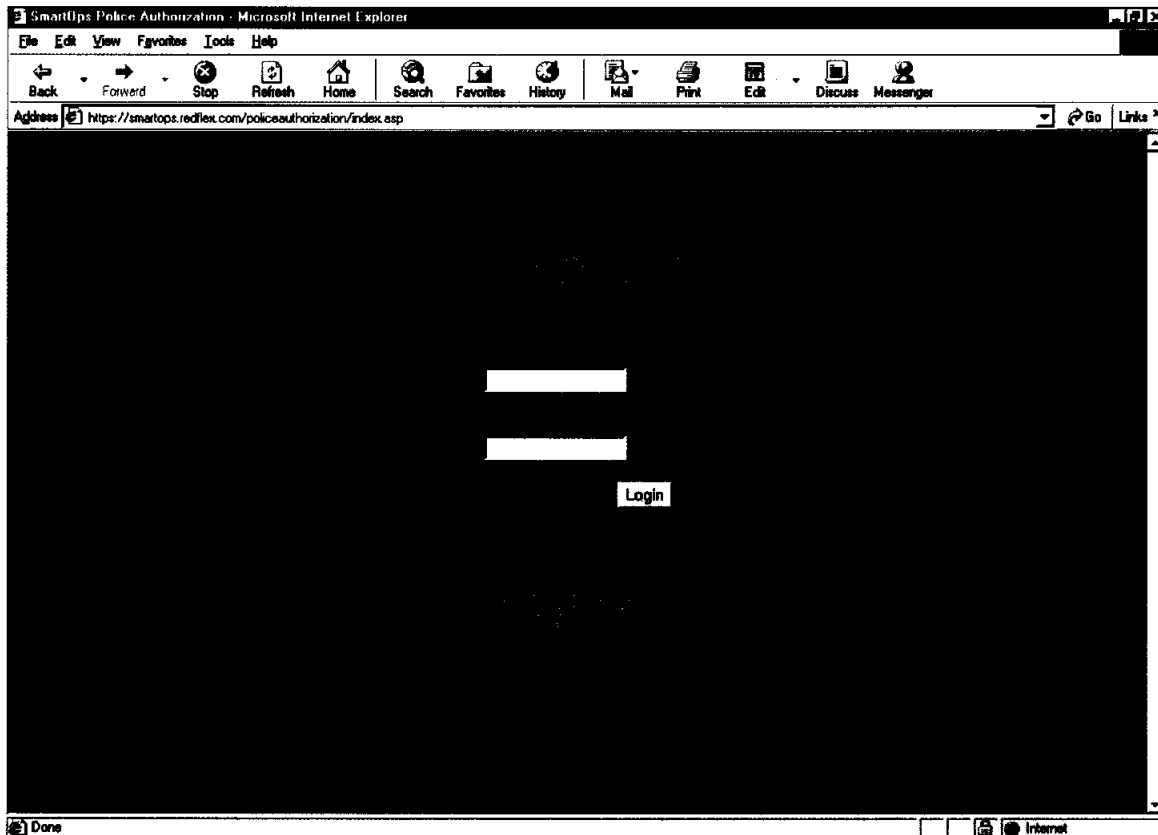
The Online Reports module is the tool used to obtain the intersection history and program statistical reports.





## Police Authorization

Selecting "PD Authorization" from the Redflex Traffic Systems Main Menu brings up the following login screen.

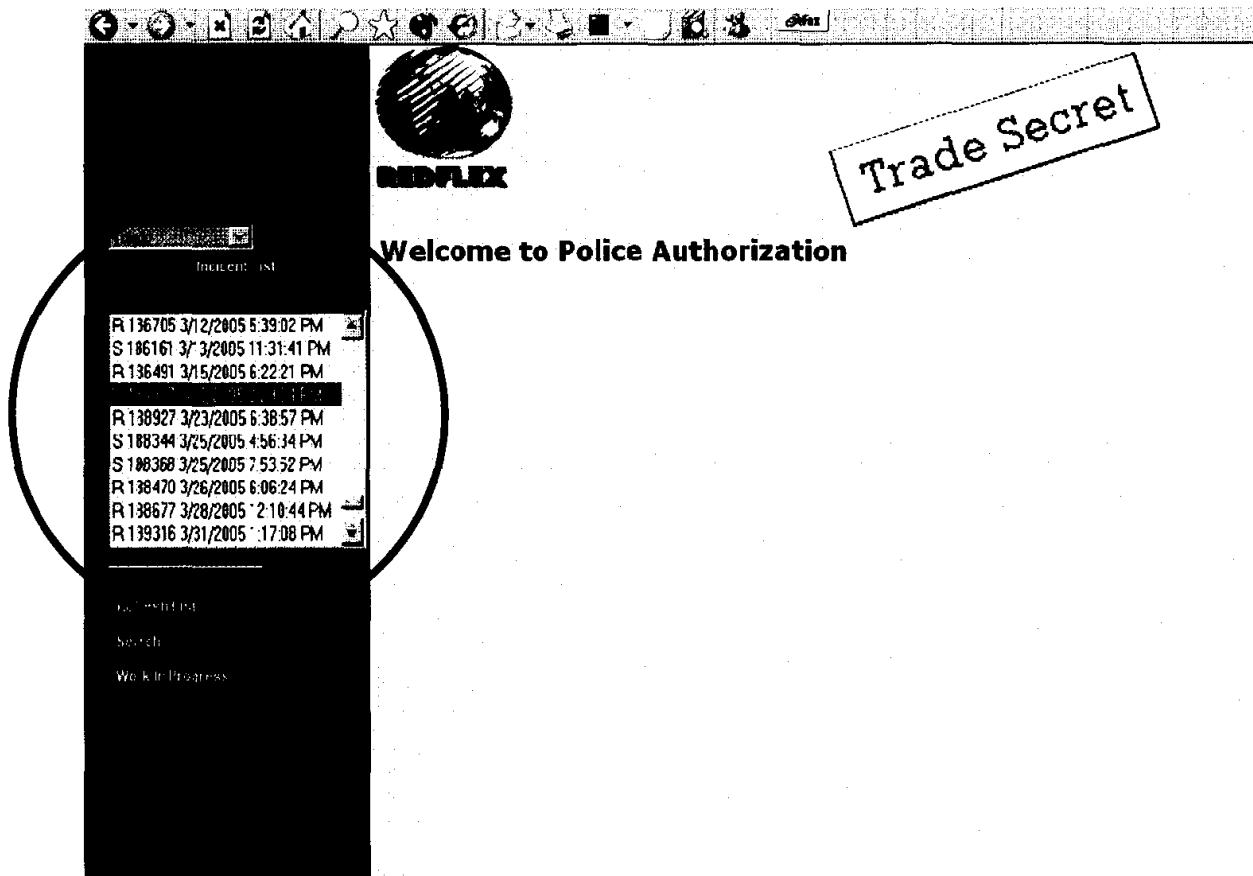


A **user ID and password are required**. Typically, individuals that do not require the ability to accept and reject traffic incidents are given read-only access. In this case, the user ID and password may be the same. Individuals that require the ability to accept and reject traffic incidents must have a secure password meeting a number of criteria.



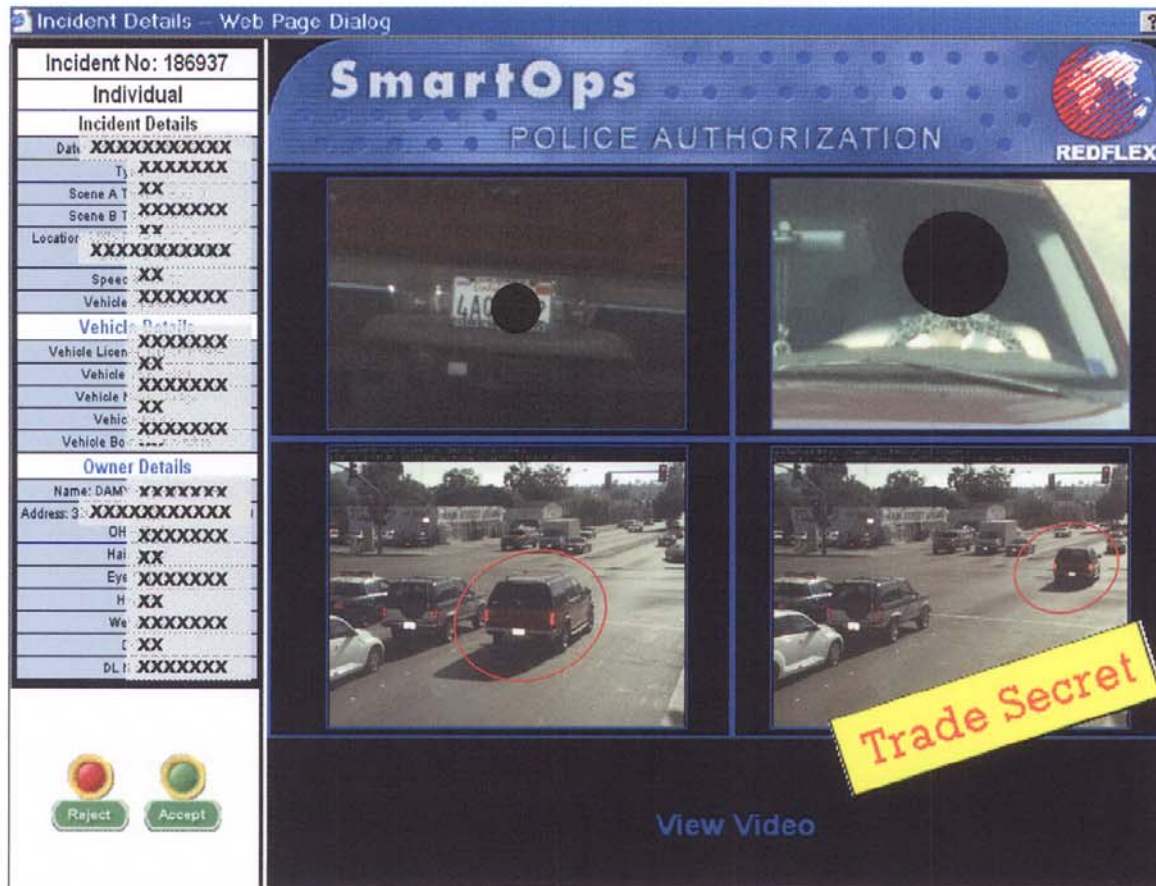
### Police Authorization – Accept/Reject Access

If the individual has access to accept or reject traffic incidents, the first step is to select an incident from the “Incident List.” The incidents in this list have been verified by the RTS Production Team and are waiting for customer approval. A screen similar to the following will be displayed. All the pre-processed citations are sitting in a queue that utilizes a time-based hierarchy, so each citation can be accessed and reviewed by date of violation. Additionally, if the City implements school zone speed enforcement or rail-grade crossing programs; each violation will be pre-processed and available through the Redflex WebOps application.



All violations are processed with the same application and interface. As you see above, some of the incidents start with a “R”, which is for red light, the other codes are not relevant to red light violations.

The officer selects a violation for review and ultimately authorization by clicking on the violation in the "incident list." In clicking on the violation, the following screen is launched.



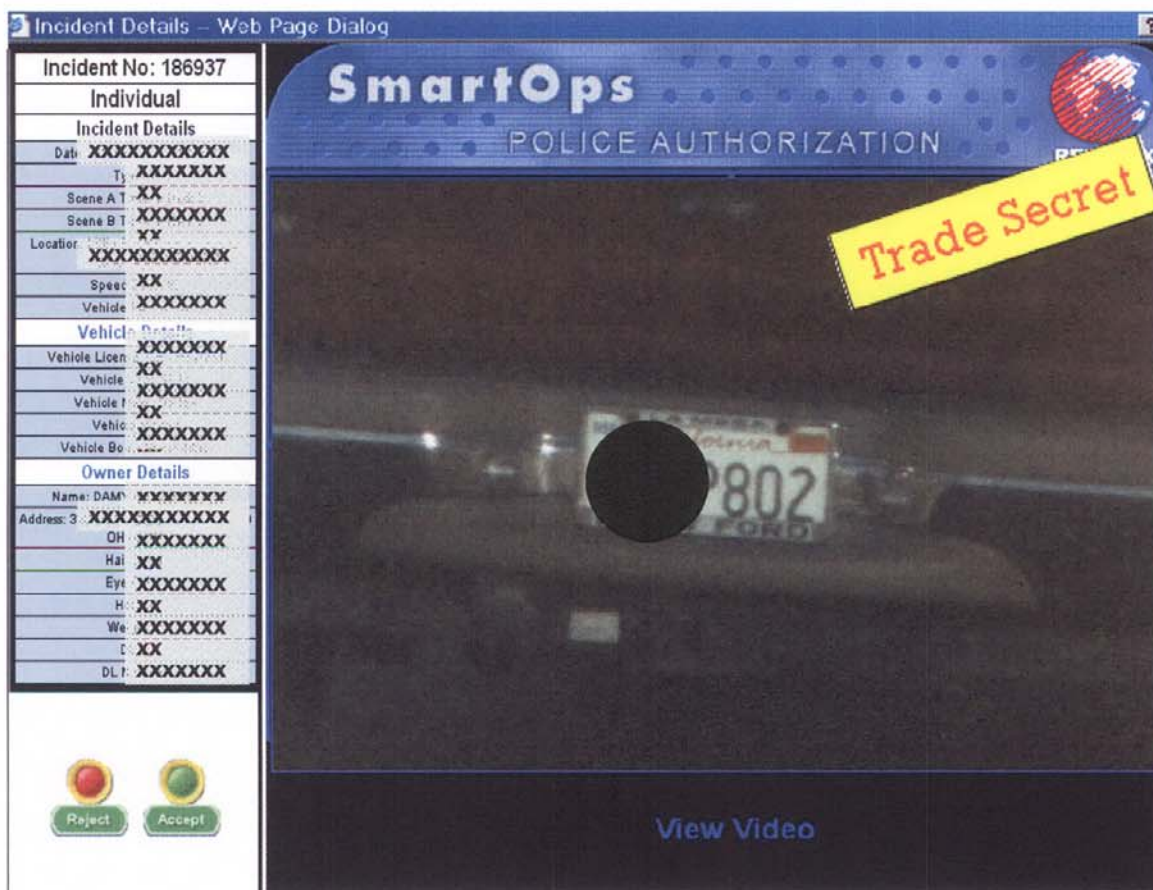
This screen has been designed to provide the digital images, full motion video and information for each incident requiring approval. Redflex provides additional tools on this screen to help the individual ensure that an incident is authorized appropriately:

- Enlarged digital images
- Information about the incident
- Information about the registered owner of the offending vehicle
- A 12-second video clip

Information about the incident and the registered owner is on the left-hand side of the screen under "Incident Details."

The 12-second video clip can be viewed clicking the "View Video" icon located directly under the digital images.

