



Leaders at the Core of Better Communities

2011 Annual Awards Program

Program Excellence Awards Nomination Form

Deadline for Nominations: March 11, 2011

Complete this form (sections 1 and 2) and submit with your descriptive narrative.

SECTION 1: Information About the Nominated Program

Program Excellence Award Category (*select only one*):

- Community Health and Safety
- Community Partnership
- Community Sustainability
- Strategic Leadership and Governance

Name of program being nominated: Patent for Remote Control of a Traffic Signal

Jurisdiction(s) where program originated: Clearwater, FL

Jurisdiction population(s): 109,000

Please indicate the month and year in which the program you are nominating was fully implemented. (Note: All Program Excellence Award nominations must have been fully implemented by or before January 31, 2010, to be eligible. The start date should not include the initial planning phase.)

Month: March Year: 2008

Name(s) and title(s) of individual(s) who should receive recognition for this award at the ICMA Annual Conference in Milwaukee, Wisconsin, September 2011. (Each individual listed MUST be an ICMA member to be recognized.):

Name: William Horne

Title: City Manager Jurisdiction: Clearwater, FL

Name: _____

Title: _____ Jurisdiction: _____

Name: _____

Title: _____ Jurisdiction: _____

SECTION 2: Information About the Nominator/Primary Contact

Name of contact: Paul Bertels

Title: Traffic Operations Manager Jurisdiction: Clearwater, FL

Street address: 100 S. Myrtle Avenue

City: Clearwater State/Province: FL

Zip/Postal Code: 33756 Country: USA

Telephone: 727-562-4794 Fax: 727-562-4755

E-mail: Paul.Bertels@myclearwater.com

ICMA 2011 ANNUAL AWARDS PROGRAM

Organization: City of Clearwater, Fla.
Category: Community Health and Safety
Entry: Patent for Remote Control of a Traffic Signal

Problem Assessment

In 2005, the Florida Department of Transportation finished construction of the Memorial Causeway Bridge, which connects the mainland to Clearwater Beach, a famous destination for tourists and beach visitors year-round. The bridge leads drivers down a causeway then to a roundabout, where drivers choose to go to north or south beach. This is where traffic congestion occurs. During busy times (especially Spring Break season), this traffic congestion can cause hour-long backups for drivers headed toward the city's white sandy beaches and sunshine.

Spring Break 2007 marked one of the city's busiest spring break seasons. During that time, Traffic Operations Manager Paul Bertels and Police Lieutenant Wayne Andrews (now retired) discussed how the bridge had been impacting spring break traffic during previous years, and they brainstormed potential solutions to how the roundabout could more effectively function during times of heavy traffic. They came up with an idea to modify the metering signal at the roundabout to control the device remotely. The device would allow a police officer to control an intersection remotely up to 1,000 feet away from a police cruiser, instead of by three police officers at one intersection. A device such as this could better control traffic during high volume periods, ensuring smoother traffic flow and less money spent on police manpower.

Implementation and Costs

This device was designed and invented right here at the City of Clearwater; no other device of its kind existed prior to its creation. The Traffic Operations Division began production of the device in the city's Traffic Operations Signal Shop. Bertels presented a concept for remote control operation of the

metering signal to Himanshu Patni, Engineering Specialist II, who then designed the device's circuit.

The unit took about 90 days to create and was then tested on a test board in the shop which simulates signal indications at an intersection. Then, it was tested out in the field – at the roundabout metering signal. It worked! The device was then installed at the Clearwater Beach roundabout for use. The finished product enables police officers to manually override a traffic signal and control it by remote control so an officer can stay secure in their police cruiser for up to a quarter of a mile away. It also enables the officer to control multiple signals with one device for special events, accidents, and other traffic related activities without being exposed to the weather or potentially hazardous conditions, such as rowdy Spring Breakers who through trash and debris out their windows.

The city spent \$9,455 to create the device, including the patent fees which were \$8,455. According to Andrews, this device could reduce traffic-signaling manpower needs by 66 percent.

