

Green Traffic Systems

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A revolutionary marriage of technology controlling traffic lights at all intersections!

Everybody hates to sit at Red Lights! Traffic Engineers are constrained by antiquated systems with ineffective sensors and timers to control intersection signals. Old technology and increased traffic counts have increased Stop-Time and Gridlock! Old fashion highway safety laws also forbid changes with new technologies. The only logical solution is an 'intelligent' system to control Traffic Lights!

Scientifically, it's impossible to eliminate Red Lights. Controlled intersections must allow traffic to flow from (and to) all directions and therefore, apposing traffic **MUST** stop. What we **CAN** do is substantially reduce the unnecessary amount of time cars are held at stop when the Green Light is on for empty lanes!

Currently all Traffic Control systems are based on timers. These timers are programmed by Traffic Engineers based on actuaries built from traffic counts at various locations and times of the day. Some intersections combine old timer programs with video or pressure sensors in the road or basic motion detectors mounted above the traffic lights. Most intersections run simply on timers!

The concept of **Green Traffic Systems** is to marry two basic technologies. Simply put, it's Photo-Radar and a sophisticated artificial intelligence program. The Photo-Radar monitors traffic in all lanes from all directions. The real-time traffic counts are fed into the program every millisecond.

Imagine a sophisticated "Bird's Eye View" of any given intersection. Now imagine a panel of "Traffic Cops" watching all traffic (including pedestrians) deciding when to change the traffic lights. Now imagine this panel of traffic cops is actually a sophisticated computer program receiving traffic data from the Photo-Radar system. The program is constantly updating complex traffic data every millisecond and producing real-time light changes to reduce Red Light Stop Time!

Green Traffic Systems continued:

Photo-Radar is a buzz word for the most sophisticated and dependable technology used to monitor real-time moving objects. This technology exists and is available now. Photo-Radar can precisely identify all moving objects with factors including speed, size, mass, location, direction, acceleration & deceleration. Approaching Traffic can be monitored from over 1,000 feet (up to ¼ mile) away. This constantly changing data is continuously fed to the 'artificial intelligence' program that controls every traffic light change.

The program, knowing where every vehicle is and where the pedestrians are, makes real-time decisions based on complex formulas to calculate every traffic signal change and duration. Calculations are based on the number of vehicles approaching (and about to stop) or stopped in all directions. The result is a sophisticated and precise determination for which lane(s) will stop and which lane(s) will get the next Green Light. Not a timer. Not based on actuary data. It will be based on real-time traffic data. No Green Lights for empty lanes!

Stopping and stopped (idling) vehicles create more pollution, not to mention driver's anxiety! With measurably more efficient traffic controls, vehicles will absolutely stop less. Less stopping obviously reduces inefficient idling, breaking, acceleration and tire friction which all add to pollution.

Excessive stop time is the primary flaw with current traffic signal timers programmed to run each Green Light and the following Yellow Light for a predetermined duration of time. **Green Traffic Systems**, knowing precisely where each vehicle is and at what speed & direction each vehicle is traveling, will instantly change the traffic light configuration. These small amounts of SECONDS per vehicle add up to thousands of hours of stop time over the course of time. Some highway safety regulations will need to be updated to accommodate these new technologies.

Additional Safety:

It's easy to imagine how these parameters will reduce stop time and move traffic in all directions at the most efficient rates and times. With the same data input, the 'artificial intelligence' program can also monitor approaching vehicles at Excessive Speeds!

Green Traffic Systems continued:

Crazy Drivers? When a vehicle is approaching at a predetermined “Excessive Speed” the ‘artificial intelligence’ program will change the traffic light configuration to stop the speeding vehicle and hold other traffic until the calculated danger is eliminated. It will also know if a vehicle is failing to slow down and about to ‘run’ the Red Light! It will hold cross traffic with a Red Light until the calculated danger is eliminated. How many lives would this save?

Currently the mass majority of traffic lights have a built-in cycle for left turn lanes. Systems which have sensors still run a timer (full cycle) for the left turn lane even if there is only one vehicle turning left. Many systems without traffic sensors will run a complete Green Light cycle to the left turn lane even if there are no vehicles turning left! All the time given to empty lanes keeps cars stopped and idling.

Green Traffic Systems will NOT give a Green Light to empty lanes. Furthermore, **Green Traffic Systems**, knowing precisely where each vehicle is, will end the Green Light cycle as well as the Yellow Light at the exact moment the turning vehicle has safely passed through the intersection. Then, without delay, appropriate lanes will receive a Green Light. Pedestrian traffic will also be incorporated into the ‘artificial intelligence’ program.

Green Traffic Systems will also record data and video. As population and traffic counts grow, the need for precise records of accidents and traffic violations have become another valuable feature.

Green Traffic Systems may very well be the utmost traffic control, but is it economically feasible? Research and development costs will be easily amortized over the 1.4 million intersections being controlled by outdated timer-based systems. **Green Traffic Systems** will work with virtually all current traffic light control systems and hardware, including installation of the Photo-Radar component. The system will be designed to plug-in to existing control systems, then automatically program itself over the course of 7 to 10 days. The system not only collects traffic data, but it will also re-program itself for ongoing changes in traffic patterns at each intersection. This system can be installed by current traffic light maintenance crews.

For more information, please contact:

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