To determine if the license plate given in the "Incident Details" matches the license plate in the digital image of the plate, select this digital image. An enlarged digital image similar to the following is displayed:



Incident No: 186937	
Individual	
Incident Details	
Date:	XXXXXXXXXX
Time:	XXXXXXXX
Scene A:	XX
Scene B:	XXXXXXXX
Location:	XXXXXXXXXX
Spec:	XX
Vehicle:	XXXXXXXX
Vehicle Details	
Vehicle Licen:	XXXXXXXX
Vehicle:	XX
Vehicle I:	XXXXXXXX
Vehicle:	XX
Vehicle Bo:	XXXXXXXX
Owner Details	
Name: DAM:	XXXXXXXX
Address: 3:	XXXXXXXXXX
OH:	XXXXXXXX
Hai:	XX
Eye:	XXXXXXXX
H:	XX
We:	XXXXXXXX
C:	XX
DL:	XXXXXXXX

Using the on-line tools that Redflex Traffic Systems provides, each customer determines their own policies and procedures for accepting traffic incidents for citation processing. In addition, each customer determines their own policies and procedures for rejecting incidents.



If the individual reviewing the traffic incident determines that it is a valid offense, the next step is to select the “Accept” button in the lower left-hand corner of the screen. Doing so triggers the following screen to be displayed:

Incident No: 186937
Individual
Incident Details
Date: XXXXXXXXXXXX
T: XXXXXXXX
Scene A T: XX
Scene B T: XXXXXXXX
Location: XXXXXXXXXXXX
Speed: XX
Vehicle: XXXXXXXX
Vehicle Details: XXXXXXXX
Vehicle Loan: XX
Vehicle: XXXXXXXX
Vehicle I: XX
Vehicle: XXXXXXXX
Vehicle Bo: XXXXXXXX
Owner Details
Name: DAM: XXXXXXXX
Address: S: XXXXXXXX
OH: XXXXXXXX
Hal: XX
By: XXXXXXXX
H: XX
We: XXXXXXXX
E: XX
DLI: XXXXXXXX

**Are You Sure That You Want to Accept?**

[Click Here To Confirm.](#)

If the individual does not click on the green icon in the center of the screen, the incident will not be approved and will remain in the “Incident List.”



If the individual reviewing the traffic incident determines that it is not a valid offense, the next step is to select the "Reject" button in the lower left-hand corner of the screen. Doing so triggers the following screen to be displayed:

The screenshot shows a web page titled "Incident Details -- Web Page Dialog". On the left is a sidebar with a table of incident details. The main area is titled "SmartOps POLICE AUTHORIZATION" and features a large white box with the text "Why Are You Rejecting This Incident?". Below this box is a dropdown menu showing "Police Rejects: Safe Right Turn On Red" and a "Submit Rejection" button. At the bottom left of the sidebar are "Reject" and "Accept" buttons.

Incident No: 186937	
Individual	
Incident Details	
Date:	XXXXXXXXXX
Ty:	XXXXXXXXXX
Scene A T:	XX
Scene B T:	XXXXXXXXXX
Location:	XXXXXXXXXX
Spec:	XX
Vehicle:	XXXXXXXXXX
Vehicle Date:	XXXXXXXXXX
Vehicle Licen:	XX
Vehicle:	XXXXXXXXXX
Vehicle:	XXXXXXXXXX
Vehicle:	XXXXXXXXXX
Vehicle Bo:	XXXXXXXXXX
Owner Details	
Name: DAM:	XXXXXXXXXX
Address: S:	XXXXXXXXXX
OH:	XXXXXXXXXX
Hai:	XX
Eye:	XXXXXXXXXX
H:	XX
W:	XXXXXXXXXX
E:	XX
DL:	XXXXXXXXXX

Rejecting a traffic incident ensures that a citation is not generated. Incidents can be rejected for a number of reasons. In working with the City, Redflex will develop a customized list of reject reasons. The number of incidents rejected for a given reject reason is included in the Customer Management Report.

If it is the determination of the reviewing individual that the incident is not prosecutable, one of the following sample reject reasons can be selected:

- Safe Right Turn on Red
- Invalid Offense
- Incorrect Details
- Expired Time





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As outlined, the same application (WebOps) is utilized for review and authorization for red light review and authorization.

Once the authorizing party completes the process and chooses to “accept” the violation, the Redflex System automatically queues the information and violation images for citation notice generation and printing. Each citation notice will enclose a digital **signature** from the individual that authorized the citation, which is **physically printed** on each citation. Other citation highlights typically includes:

- Unique Sequencing & Numbering
- Affidavit of Non-Liability & Nomination Form
- Adjudication Instructions
- **Bi-Lingual Program Information**
- Payment Coupon & Payment Instructions
- URL for **on-line Viewing & Payment**

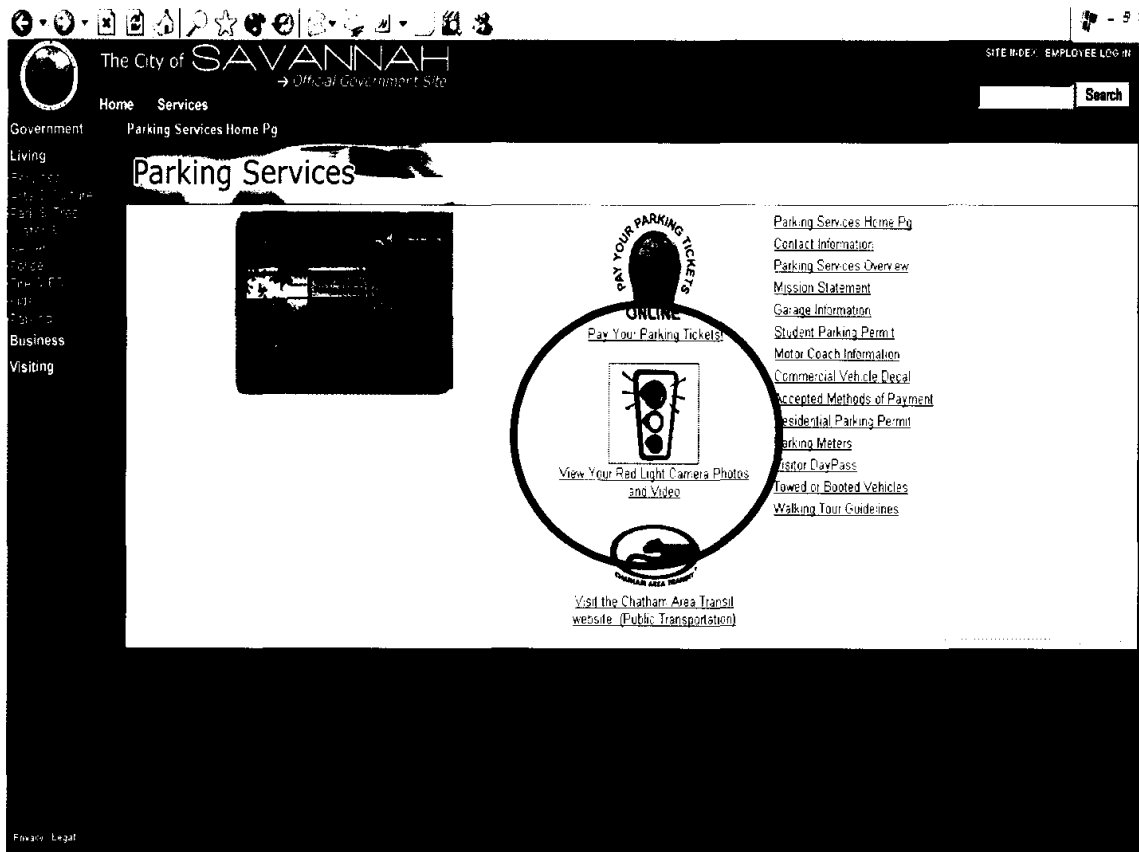


### On-Line Citizen Viewing & Payment

Redflex has developed and deployed a very effective means to allow citizens to access and view detailed information, high resolution color digital images and full motion video clips of the violation; **24 x 7 x 365!!!**

Typically, we include the URL (web address) directly on the citation notice for easy accessibility. In cities like Albuquerque, New Mexico; which issue thousands of citation each month; we have **reduced citation appeals to .003% of all citations mailed.** This is a truly industry leading statistic, which no other vendor can match. For more detail on the Albuquerque "Citizen" On-line Viewing Website, please **contact Lt. Bob Haarhues @ (505) 980-6298.**

Working with the City of Savannah, citizens can "launch" directly from the City's Parking Services website.



Clicking on the link above and entering a secure website by proving the violation number and vehicle tag number.





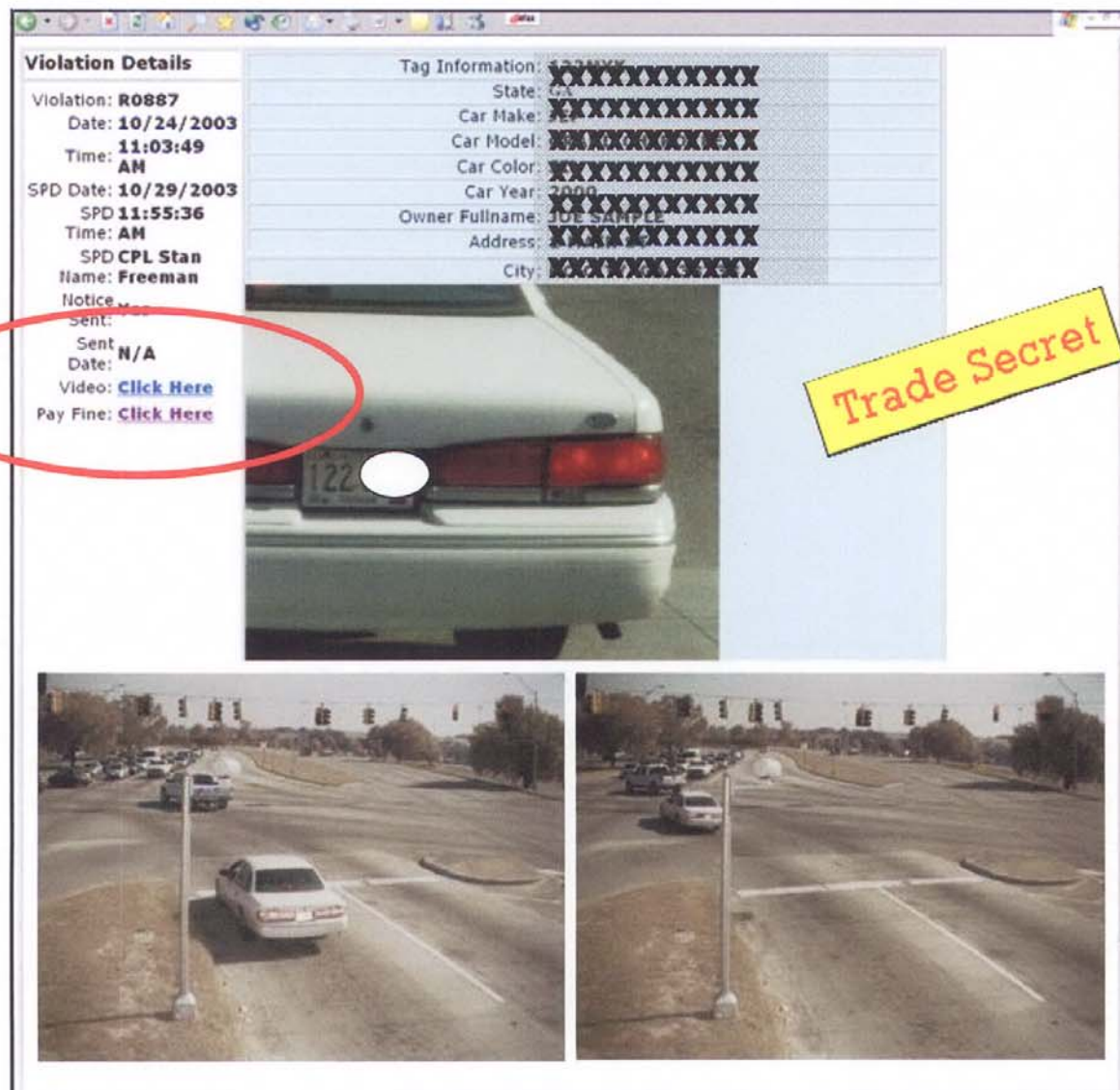
### City of Savannah - Red Light Camera

#### Customer Login

Enter Violation Number:

Enter Car Tag Number:

Clicking on the "Video" link below, the defendant can access in view full motion video of their respective violation.





**Violation Details**

Violation: **R0887**  
Date: **10/24/2003**  
Time: **11:03:49 AM**  
SPD Date: **10/29/2003**  
SPD **11:55:36**  
Time: **AM**  
SPD CPL Stan  
Name: **Freeman**  
Notice  
Sent:  
Sent Date: **N/A**  
Video: [Click Here](#)  
Pay Fine: [Click Here](#)

**Tag Information:**

State:	XXXXXXXXXX
Car Make:	XXXXXXXXXX
Car Model:	XXXXXXXXXX
Car Color:	XXXXXXXXXX
Car Year:	2000
Owner Fullname:	JOE SAMPLE
Address:	XXXXXXXXXX
City:	XXXXXXXXXX

**Trade Secret**





Finally, the defendant can pay their fine via the web.



**PARKING CITATION &  
RED LIGHT CAMERA VIOLATION PAYMENTS**

The City of Savannah

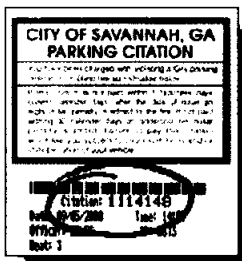
City of Savannah  
[Home Page](#)

[How to Pay](#) [Search for Citation](#) [Send email](#)

[Parking Services](#) **Search for Citation**  
Enter citation  
[Home Page](#) number:

80

[Conditions of Use & Security](#)



CITY OF SAVANNAH, GEORGIA PHONE: (912) 661-4400 CITATION # 02126 A

**PARKING CITATION**  
YOU HAVE BEEN CHARGED WITH VIOLATING CITY PARKING ORDINANCE, AS INDICATED BELOW

DATE: 9-1-00 TIME: 4:45 PM

SECTION NO: 123 ABC STATE: GA YEAR: 04

MAKE OF VEHICLE: Toyota MOTOR NO: 9999

LOCATION: Bull Street

OFFICER: Smith PR. NO. VEHICLE COLOR: BLUE

VIOLATION

CIRCLE ONE	NO. OF DAYS	NO. OF DAYS	NO. OF DAYS
	PRE-PAID	PRE-PAID	PRE-PAID
1. Parking violation on street	\$4.00	\$11.00	\$23.00
2. Motor Vehicle violating lane limit	\$4.00	\$11.00	\$23.00

Do not enter leading zeros in the Citation Number.

For the above citation 2126A would be entered.





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**5. Conflict of Interest Statement**

Redflex does not have any financial, business, or other relationship with the City that may have an impact upon the outcome of this contract.