Results or Measurable Outcomes

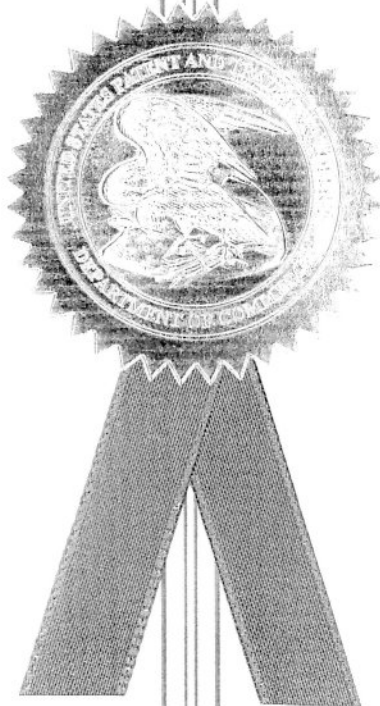
In March 2008, the City filed a request with the U.S. Patent Office to secure a patent on the remote manual override device for traffic signals. Patent #7733242 was approved and was awarded to the City of Clearwater on July 15, 2010. The patent is entitled, "System, Method and Apparatus for Manual Control of a Traffic Light." Paul Bertels and Himanshu Patni are listed on the patent as the inventors.

Since receiving the patent, the city has installed units at the Chestnut and Fort Harrison Avenue intersection and also at the Chestnut and Oak Avenue intersection. Additional units are planned for other signals on the beach and in key downtown locations. The city also is working to market the patent to various law enforcement agencies throughout the country, which might be interested in using a device such as this to ease their traffic flow issues.

Lessons Learned during Planning, Implementation, and Analysis

The city is very proud to have received a patent for creating such breakthrough technology for practical and operational purposes. The City of Clearwater and its Traffic Engineering Division always are working hard to identify new, innovative ways to make traffic easier on our residents and visitors. In this case, we identified a problem and found a solution that works for everyone while implementing innovation and technology to solve traffic problems.

The
United
States
of
America



**The Director of the United States
Patent and Trademark Office**

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

David J. Kappas

Director of the United States Patent and Trademark Office



US007733242B2

(12) **United States Patent**
Bertels et al.

(10) **Patent No.:** **US 7,733,242 B2**
(45) **Date of Patent:** **Jun. 8, 2010**

(54) **SYSTEM, METHOD AND APPARATUS FOR MANUAL CONTROL OF A TRAFFIC LIGHT**

(75) **Inventors:** **Paul Bertels**, Largo, FL (US);
Himanshu Patni, Clearwater, FL (US)

(73) **Assignee:** **City of Clearwater**, Clearwater, FL (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 315 days.

(21) **Appl. No.:** **12/056,512**

(22) **Filed:** **Mar. 27, 2008**

(65) **Prior Publication Data**

US 2009/0243885 A1 Oct. 1, 2009

(51) **Int. Cl.**
G08G 1/07 (2006.01)
G08G 1/095 (2006.01)

(52) **U.S. Cl.** **340/926**; 340/906; 340/907;
340/909; 340/931

(58) **Field of Classification Search** 340/926,
340/930, 931

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,829,362 A 4/1958 Terrill

3,119,093 A 1/1964 Willyard
4,135,144 A 1/1979 Elmasian
5,073,866 A 12/1991 Daeges
6,522,263 B2 2/2003 Jones
2004/0051651 A1 3/2004 Carter
2007/0115139 A1 5/2007 Witte et al.

Primary Examiner—Donnie L. Crosland

(74) *Attorney, Agent, or Firm*—Larson & Larson, P.A.; Frank Liebenow

(57) **ABSTRACT**

An application for a traffic control system includes an enclosure for containing the traffic control system that has an access door with a lock for controlling access to the enclosure through the access door. The traffic control system has an automatic mode of operation and a manual mode of operation, whereas the traffic control system automatically transitions a state of a plurality of traffic lights when in the automatic mode of operation and cycles the state of the plurality of traffic lights in response to a change signal when in the manual mode of operation. An automatic mode activation switch is housed within the enclosure. Activation of the automatic mode activation switch changes the state of the traffic control system from the automatic mode of operation into the manual mode of operation. A watchdog timer is coupled to the traffic control system. The watchdog timer is reset when the automatic mode activation switch is operated and in response to the change signal. If the watchdog timer expires, the traffic control system switches to the automatic mode of operation.

15 Claims, 7 Drawing Sheets