## 6. Supportive Information/References

Redflex has included in Tab 8 a list of our current clients with the information as requested in the RFP. The following is a list of customers that may be contacted:

<b>Agency</b>	<b>All Approaches have combined video &amp; stills</b>
Stockton Police Department Officer Tony Delgado (209) 937-8018 Tony.Delgado@ci.stockton.ca.us	13 Live Systems
Fremont Police Department Geneva Bosques (510) 790-6622 Gbosques@ci.fremont.ca.us	8 Live Systems
San Mateo Police Department Lt. Rick Passanisi (650) 522-7743 rpassanisi@cityofsanmateo.org	5 Live Systems
Marysville Police Department Sergeant Dennis Hauck (530) 870-1026 dhauck@marysville.ca.us	5 Live Systems
City of Culver City Sergeant Allen Azran (310) 253-6268	26 Systems



## Camera

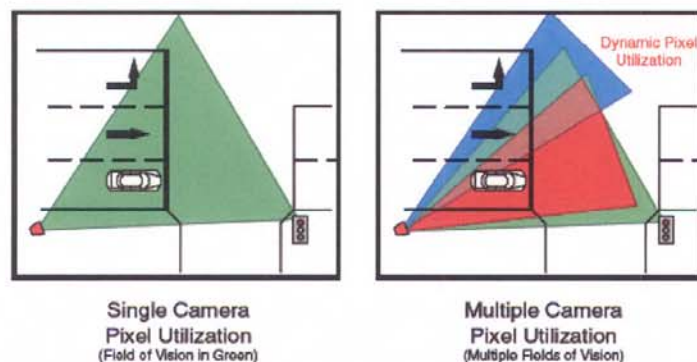
Five years ago, with the introduction of our **patented combination still-video system**, Redflex was the first vendor to recognize, develop and implement a system that provided both (1) the highest resolution and quality color still photographs with (2) the benefits of full motion video; allowing officers to view all possible extenuating circumstances; providing true objectivity. We now have over 500 systems fully operational with this exact set-up and configuration coast-to-coast.



Each Redflex Camera Unit is installed, configured and tested to ensure high shutter speeds providing sufficient frames per second for simultaneous violation capture. This includes multiple still cameras that capture up to **7 frames per second** and video cameras that capture up to **30 frames per second (fps)**, not the minimal 5 fps that our competition uses.

However, even at **7 frames per second**, it is only with a multiple camera set-up (three stills and one video) is any system able to capture simultaneous violations from different lanes and movements during a single phasing.

Redflex's experience in the photo enforcement industry is reflected in the design of its photo enforcement systems, allowing maximum flexibility to suit the application and the customer's needs. A major component of the systems flexibility is the use of multiple integrated and synchronized high resolution digital cameras.



In addition Redflex Traffic Systems, patented approach uses a complement of full motion video cameras and multiple high resolution digital still cameras. Using multiple high resolution digital still cameras, Redflex can leverage the pixel coverage of which the system is photo enforcing, resulting in **“Dynamic Pixel Utilization”**. Dynamic Pixel Utilization means that more pixels are used in areas where they are more effective, creating higher quality and more legible digital still photo evidence than compared to single camera based photo enforcement systems.

With respect to specific areas of interest such as the license plate of an offending vehicle and/or an image of the driver of that offending vehicle, Dynamic Pixel Utilization can result in up to **500% greater pixel coverage** on the area of interest when compared to single camera based systems. This is very important in insuring that the area of interest, such as a license plate or drivers face, is clear in all types of traffic and weather conditions.

This result shows that the multi camera system, with Dynamic Pixel Utilization is up to 5 times the resolution on the specific area of interest, in this case the plate of an offending vehicle. By comparing the single camera system's cropped plate to that of the multi camera system's cropped plate



The result clearly shows that the multi camera system produces clearer images of specific areas of interest, resulting in clearer more legible evidence and better overall system performance.

The result?

A successful photo enforcement program designed for government, police and traffic departments, and most importantly, the community's safety.

\*In fact, there has been recent press that alleged image quality issues in programs such as in Philadelphia, PA; that issued tickets to the wrong drivers because the images were too blurry. This program uses a single camera and it demonstrates the field of view and image resolution issues of vendors that are legally constrained to using one camera. This is not a Redflex program or problem.

Typical Slimline Intersection Installation – Cabinet-less Installation



The image below demonstrates a typical head-unit of a Redflex installation. As shown by the “red” circles, this unit includes three (3) high resolution still cameras (up to 12.4 megapixel) and in “yellow”, one (1) full motion video camera.

Each one of these cameras has the capability to shoot **up to 8 fps**, has a different **pan-tilt-zoom**, and has a unique job to do; and it is only with this patented approach, that it is possible to effectively capture simultaneous violations.

Redflex is the only vendor that can legally provide a multi-camera, multi-angle and multi-mode solution that incorporates the integrity of using a **single central processor and single time clock in a synchronized fashion.** With our patent of a multi-camera configuration, our solution provides integrated and encrypted high resolution still images and full motion color video. This multi-mode configuration provides the richness, crispness and clarity that provided with the industry’s highest resolution still cameras and the benefit of situational awareness



that is provided through full motion video. Additionally, with our patented capabilities of using synchronized still cameras, only Redflex can provide **effective simultaneous violation capture across multiple lanes and various movements.**

Compared to the industry's video-only, residual imaging systems and single still camera-only systems, the Redflex SmartCam HDX system represents a minimum 300% greater resolution. Our solution comes with multiple options, including our latest 12.4 megapixel option.

### Single Camera Configuration

To address the unique needs of some cities, Redflex has developed an effective "next generation" solution that provides the smallest system in the industry.

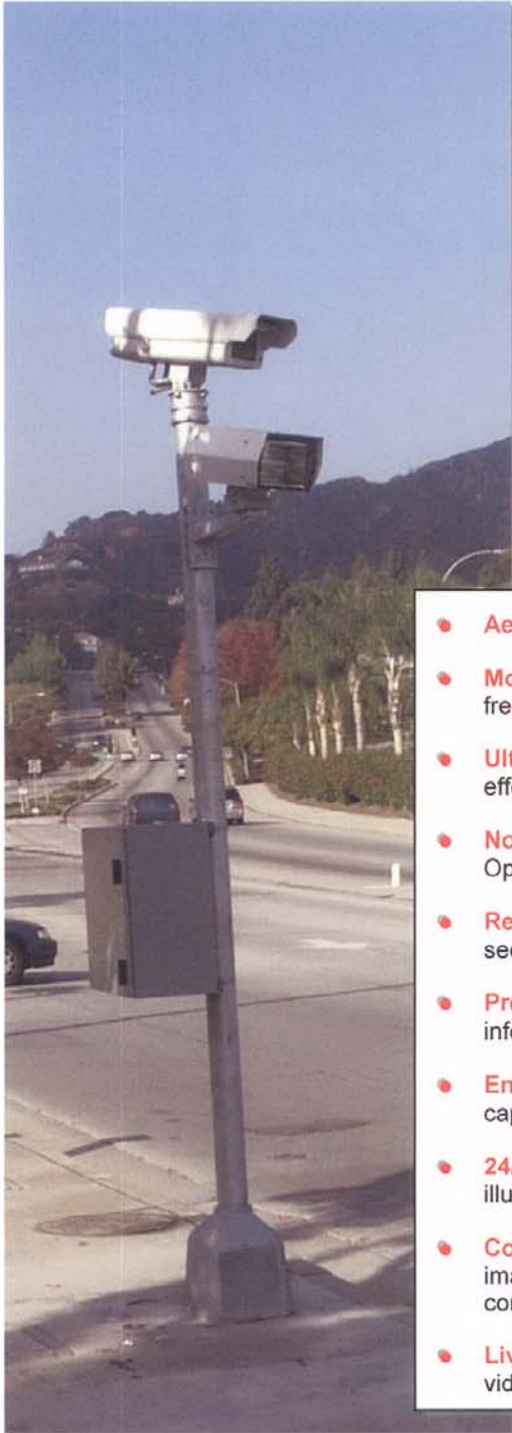
This set-up eliminates the multiple camera configuration



**The smallest enclosure in the industry with the highest resolution camera = superior performance.**



The new Slimline Series is built on the Redflex advantage, but is the least invasive and most aesthetic solution in the industry. This system can be mounted on free-standing poles or using the City's existing infrastructure.



- **Aesthetics:** smallest system footprint in the industry
- **Modular & Flexible:** Capable of being mounted to free standing pole or existing city infrastructure
- **Ultra Sharp Image:** New image sensor with 12.4 effective megapixels
- **Non-Intrusive:** Virtual & Video, Lidar and Radar Options
- **Reliable:** Continuous shooting at up to 8 frames per second
- **Precise:** GPS support for recording of location information with violation data
- **Enforcement Efficiency:** Simultaneous violation capture across all movements
- **24/7/365 Enforcement:** Integrated low watt illumination with ultra-fast recycle intervals
- **Convenient:** Wireless Transmitter for transferring image files directly over wireless LAN & remotely configurable
- **Live Full Motion Video:** Live multi-angle full motion video with playback and archiving features

## System Performance

In the City of Chicago, if we do not achieve an **85% prosecutable image rate**, we are required to pay the City liquidated damages. To this point, we are proud to state that over the two years that have supported this great City, we have never fallen below an 85% capture rate. In fact, we average approximately **92% citation capture rate**. (See Enclosed Reports)

To demonstrate the high resolution and absolute clarity of our latest camera releases and set-up, enclosed is a sample face (frontal) image from an actual nighttime violation. Included are the raw and zoomed images. **We are proud of these latest advancements and we hope the City agrees with us that this image quality is truly amazing.**





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## Sample Images

It is important to note the best functionality is only obtained through the use the 4-camera configuration, a single integrated time source and the highest resolution digital cameras, where the cleanest, crispest and most comprehensive evidence can be obtained.

To demonstrate the efficacy of the Redflex System, we are enclosing sample images from the following types of violation movements:

- Daytime, Straight-Through
- Daytime, Left-Turn
- Red Light Running at **107 MPH**
- Nighttime, Straight Through
- **Nighttime, Raining, Across 5 –Lanes, Right-on-Red**

Sample Image – Straight Through (Daytime)  
Scene "A"



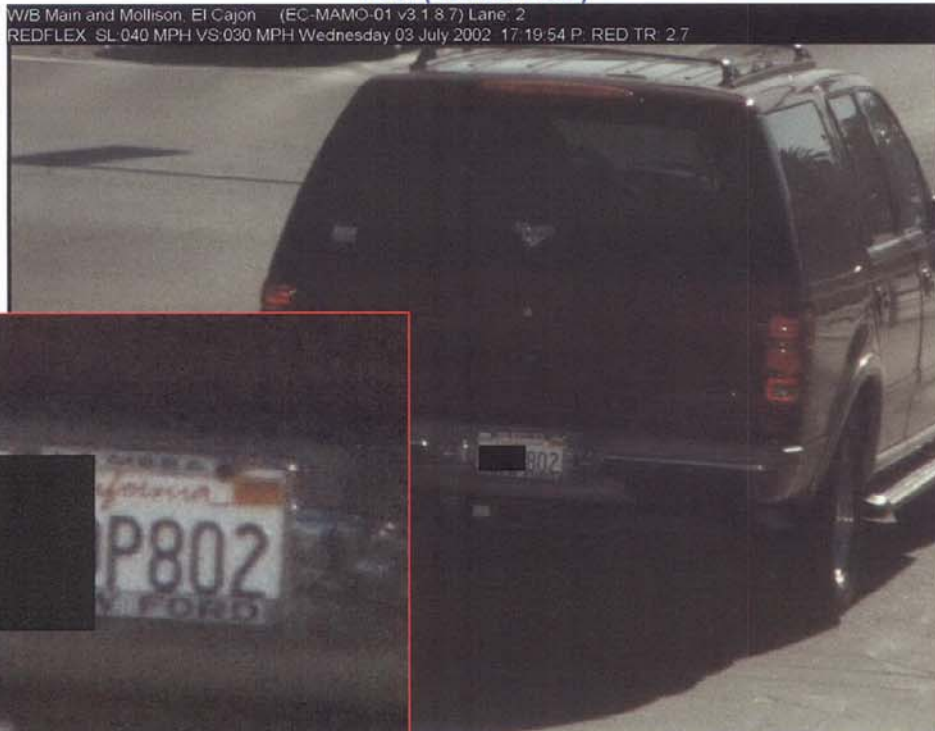
Scene "B"



**Frontal (Violator Face)**



**Rear (Vehicle Plate)**



Full Motion Video (12-Second Clip – 300+ Individual Frames)



Sample Image – Left-Turn (Daytime)  
Scene "A"



Scene "B"



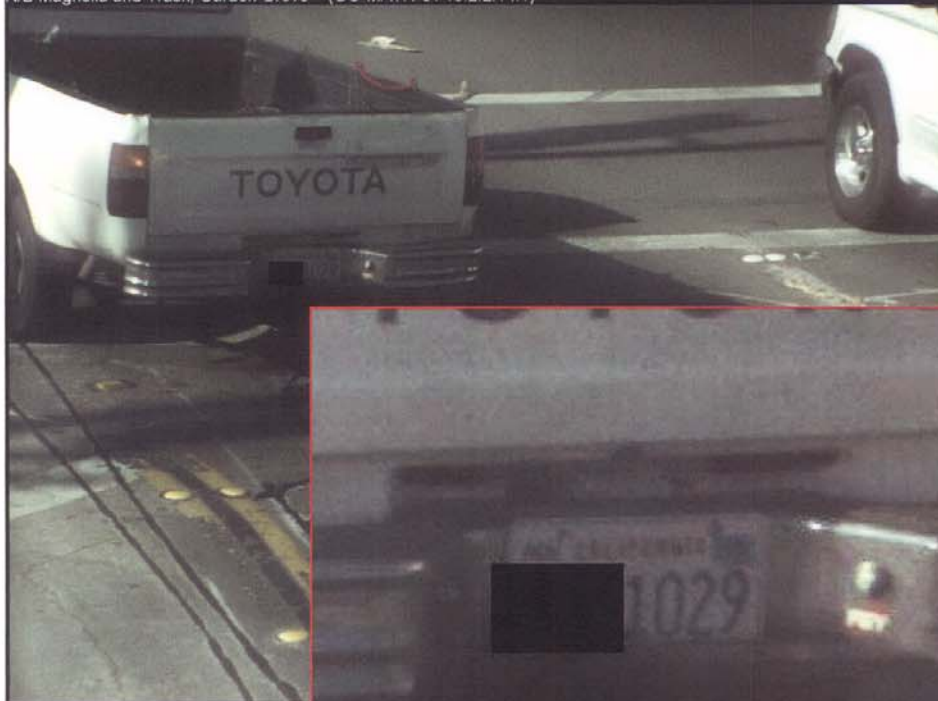
**Frontal (Violator Face)**

REDFLEX LOCATION: MATR1 FRAME: 0006 Thursday 15 April 2004 16:31:47 LANE: 1  
SPEED LIMIT: 40 MPH VEHICLE SPEED: 39 MPH TIME INTO RED: 0.38  
N/B Magnolia and Trask, Garden Grove (GG-MATR-01 v3.2.2.14.1)



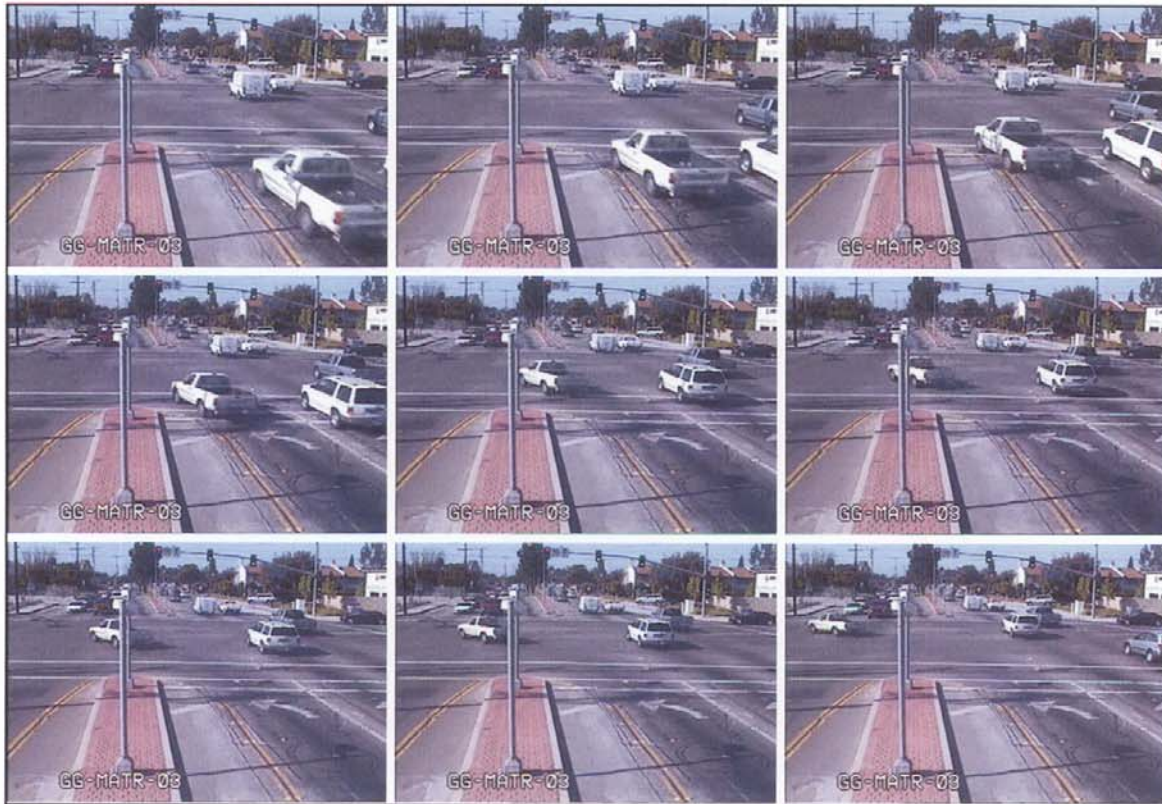
**Rear (Vehicle Plate)**

REDFLEX LOCATION: MATR1 FRAME: 0006 Thursday 15 April 2004 16:31:47 LANE: 1  
SPEED LIMIT: 40 MPH VEHICLE SPEED: 39 MPH TIME INTO RED: 0.70  
N/B Magnolia and Trask, Garden Grove (GG-MATR-01 v3.2.2.14.1)





Full Motion Video (12 Seconds – 300+ Individual Frames)



Sample Image – Straight Through – 107 MPH (Daytime)  
Scene "A"



Scene "B"



**Frontal (Violator Face)**



**Rear (Vehicle Plate)**



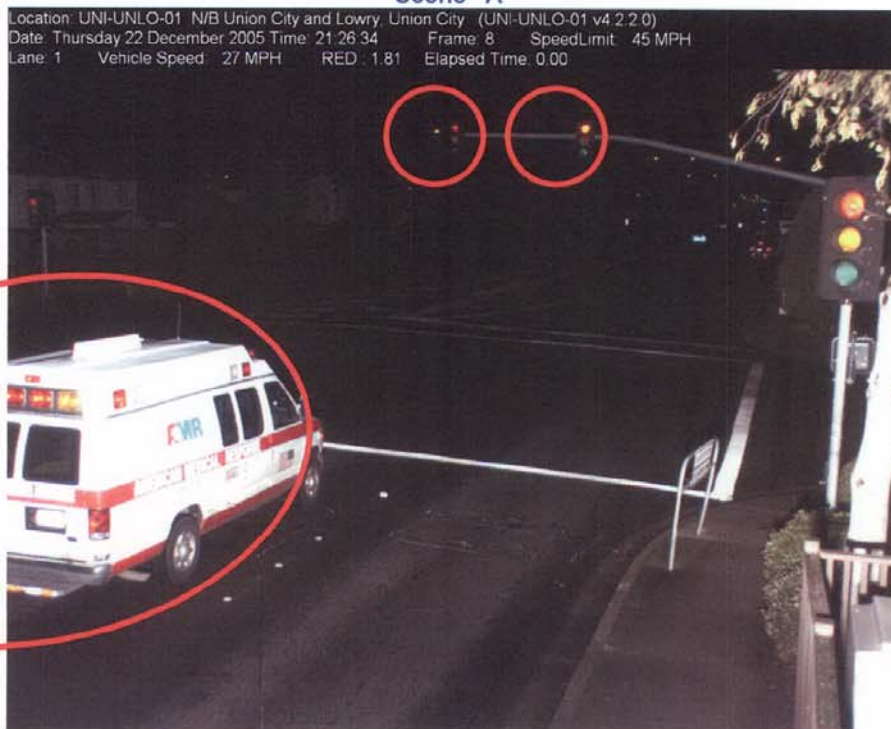
Vehicle traveling at 107 MPH

Full Motion Video (300+ Individual Frames)

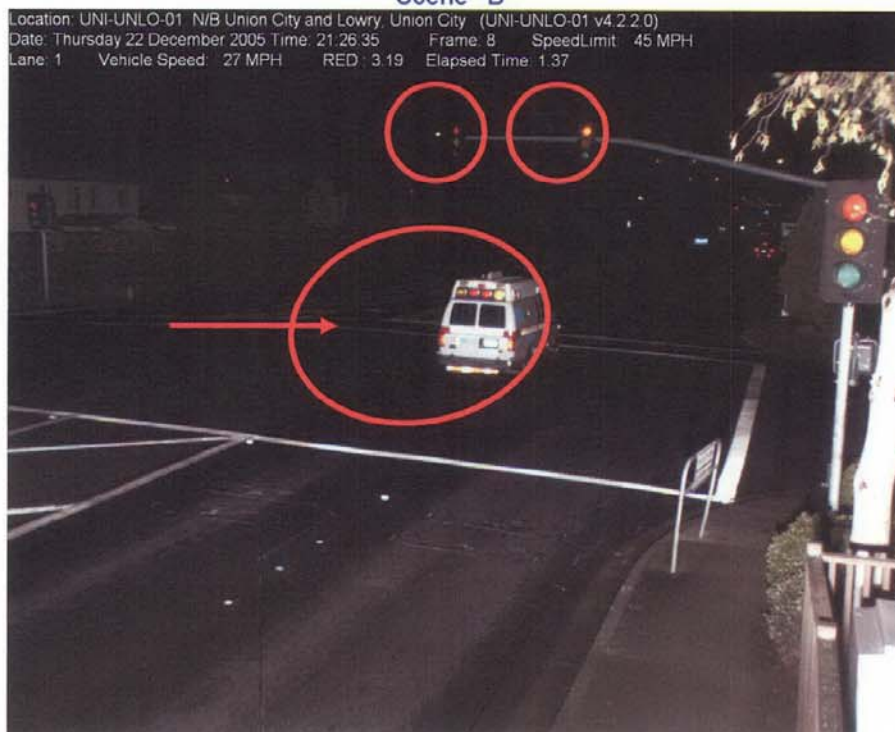


Sample Image – Straight Through – (Nighttime)

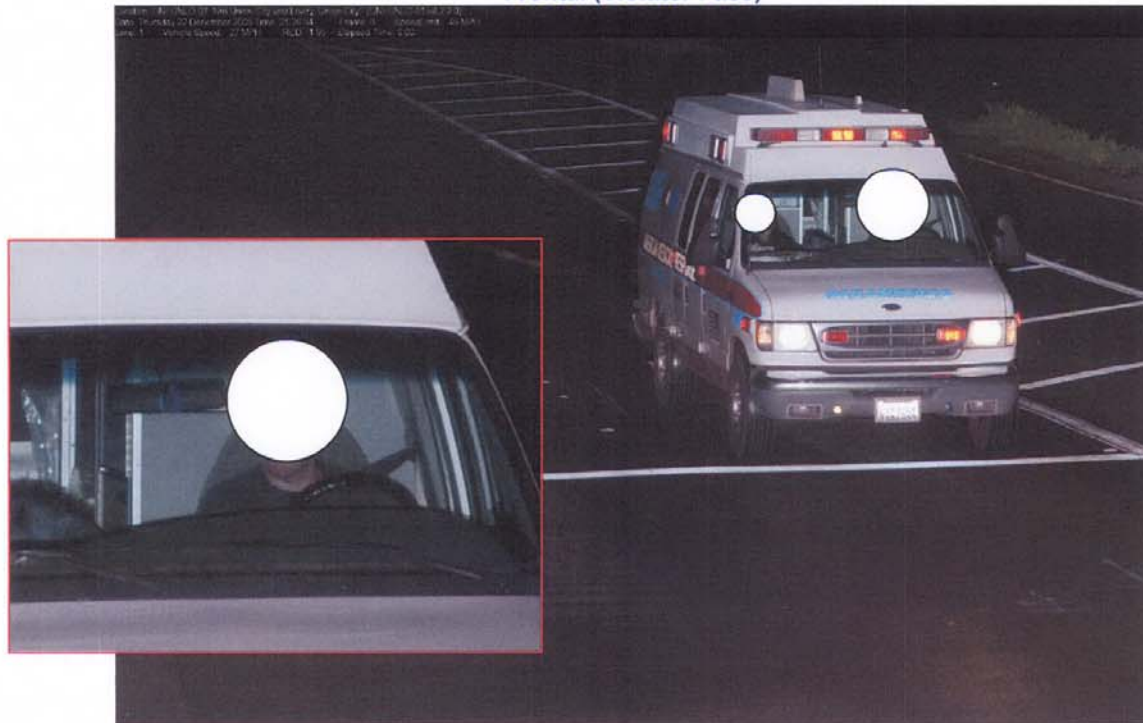
Scene "A"



Scene "B"



Frontal (Violator Face)



Rear (Vehicle Plate)



Sample Image – Right-Turn – Across 5-Lanes - Rain – (Nighttime)

Scene "A"



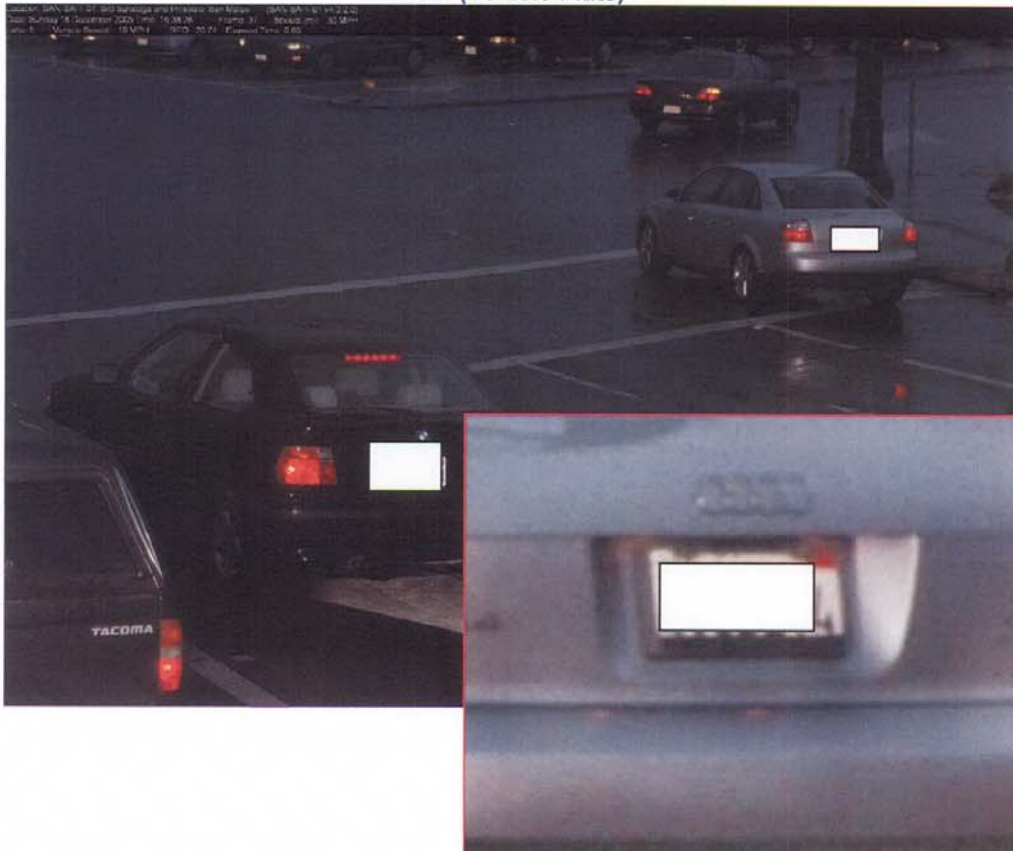
Scene "B"



Frontal (Violator Face)



Rear (Vehicle Plate)

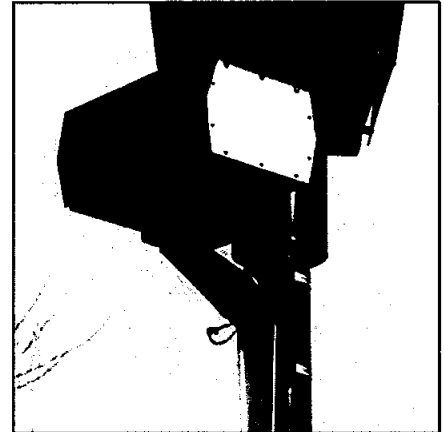




## Imaging Units:

The Redflex System provides a **Synchronized Low Wattage Flash** Illumination System that is triggered to synchronize precisely with the still camera's digital imaging in all light and weather conditions, which ensures effective full-color images 24 x 7.

The Flash Unit is typically mounted on the camera pole or to an existing traffic pole for in-line illumination. The flash provides visible white-light to **ensure full-color imaging** of critical license plate images in all ambient light and variable weather conditions. The Flash Unit is automatically synchronized with the digital still camera's imaging shutter release at all times. The very **short flash duration** (~1/2600<sup>th</sup> of a second) and ultra fast recycle time (~250 milliseconds) means that the flash does not become a public nuisance and/or impact driver safety.



We will **never use flood lights** or the extended illumination configurations that are required with video-only systems.

With our camera's wide dynamic range, our flash intensity (wattage) is often about 50% of the competition.

A single synchronized flash unit effectively provides illumination across multiple lanes and broad intersections. Each flash unit includes **neutral density filters** that provide effective adjustment and customization based on actual intersection illumination needs. Flash intensity is determined via a careful study of camera unit location, image quality, physical geometries and customer input and guidance.

Additionally, the flash unit can be easily turned off, on and reset remotely utilizing the camera configuration software module via the VPN. Flash intensity is routinely tested with a light meter to ensure effective illumination without imposing public nuisance or driver safety risks.

## No White Light & Low Lux Options

Importance Note: Redflex has effectively tested and evaluated the implementation of **non-flash** system configurations, which are not actively utilized in the US because they may actually **reduce program effectiveness** as a result of the following:

- ✓ Infrared imagery does not allow clear color images, which are critical for identification purposes and may not be admissible in many courts.
- ✓ Low Lux imagery is only marginally effective nighttime
- ✓ The flash unit has proven to be much more **effective at changing driver behavior**. It has been proven that when a flash "goes off", the violator becomes immediately

aware that they have actively run a red light and subsequently will instantaneously change their driving patterns. Once the violator knows they were just caught on film, they will immediately slow down and become more aware of their driving behavior.

Our synchronized illumination modules have been tested and proven successful at eliminating the effectiveness of plate sprays and covers that are advertised to prevent photo enforcement programs. (See Below)

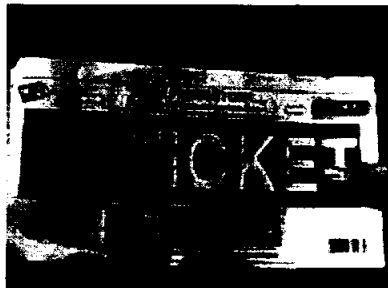
## Does Device Give Green Light To Red-Light Runners?

### *Does 'Super Protector' Work?*

POSTED: 12:58 pm PDT May 5, 2004

UPDATED: 2:08 pm PDT May 5, 2004

**SAN DIEGO** -- Police departments across the county have implemented cameras at stoplights in hopes drivers will not run red lights. However, some feel the cameras violate their privacy.



A device, called the "No-Ticket Super Protector" promises to help you avoid getting caught. Does it work?

A 10News crew set out to see if the anti-photo device keeps radar cameras from catching someone in the act. Can the plastic shield help prevent a \$350 fine?

Whether you call them red-light cameras or photo-enforcement cameras, they are out there and clicking away. In El Cajon alone, red-light cameras monitor seven intersections.

Agent Steve Reilly from the El Cajon Police Department heads the photo-enforcement program which uses the

Redflex Traffic System.

"We're trying to cut down on injuries and deaths that come associated with running red lights," said Reilly.

Even so, some consider red-light cameras a violation of privacy and feel justified in their efforts to defeat them. Hence the "No-Tickets Super Protector."

The Super Protector is sold for \$20 as a multi-angle, anti-photo license plate cover. It is supposed to protect you from regular, overhead and high-angle cameras, such as red-light cameras. The device promises to protect your privacy and your wallet.

To test the device, 10News sets up a couple of test runs at one of the El Cajon intersections monitored by red-light cameras. With the help of the El Cajon Police Department, 10News drives a car through the red light a couple of times -- once without the Super Protector and once with the device.

During the first run, the red-light camera snapped a photo of the license plate and the plate number was recorded. There was no mistake who committed the prearranged violation.

During the second run, the Super Protector was placed over the license plate and the car ran another red light. The red-light camera snapped a photo and unbeknownst to the Super Protector's claim, the license plate was clearly readable. The product didn't work.



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## **Violation Detection System:**

Redflex is the only vendor that has experience utilizing four different detection sensors and configurations; which enables the Redflex Solution to be easily customized and implemented to address unique geometrical and spatial needs without jeopardizing effective violation capture.

Any vendor that espouses a “one-size fits all” approach is truly constrained and is proposing a configuration which could lead to a substantially negative impact on public safety.

Currently, with over 800 “live” systems and 70% of the US market, Redflex has made a substantial in Research, Development testing various technologies and configurations, and we recognize that each of the following proposed technologies has inherent strengths and weaknesses; all of which are impacted by factors such as, but not limited to: intersection geometries, climate and pavement conditions.

The specific technology we deploy at the proposed intersections will be based on joint Redflex-Customer agreement; ensuring that the end result is a system that is truly optimized for the specific needs at hand.

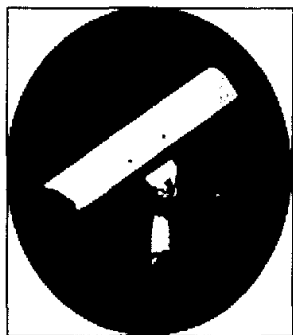
## **Non-Invasive Violation Detection**

Redflex is pleased offer the City of Elk Grove a variety of non-invasive violation detection options. As outlined, we do not prescribe to the notion of “one size fits all.” We recognize that each intersection has different geometries, different lane configurations and different directional orientations; all of which can and will either negatively or positively impact the violation detection technology. To ensure the City’s systems are optimized, only Redflex has effectively deployed each of the four different types of detection technologies. Regardless of the specific technology, each option incorporates the following features:

- ✓ Automatic self-tuning
- ✓ Sensitivity control
- ✓ Automatic recovery for opens, shorts and power failure
- ✓ Presence of pulse modes of operation
- ✓ Multi-channel outputs
- ✓ Easy installation, adjustment and maintenance



### Video Sensors



Working with the most widely recognized names in traffic control, Redflex is pleased to offer the City of Elk Grove the industry's most advanced non-intrusive video sensor incident detection system, which will **not negatively impact the City's roadbed and/or tax limited spatial conditions**. This state-of-the-art system utilizes video sensors, which uses video image analysis processors to synthesize the output from a variety of camera configurations. Redflex has effectively worked with companies such as Econolite, Trafficon and Iteris to test and deploy video-based systems.

These robust systems offer a **wide-dynamic range**, which is historically considered a constraint of video sensor systems. The System runs **automated self-diagnostics** of all sensors and hubs to ensure limited deviation from normal operation. The system's video sensors are configured to ensure **accurate field-of-view** for each specified detection zone. The systems accuracy is enabled via the reconciliation of the spatial signature of each detected vehicle and the integrated temporal signature of its motion.



Field tests have demonstrated excellent reliability. This type of technology has proven to increase the efficacy of the Redflex Program when the use of conventional loops is not possible or desired.

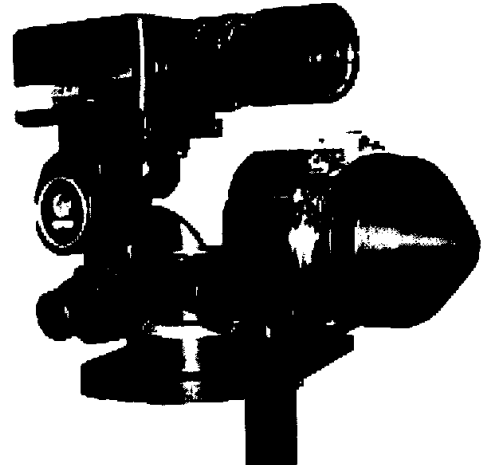
Redflex also offers radar-based vehicle detection systems, which can be a viable alternative to non-intrusive video sensors systems. Redflex has successful deployed this type of vehicle detection system in various cities across the USA.

### Radar

Redflex can provide the City a radar-based system which provides **multi-target** distance and speed measurement using proprietary **FM Doppler radar**. The Radar technology projects a focused radar beam at traffic approaching an intersection. The system identifies each vehicle that enters the sensor area and continually tracks it, creating reports of speed, distance, and direction of each vehicle, **21 times per second**.

The Radar System:

- ✓ Calculates the probability of vehicles entering the intersection after the light has changed
- ✓ Creates a data record containing the violation details
- ✓ **Can extend the red phase** for crossing traffic during a violation using the optional Red Light Delay System
- ✓ Creates a log file for every vehicle that passes the stop line, or another pre-defined report line
- ✓ Can be set to log all passing vehicles and to provide statistics such as vehicle count, average speed, percentiles, etc.

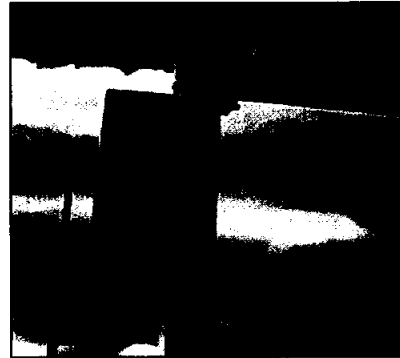


Our Radar systems can be an effective device for various situations and circumstances that limit the application of traditional video sensor systems. Some of the immediate benefits of this solution include:

- ✓ No need for bucket trucks and lane closures thereby reducing the installation time, street construction, and daily traffic flow caused by the installation, maintenance, and repair of overhead video systems.
- ✓ Effective all-weather detection and picture quality. The radars are insensitive to light conditions, rain and other weather conditions, and the high-resolution cameras combined with efficient flashes guarantee the best possible picture quality under any condition.
- ✓ The distance at which the traffic is monitored can be tailored to the specific requirements of each intersection, and can easily be adjusted to changing conditions.
- ✓ The sensor tracks a violating vehicle to the optimal position for the first and second images, permitting maximum camera effectiveness.

**Laser (LIDAR)**

Redflex also actively deploys laser-based systems across the USA, including Medford Oregon. We were recently selected for the nation's first fixed laser-based speed program in the City of Davenport, Iowa. Our LIDAR trigger options use multiple lasers per set-up which enables multi-lane and multi-vehicle discrimination, with the pinpoint accuracy that is expected from this type of solution.





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## Reporting:

The Redflex System provides a **comprehensive statistics package** and numerous standard reports. Each report can be easily accessed **on-line via the Internet**. The powerful **Oracle relational databases** underpinning SmartOps/WebOps report generation function allows extensive management reporting to the City and system managers. Reports are easily searchable and information can be effectively downloaded in MS Excel and ACSII Delimited formats. These **reports are provided in “real-time.”**

Monthly reports will provide detailed enforcement program data, including the following:

- ✓ Violation records: the number of violations detected (by site); the number of violations imaged; the number of images processed; violation types
- ✓ Citations issued
- ✓ Rejected violations processed by reason including:
  - Unit malfunction
  - Illegible plate
  - Missing plate(s)
  - Third party obstruction (by common type)
  - Marred/dirty plate
  - Bad DMV record
  - And other categories as practical
- ✓ The number of vehicles monitored
- ✓ Maintenance, bug & downtime logs
- ✓ Date/time ranges (including turnaround between violation and ticketing)
- ✓ Citation status/dispositions
- ✓ Hours of operation

Reports may be displayed on a monitor via secure Internet access or printed and supplied to the City. With the **web-based reports**, selected City management can create reports to assist with management or policy decisions. Redflex maintains database reporting systems and statistics modules that are capable of providing detailed information regarding every component of the programs performance.





The Redflex Program includes very **robust querying** and reporting capabilities.

Utilizing web-based interface and robust **user management protocols**, as various City agencies will be accessing mission critical information.

**Online Management Reporting**

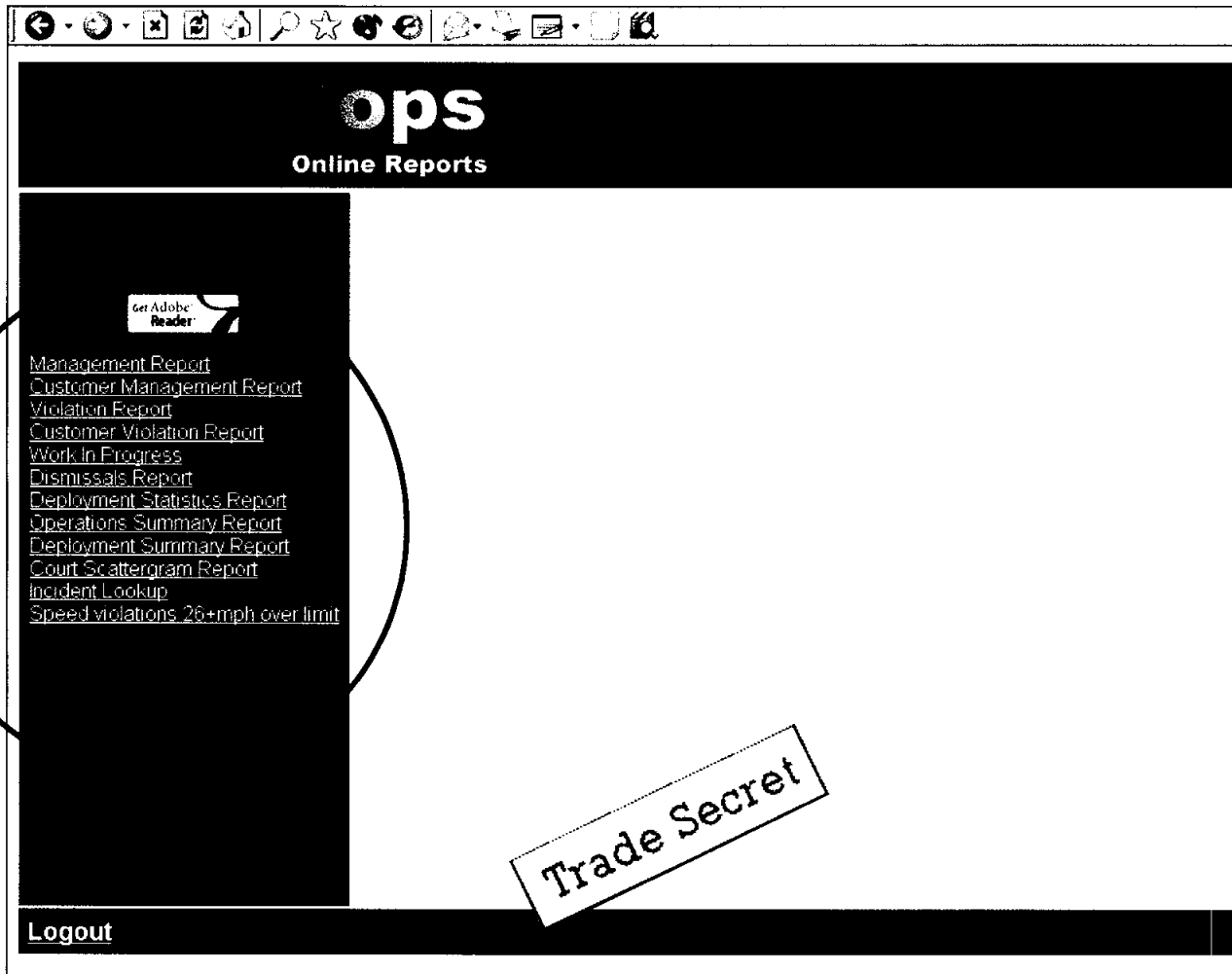
Users have access to suite of Online Reports via the web. The users' name and password will determine what level of access and which reports are accessible.







Once logged-in, the user will have the ability to run nearly a dozen different reports. Standard reports are identified and configured by the unique needs and requirements of the partner City.



Reports may include:

- Management Reports
- Violation Reports
- WIP Reports
- Dismissal Reports
- Deployment Statistical Reports
- Operations Summary Reports
- Incident Lookup Reports



In addition to the reports outlined above, users can access a variety of additional program related information. These reports are also accessible via the web.



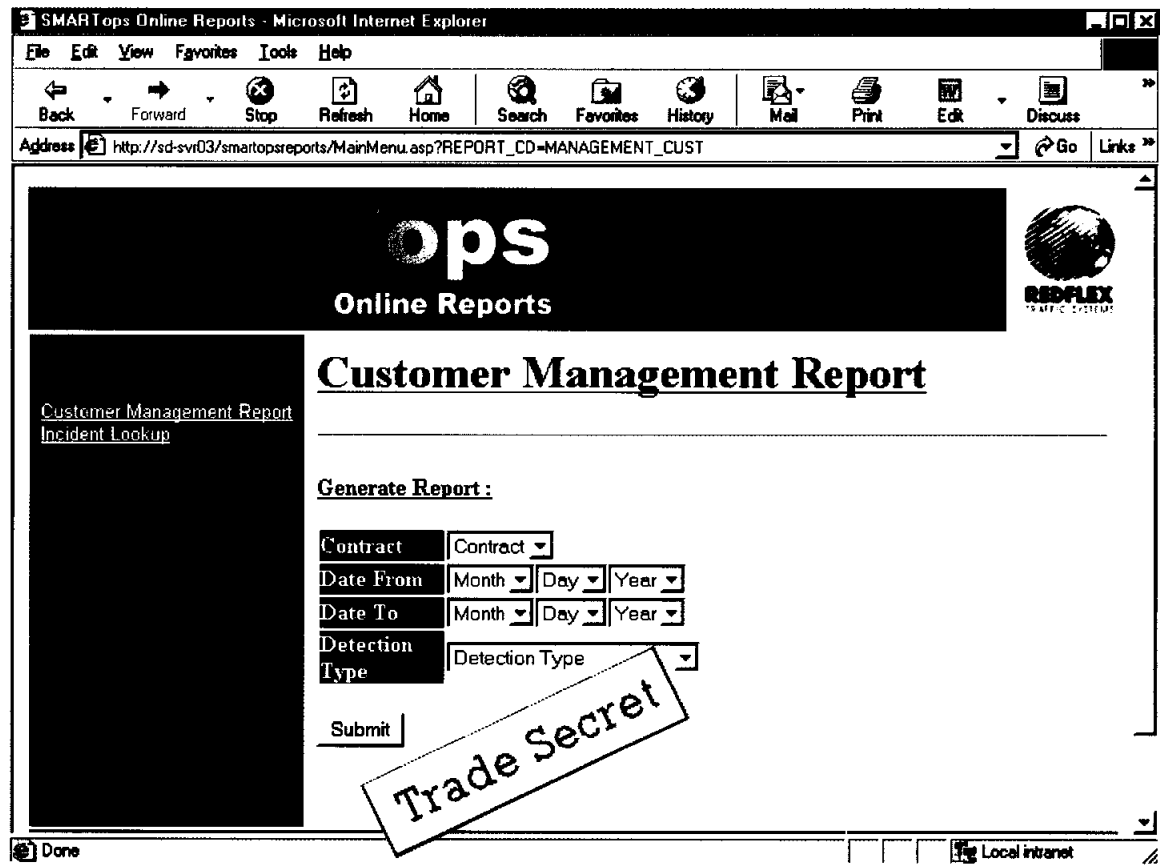
Additional Reports Include:

- **Nomination Statistics & Summaries**
- **Court Packages Statistics**
- **Mailing Reports**
- **Adjudication Reports**



## Customer Management Report

The majority of the information requested by the City is captured in the Redflex Customer Management Report.



In entering the parameters of the desired, such as the "Date From" and "Date To" parameters are the range of **dates and times** that the violations occurred. If you want to know the numbers for a given day, the "Date From" and "Date To" will be identical. The "Detection Type" parameter is used to determine which type of violation you want. Redflex Traffic Systems provides customers with the capability of capturing red-light violations, fixed-speed violations, and/or speed-var violations.

After you have selected the parameters to generate the report, enter the "Submit" button to view the report.





The system will generate a report similar to the one seen below. The report will show various locations currently on-line, including citation volume and a breakout of controllable and not-controllable factors.

**Customer Management Report (Chicago) Redlight Incidents**  
1-May-2004 to 31-May-2004

	CO-3000-01	CO-3000-02	CO-3000-03	CO-3000-04	CO-3000-05	CO-3000-06	CO-3000-07	CO-3000-08	CO-3000-09	CO-3000-10	CO-3000-11	CO-3000-12
V MANAGEMENT_REP_MAIN HEADING (Sum)												
<b>Not Controllable Factors</b>												
Obstruction	0	0	0	0	0	0	0	0	0	0	0	0
Police/Weather	0	0	0	0	0	0	0	0	0	0	0	0
Registration	0	0	0	0	0	0	0	0	0	0	0	0
Issues	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Sub Total Violations</b>	<b>295</b>	<b>404</b>	<b>84</b>	<b>286</b>	<b>312</b>	<b>286</b>	<b>388</b>	<b>1,516</b>	<b>388</b>	<b>673</b>	<b>400</b>	<b>104</b>
<b>Available for Prosecution</b>	<b>295</b>	<b>404</b>	<b>84</b>	<b>286</b>	<b>312</b>	<b>286</b>	<b>388</b>	<b>1,516</b>	<b>388</b>	<b>673</b>	<b>400</b>	<b>104</b>
<b>Not Controllable Factors</b>												
Obstruction	0	0	0	0	0	0	0	0	0	0	0	0
Police/Weather	0	0	0	0	0	0	0	0	0	0	0	0
Registration	0	0	0	0	0	0	0	0	0	0	0	0
Issues	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Controllable Factors</b>												
Customer	17	25	13	59	146	58	85	226	84	50	10	12
Process Issues	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>17</b>	<b>25</b>	<b>13</b>	<b>59</b>	<b>146</b>	<b>58</b>	<b>85</b>	<b>226</b>	<b>84</b>	<b>50</b>	<b>10</b>	<b>12</b>
<b>Percent Paced</b>	<b>279.00%</b>	<b>400.00%</b>	<b>81.00%</b>	<b>227.87%</b>	<b>100.00%</b>	<b>228.00%</b>	<b>253.09%</b>	<b>1,280.00%</b>	<b>282.87%</b>	<b>622.00%</b>	<b>300.00%</b>	<b>60.00%</b>

Trade Secret

Use the printer icon above the "Preview" tab to print the entire report. Use the envelope icon to export the information on the report to an **Excel spreadsheet** or **Word document**.






The SmartOps application also allows the Police to quickly query the system for violations based on a variety of search parameters, including Name, Citation Number, Date, Address, Plate Number and Incident Number.

Police Authorization Search Filter -- Web Page Dialog

# SmartOps

POLICE AUTHORIZATION



**Search Options**

<input type="checkbox"/> Enter a first name, last name or first/last combination	First Name	Last Name
<input type="checkbox"/> Enter a single INCIDENT number (ex: 12345)	Incident Number	
<input type="checkbox"/> Enter a single CITATION number (ex: 12345)	Citation Number	
<input type="checkbox"/> Enter a license plate number	License Plate Number	
<input type="checkbox"/> Enter a street address	Street Address	

Trade Secret





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## Statistical Reporting

Redflex is pleased to introduce the industry's only real-time traffic and violation statistical reporting tool. This tool can provide the City with a large variety of important traffic management and violation statistics, which can be represented through various easy to read graphs and charts.

### Traffic Statistics

These reports include real-time statistics on the following:

- Traffic Counts by Lane
- Speed of Vehicles by Lane
- Total Traffic Volume by Intersection (ADT)
- Type of Traffic by Vehicle Axle Count

Each of these reports can be queried by setting the specific timeframe of interest, by day, week, month or year.

### Violation Statistics

These reports include **real-time statistics** on the following:

- Violation Volume by Lane
- Violation Volume by Time of Day and Day of Week
- Violation Egregiousness (How Late Into the Red Phase)

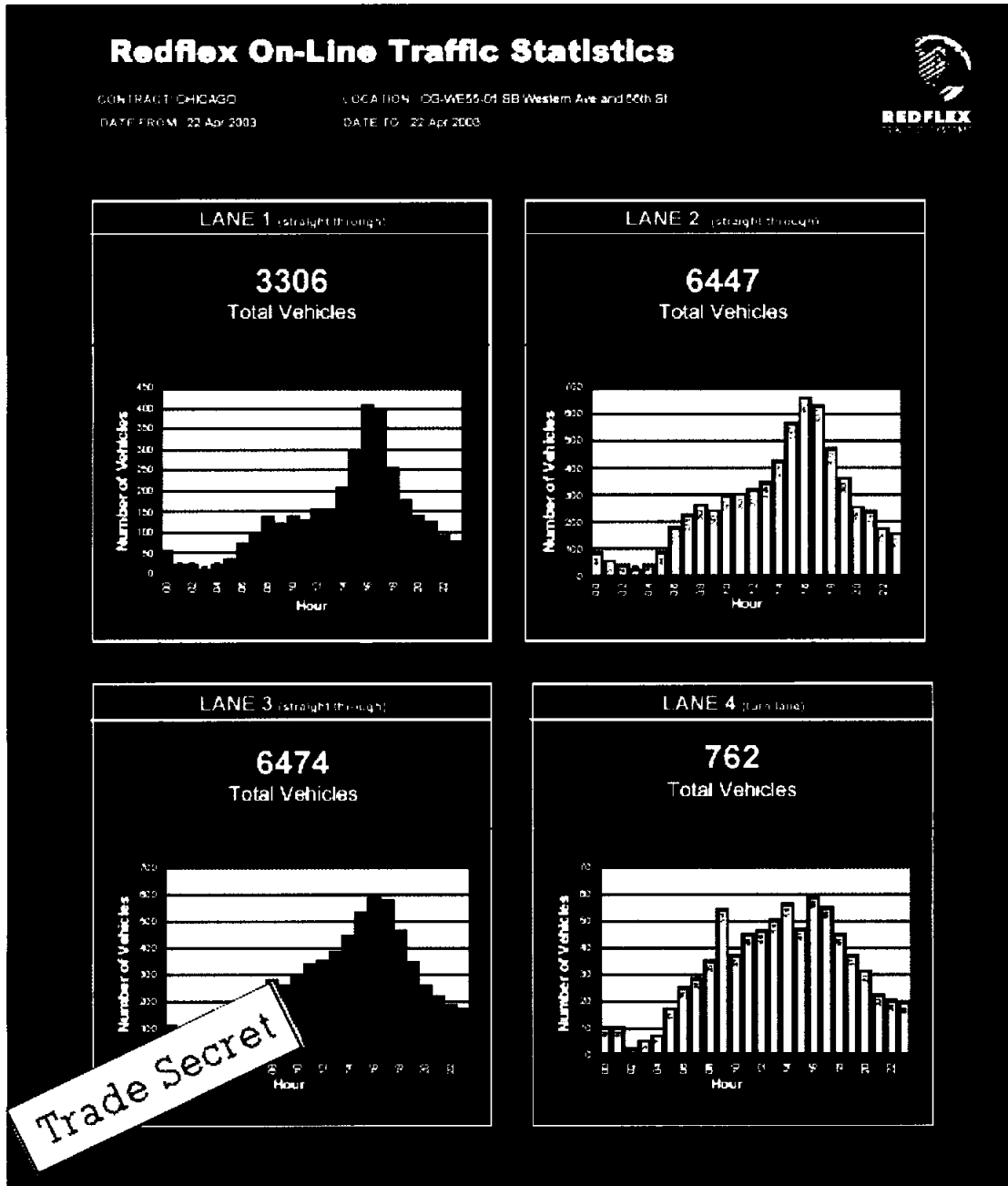
Each of these reports can be queried by setting the specific timeframe of interest, by day, week, month or year.





### Sample Traffic Volume Statistical Graph

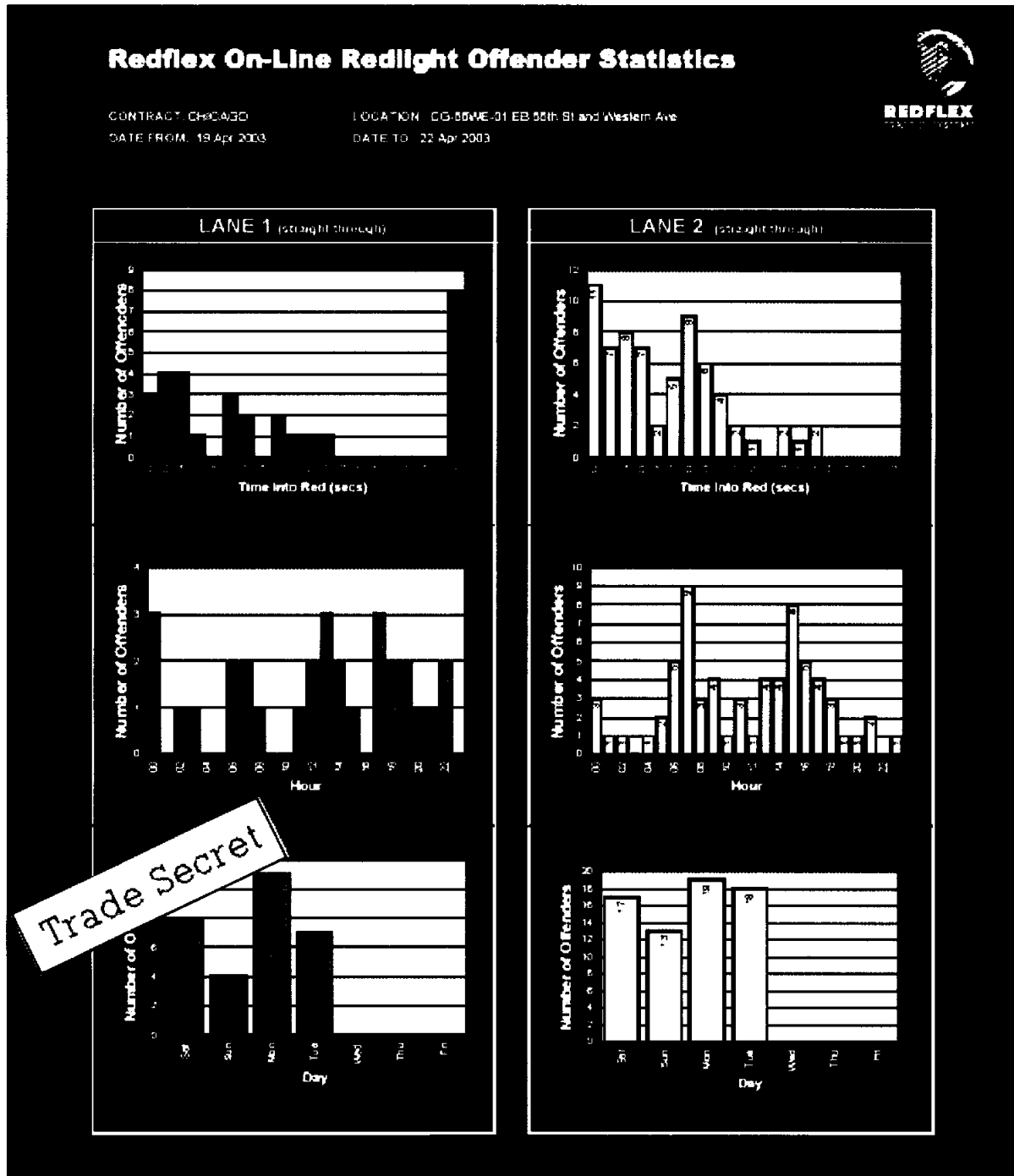
The Redflex Program provides “real-time” intersection and traffic statistics. The table below provides information regarding the violation volume by lane of traffic by time of day and by day of week.





### Sample Violation Statistical Graph

The Redflex Program provides “real-time” red light running & violation statistics. The table below provides information about “time into red” of traffic by time of day and by day of the week.

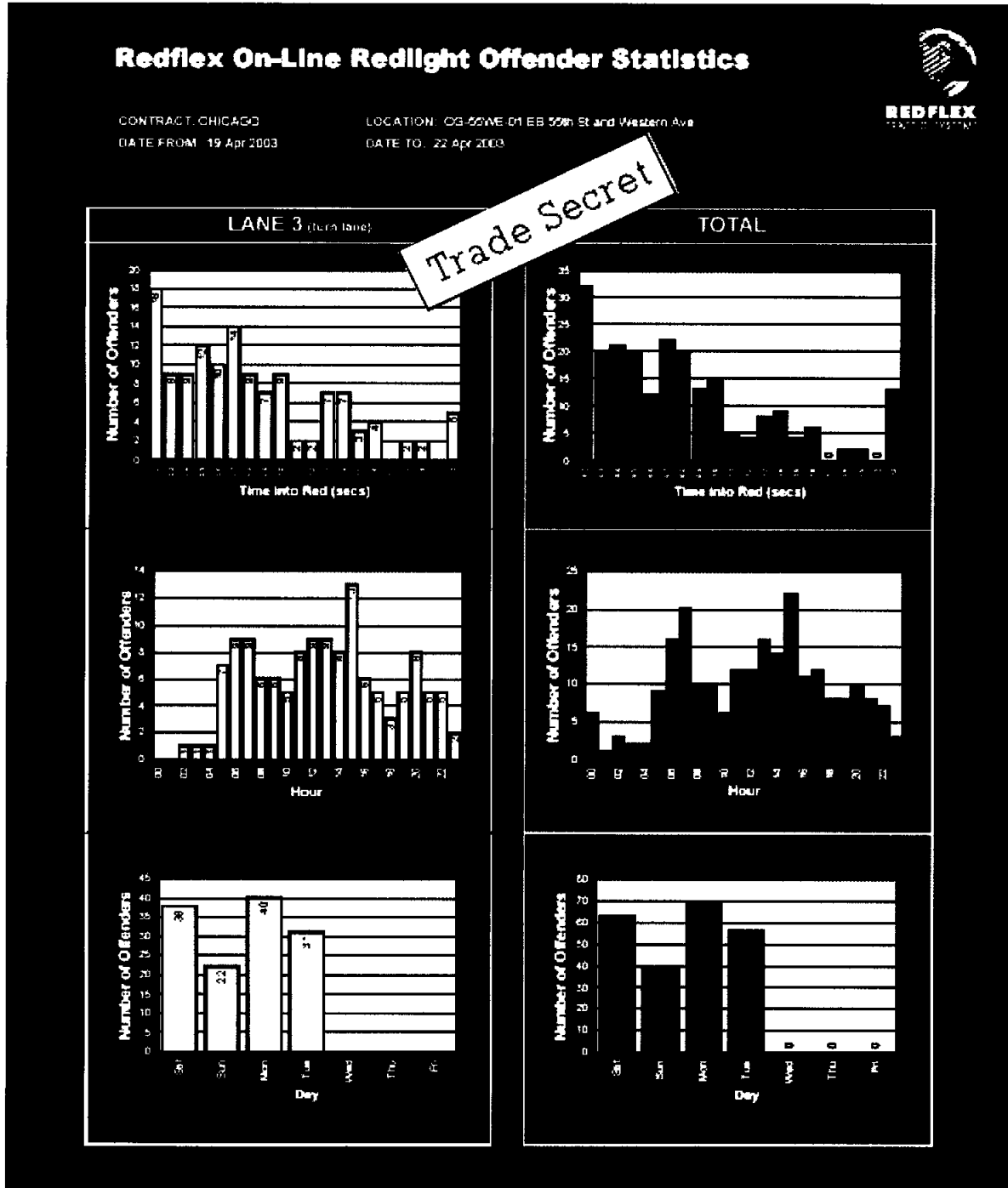






Sample Violation Statistical Graph (Cont)

The table below provides information about violation detail, outlining how many milliseconds into the red phase a violation occurs by lane of traffic and by hour of the day.



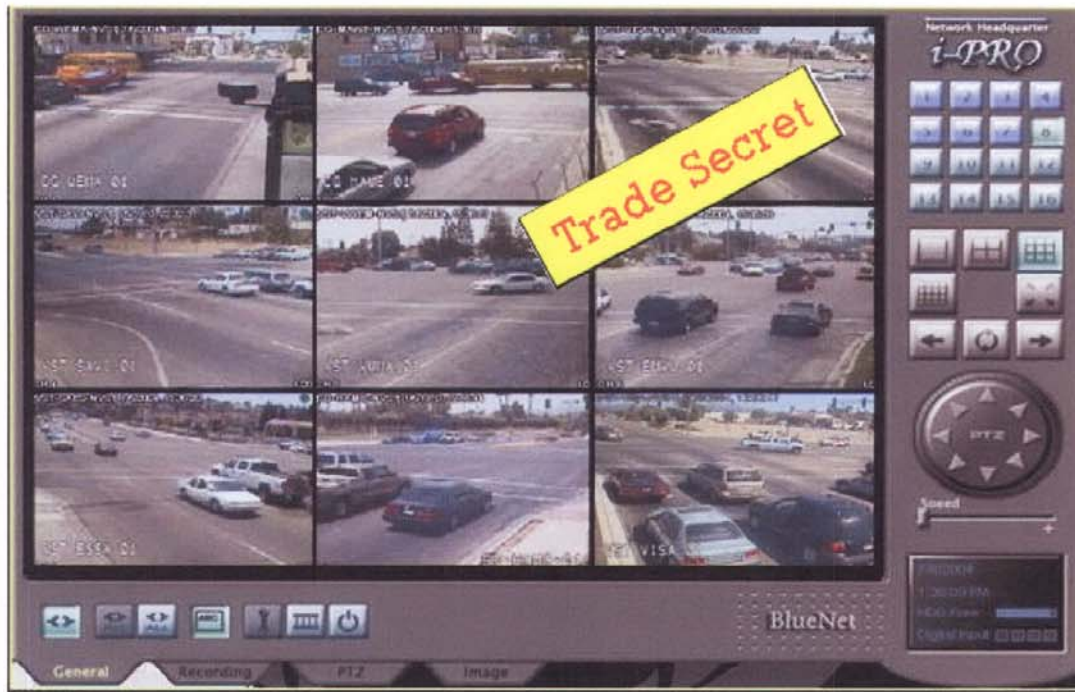


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## Real-Time Intersection Monitoring & Streaming Video

With a dedicated in-house Advanced R&D Department, Redflex is always working on improving our community safety solutions. These new advancements will be provided to the City at no additional charge. This is inclusive of (1) new releases of cameras and other hardware, (2) software upgrades and (3) the latest advanced system features. Each new system upgrade and advanced feature goes through strict development and is offered to our valued partners after comprehensive testing for functional, legal and operational integrity. Some advanced features include:

- **Intelligent Collision Preemption**, which enables the Redflex System preempt a collision by extending the red signal phasing for opposing traffic.
- **Advanced Traffic and Infraction Statistics Packages**
  - Real-Time Traffic Statistics
    - Traffic Volume
    - Traffic Speeds
  - Real-Time Infraction Statistics, which allows trending:
    - By day of week
    - Hours into the red phase
    - Time of day
  - **Real-Time Traffic & Intersection Monitoring**, which allows the City to view each intersection in real-time w/ DVR options recordable for 60 days.



As highlighted, Redflex is pleased to offer the City the ability to access streaming video from each intersection 24 hours a day. This new functionality is extremely valuable for:

**Congestion management/operations optimization** — Real-time monitoring of congestion at intersections and along corridors allows:

- Technicians to manually modify timing plans to relieve congestion resulting from isolated events
- Engineers to modify timing plans to meet traffic demand.
- Operation/safety — Real-time monitoring, vehicle and non-motorized conflict monitoring.
- Transit corridor monitoring.

**Incident management:**

Report incidents to police, fire and rescue

Report incidents to traffic reports and traffic reporting services

**911 Command Center and Disaster Monitoring:**

- Real-time viewing of City intersections regardless of signal system functioning
- Real-time viewing capabilities in post-disaster recovery



### Streaming Video Access

The streaming video can be easily accessed through a secure URL/web address.

You will be directed to a logon screen:

The screenshot shows a dialog box titled "Enter Network Password" with a question mark icon and a close button. The text inside says "Please type your user name and password." Below this, there are four input fields: "Site:" with the value "smartops.redflex.com", "User Name", "Password", and "Domain". At the bottom, there is a checkbox labeled "Save this password in your password list" which is currently unchecked. There are "OK" and "Cancel" buttons at the bottom right.

Once logged on you will receive a screen like the following:

### Sample – City of Chicago

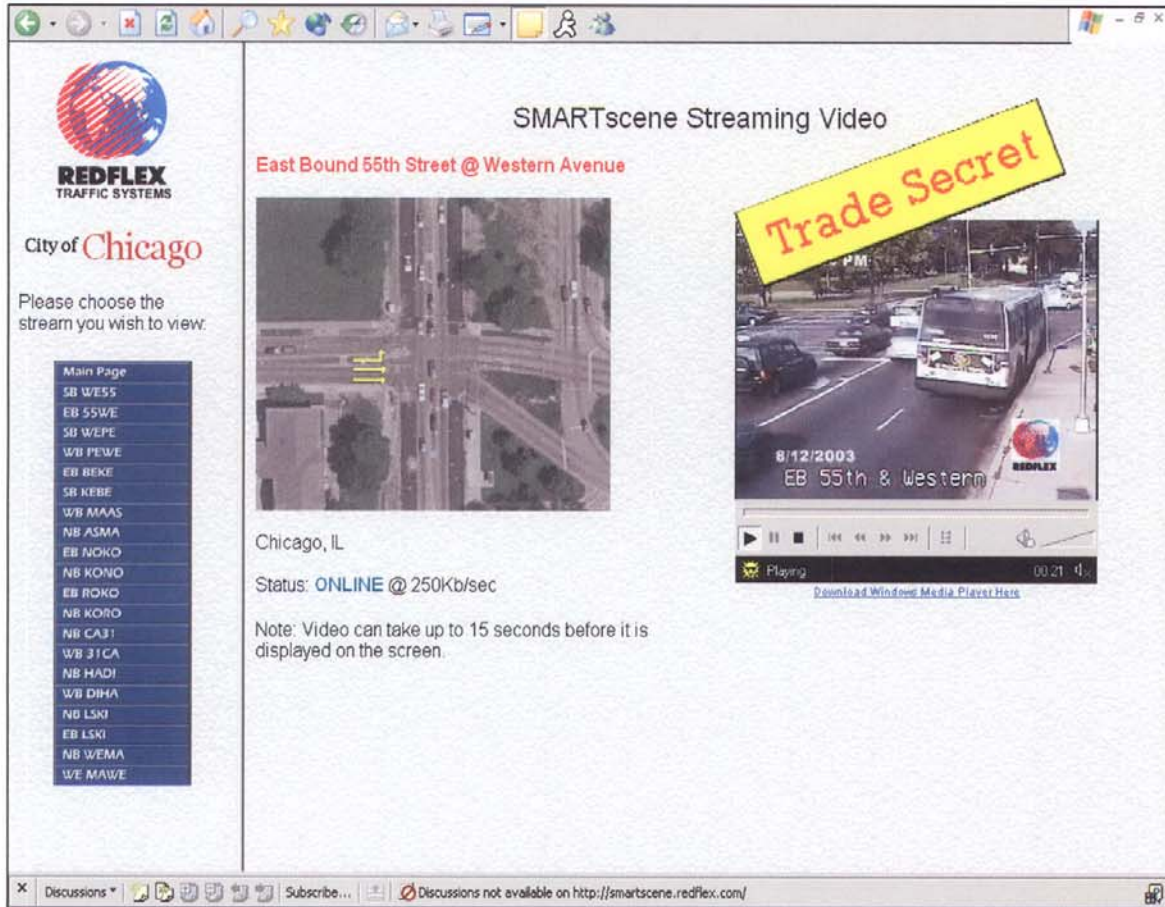
The screenshot shows a Microsoft Internet Explorer browser window displaying the "Chicago SMARTscene Streaming Video" page. The address bar shows "http://smartscene.redflex.com/". The page content includes the Redflex Traffic Systems logo and the City of Chicago logo. The main heading is "SMARTscene Streaming Video". Below the heading, there is a welcome message: "Welcome to SMARTscene Streaming Video Main Page. SMARTscene is a product developed by Redflex Traffic Systems to enhance its already popular REDFLEXred product. SMARTscene is a Video evidence recording and Live streaming video system that integrates seamlessly into the REDFLEXred product. SMARTscene has two main components one which is a video clip of the offender that is used as secondary evidence against the violator and the other is live streaming video transported across the internet directly to your desktop internet browser\*." Below this message, there are three buttons: "Main Page", "SB Western Ave", and "EB 55th Street". At the bottom, there is a note: "\* Must be viewed using Microsoft Internet Explorer 5.5 and higher and Microsoft Windows Media Player 6.4 and higher." and a "Free Hit Counter" link.



This window shows a list of each intersection that is currently accessible for "live" monitoring or recording.



This window shows the stream playing in the right frame. To view the other direction of travel, click on the link to it in the left frame.



The screenshot shows a web browser window with the following elements:

- Browser Title Bar:** SMARTscene Streaming Video
- Page Header:** REDFLEX TRAFFIC SYSTEMS logo and City of Chicago logo.
- Left Sidebar:** A menu titled "Please choose the stream you wish to view:" with a list of camera locations including: Main Page, SB WESS, EB 55WE, SB WEPE, WB PEWE, EB BEKE, SB KEBE, WB MAAS, NB ASMA, EB NOKO, NB KONO, EB ROKO, NB KORO, NB CA31, WB 31CA, NB HADI, WB DIHA, NB LSHI, EB LSHI, NB WEMA, and WE MAWE.
- Main Content Area:**
  - Location:** East Bound 55th Street @ Western Avenue
  - Video Player:** A live video stream showing a street scene with a bus and cars. A yellow "Trade Secret" watermark is overlaid on the video. The video player interface includes a play button, a progress bar, and a timestamp of 8/12/2003 EB 55th & Western.
  - Status:** Chicago, IL. Status: ONLINE @ 250Kb/sec.
  - Note:** Note: Video can take up to 15 seconds before it is displayed on the screen.
- Browser Status Bar:** Shows "Discussions" and a message: "Discussions not available on http://smartsce...redflex.com/".



## 7. Pricing

The Redflex Program offers:

- The absolute highest levels of violation identification, capture, prosecution and conviction rates; in the magnitude of 99%+
- Demonstrated significant reductions in crashes and violations. We stand by our own statistics, many vendors actually reference benefits achieved by Redflex programs in their proposals.
- The highest level of economic viability and prosperity.

The highest citation issuance rate means greater public safety and exponentially greater revenue.

Most vendors provide theoretical projections that have little basis in reality and usually support programs with less than 50% citation issuance. These vendors will utilize various accounting tricks and gimmicks to bolster results that can truly only be substantiated by Redflex.

Our systems have proven year-after-year to (1) identify and capture the most violations, (2) produce the strongest and clearest evidence, (3) substantially modify driver behavior and (4) provide the most comprehensive customer support services.

Our battle-tested design, configuration and deployment methodologies have proven to beat the competition in all performance categories.

### CVC Requirements

To address the CVC requirements to provide fixed monthly fees for the red light enforcement services as a turnkey program we propose the following pricing model:

Cost Neutrality Guarantee Assurance: Redflex contractual guarantees the program to remain cost neutral for the lifetime of the contract. This will be determined by a monthly reconciliation of the revenue from citations and the monthly program fees. Should citation revenue fall short of the cost of the fees, Redflex will absorb and carryover the difference in cost.

### Fee Schedule - Full Turnkey (AB1022 Compliance)

As outlined, our programs are truly turnkey. This means we provide all hardware, software and support services. Per the California Vehicle Code, the City must maintain the program, which means the City must, but not limited to:

- Screen and authorize citations
- Hold office hours, called viewings





- Attend to court proceedings
- Address information requests

### Cost Neutral Guarantee Pricing (Turnkey)

- **Level I (Intersection approaches with up to six lanes of travel):**
  - Monitor up to four lanes - \$ 5,000 – \$6,000 per system, per month
  - Monitor five to six lanes - \$5,000 - \$7,500 per system, per month
- **Level II (Intersection approaches with seven or more lanes of travel):**
  - Monitor up to four lanes - \$ 5,000 – \$6,000 per system, per month
  - Monitor five to seven lanes - \$5,000 - \$7,500 per system, per month
- **Note:**
  - As described in your RFP document, the City and Redflex will work together to determine the evaluation criteria for prospective intersection approaches.
  - Redflex will work under the direction of the City to conduct a video survey of intersection approaches based on criteria that is jointly agreed to (i.e. traffic volume, red light violation data and red light collision history).
  - The results of the surveys will indicate what traffic movements (i.e. left-hand turn, straight through and/or right-hand turn) that warrant inclusion in the program.
  - The exact price for each system will be based on the complexity of the intersection approach (i.e. geometry of intersection approach, etc.)
  - As an example, Redflex is aware that the City has a seven lane intersection approach at Laguna and Big Horn.
    - If the survey results indicate that significant violations were occurring only in the straight through lanes, only four lanes would be monitored, and our pricing for the intersection approach would range from \$5,000 - \$6,000 per month, with the final price based on the complexity of the intersection.
    - Conversely, if the survey results indicated that significant violations were occurring in all three traffic movements (left-hand turn, straight through and right-hand turn) our price for the system would range from





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\$5,000 to \$ 7,500 per month, with the final price based on the complexity of the intersection.

Program Features

No financial risk and monthly fee is inclusive of all services, equipment and training – no additional or hidden charges will be imposed.

Performance Bond Cost

If the City requires a performance bond, Redflex will pass on our direct cost to obtain the bond. The cost of the bond is expected to be 2-3 % of the bond value.

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
1	Paradise Valley, AZ	Jan-96		Active	3/6	6	6	Lt. A. Laitsch 480-348-3515
2	San Juan Capistrano,	Jan-00	Jan-00	Active	2	2	0	Mike Cantor 949-234-4565
3	Fremont, CA	Sep-00	Early 2001	Active	8/10	10	9	Geneva Bosques 510-790-6622
4	Culver City, CA	Feb-02	Feb-03	Active	15	26	6	Sgt. Allen Azran 310-253-6268
5	Council Bluffs	Mar-05	Jul-05	Expanding	5	7	7	Sgt. Chad Meyers (712) 328-4948
3	Bellwood, IL.	Jul-05	TBD	Active	0	4	4	Officer Richard Blass 708-547-3500 x313
7	Frisco, TX	Oct-05	May-05	Active	2/2	2	2	Captain Joe Williams 972-335-5502
8	Griffin, GA.	Nov-05	Oct-06	Active	2/	2		Major Tommy Freeman 770-229-6450
9	Knoxville, TN.	Nov-05	Apr-06	Active	15	15	15	Captain Gordon Catlett, Jr. 865-215-7423
10	Columbus, OH.	Dec-05	Mar-06	Active	15	7		Officer Roger Foor 614-645-4661 x 6603
11	Springfield, OH.	Dec-05	Apr-06	Active	17	17	17	Sgt. Brian Radanovich 937-324-7717
12	Newberg, OR	8-Dec-05	Aug-06	Expanding	1	2	0	Chief Robert Tardiff 503-537-1220
3	Auburn, WA	16-Dec-05	Jun-06	Expanding	2	4	0	Commander Gregory Wood 253-261-7561

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
14	Chandler, AZ	Jan-06	Aug. 01	Active	8/9	9	8	Lt. L. Hunt 480-782-4226 Ofc. J. Gunter 480-782-4217
15	Savannah, GA	Jan-06	Jun-06	Active	3/4	4	2	Sean Brandon 912-651-6420
16	Duncanville, TX	Feb-06	Jun-06	Active	2/2	4	4	Lt. Charles Smith 972-780-4905
7	El Cajon, CA	Feb-06	May-06	Active	5	10	2	Ed Krulikowski 619-441-1653 Officer Richard Agundez 609-759-4228
18	Fort Collins, CO	Feb-06	Mid-02	Active	2/3	3	2	Lt. Gary Perman 970-221-6554
19	Chicago, IL	Feb-06	Mar-06	Active	58/60	60	20	John Bills 312-743-1410
20	Encinitas, CA	Feb-06	May-06	Active	2	3	0	Randy Webb 760-966-3520
21	Clive	Mar-06	Jun-06	Holding	3	6	6	Lt. Gary Walker (515) 278-1312
22	Newark, CA	Mar-06	Aug-06	Expanding	1	1	1	Lt. Jim Leal (510) 742-4725
23	Inglewood, CA	Mar-06	Aug-06	Active	16	21	8	Off. Dean Young 310-412-5207
24	Stallings, NC	Mar-06	Jan-06	Active	1/2	2	2	David Hearn 704-821-0300
25	Union City, CA	Mar-06	Jun-06	Active	5/8	8	8	Lt. Jim Bizieff 510-675-5267
26	Brunswick, GA.	Mar-06	Jul-06	Active	1/10	1		Lt. David Carswell 912-267-5595
7	Moultrie, GA.	Mar-06	TBD	Active	0	0		Corporal Alfred Anderson 229-985-3131

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
28	Bakersfield, CA	Apr-06	Oct. 02	Active	8	12	0	Lt. Tim Taylor 661-852-7853 Bruce Deeter 661-326-3958
29	Medford, OR	Apr-06	Aug. 04	Active	2/4	4	1	Off. Greg Nichols 541-774-2250
30	Baldwin Park, CA	Apr-06	May-06	Active	5	7	0	Mitzuh Carillo (626) 813-5282
31	Thomasville, GA.	Apr-06	TBD	Active	0	0		Chief David Huckstep 229-227-7075
32	El Monte, CA	May-06	Nov-06	Active	3	4	0	Al Tromp (626) 807- 0391
33	Paramount, CA	May-06	Aug-06	Active	1/2	2	2	James Lowollack 562-220-2188
34	Council Bluffs, IA	May-06	Jul-06	Active	5/7	7	7	Sgt. Chad Meyers 712-328-4948
35	Ventura, CA	Jun-06	Sept. 01	Active	10	17	0	Lt. Quinn Fenwick 805-339-4434
36	Oxnard, CA	Jun-06	Sept. 03	Active	6	9	0	Randy Cole 805-385-7847
37	Upland, CA	Jun-06	Sept. 03	Active	4	6	0	Sgt. John Pool 909-200 -6928
38	Albuquerque, NM	Jun-06	Sept. 04	Active	4/6	6	2	Lt. Bob Haarhues 505-761-4089
39	San Mateo, CA	Jun-06	Sep-06	Active	2/4	4	2	Lt. Rick Passanisi 650-522-7743
40	Riverside, CA	Jun-06	TBD					Steve Libring 951- 826-5368
41	El Paso, TX	Jul-06	Sep-06	Active	11	13	13	Sgt. Jack Matthews 915-494-7473
42	Toledo, OH	Jul-06	Sept. 01	Active	18/28	28	20	Lt. Kevin Keel 419-245-3254
3	South Gate, CA	Jul-06	Sept. 03	Active	7	14	12	Keith Underwood 323-563-5493

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
44	Hawthorne, CA	Jul-06	Feb-06	Active	5/7	7	4	Sgt. Gary Tomatani 310-349-2701
45	Laguna Woods, CA	Jul-06	Sep-06	Active	2	5	0	Doug Reilly 949-639-0561
46	Los Alamitos, CA	Jul-06	Sept. 05	Active	2	3	0	Sgt. Jeff Travis 562-431-2255 x426
47	Hapeville, GA.	Jul-06	Oct-06	Active	3/	3		Chief Ed Attaway 404-669-2150
48	Lancaster, CA	Jul-06	Sep-06	Active	2	3	3	Dep. Jon White (661) 940-3811 Michelle Cantrell (661) 723-6294
49	Garden Grove, CA	Aug-06	Oct. 02	Active	9	14	0	Tim Murray 714-741-5898
50	Walnut, CA	Sep-06	TBD					Brad Gray 909-595-7543
51	Gardena, CA	Sep-06	Feb-06	Active	7	10	0	Yeci Roman 310-217-9616
52	Loma Linda, CA	Sep-06	Oct. 05	Active	4/7	7	7	Lt. Hector Guerra 909-387-3545
53	San Leandro, CA	Sep-06	De 05	Active	4/5	5	5	Lt. Pete Ballew 510-577-3272
54	Yuba City, CA	Oct-06	Dec-06	Active	1/1	1	1	Lt. John Buckland 530-822-4795
55	Knightdale, NC	Nov-06	Feb-06	Active	6/9	9	2	Cpt. Ricky Pope 919-217-2201
56	Poway, CA	Nov-06	Mar-06	Active	3	5	0	Zoubir Ouadah 858-668-4640
57	Plano, TX	Nov-06	Jan-06	Active	4/4	4	4	Lt. Jeff Wise 972-208-8073
58	Richardson, TX	Nov-06	Jan-06	Active	2/2	2	2	Asst. Chief Jim Spivey 972-744-4886

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
59	Rocklin, CA	Nov-06	Jan-06	Active	1/1	1	1	Aaron Robertson 916-625-4500
60	Indian Trail, NC	Dec-06	Mid-03	Active	3/4	4	4	John Munn 704-821-8114
61	Marshville, NC	Dec-06	Jan-06	Active	1/2	2	2	Carl Webber 704-624-2515
62	Monroe, NC	Dec-06	Mar-06	Active	5/10	10	8	Mark Donham 704-282-4510 Benjie Mullis 704-282-4700
63	Santa Ana, CA	Dec-06	Apr. 03	Active	17	20	0	Ron Stires 714-245-8215
64	Del Mar, CA	Dec-06	Mar-06	Active	2/3	3	3	David Scherer 858-755-3294
65	Emeryville, CA	Dec-06	Mar-06	Active	3/4	4	2	Officer Mike Allen 510-596-3727
66	Escondido, CA	Dec-06	May-06	Active	4/8	8	4	Sgt. Craig Carter 760-839-4722
67	Fairfield, CA	Dec-06	Apr-06	Active	1/1	1	1	Sgt. Mark Scherer 707-580-1031
68	Lynwood, CA	Dec-06	Mid 04	Active	1	1	0	Mike Metcalf 323-357-5020
69	Maywood, CA	Dec-06	Apr-06	Active	1	2	0	Lt. Paul Pine 323-562-5005
70	Oceanside, CA	Dec-06	Apr-06	Active	2	4	0	Lt. Joe Young/Craig Romo 760-435-4867/4793
71	Sioux Falls, SD	Dec-06	Apr-06	Active	4/8	8	8	Shannon Ausen 605-397-8601 Lt. Jerome Miller 605-367-4444
72	Solana Beach, CA	Dec-06	Jul-06	Active	3	3	0	David Ott 858-720-2401

## PCS Client List

	City	Date of Contract Execution	Go-Live Date (Approx)	Status	"Live" Intersections	"Live" Approaches	in 3 months Largest #	Contact Person
73	Stockton, CA	Dec-06	Apr-06	Active	12/13	13	1	Ofc. Tony Delgato 209-937-8018
74	Vista, CA	Dec-06	May-06	Active	8/8	8	8	Wendy Romagnoli 760-639-6131
75	Marysville, CA	Dec-06	Apr-06	Active	3/5	5	1	Dennis Hauck 530-749-3916
76	Columbus, OH	Dec-06	Feb-06	Active	3/5	5	5	Ofc. Roger Foor 614-645-4661 x6603 Cmdr. Richard Crosby 614-645-4941
77	Denton, TX	Dec-06	Feb-06	Active	4/6	6	6	Lt. Scott Fletcher 940-349-7939
78	Scottsdale, AZ	7/2/2006 (renewal)	Oct-06	Active	14/16	16	2	Bruce Kalin 480-312-7014
79	Dayton, OH	Nov. 02	Feb-06	Active	10/21	21	7	Det. Carol Johnson 937-333-1084
80	Santa Clarita, CA	Nov. 03	Apr-06	Active	10	11	5	Gus Pivetti 661-286-4047 Richard Cohen 661-799-5109
81	Northwood, OH	Oct. 04	Jan-06	Active	2/4	4	4	Sgt. Doug Hubaker 419-691-5053
82	Trotwood, OH	Oct. 05	Dec-06	Active	1/2	2	2	Ofc. Bob Cairo 937-854-3988 Michael Etter 937-854-7202
83	Cary, NC	Sept. 03	Jan-06	Active	17/18	18	4	Brad Hudson 919-462-3430
84	Rome, GA	Sept. 03	Early 04	Active	2/2	2	2	Lt. Richard Burkhalter 706-238-5159