Transit Signal Priority System

About EMTRAC

The EMTRAC system utilizes reliable GPS technology and secure frequency-hopping spread spectrum radio to enable mass transit vehicles to request priority through signalized intersections.

Vehicles with the EMTRAC system transmit a priority request to equipped intersections when passing through detection zones. The traffic cabinet at the intersection contains an EMTRAC Priority Detector, which relays the priority request call to the traffic controller.

EMTRAC is completely automatic and requires no driver interaction. In addition, EMTRAC can be configured to allow priority control based on time of day, route-schedule adherence, passenger load, direction traveled, or other factors.

Benefits of Priority Control

Studies on the impact of transit signal priority have discovered the following results:

- **Seattle, Washington**: Intersection delays were reduced by an average of 13 percent during morning peak periods.
- **Los Angeles, California**: Bus journey times reduced by 22 to 27 percent.
- **Portland, Oregon**: Manually requested bus priority was shown to be inefficient because bus drivers often fail to call for priority. In contrast, automated signal priority is preferred.

Source: Intelligent Transportation Systems - U.S. Dept. of Transportation

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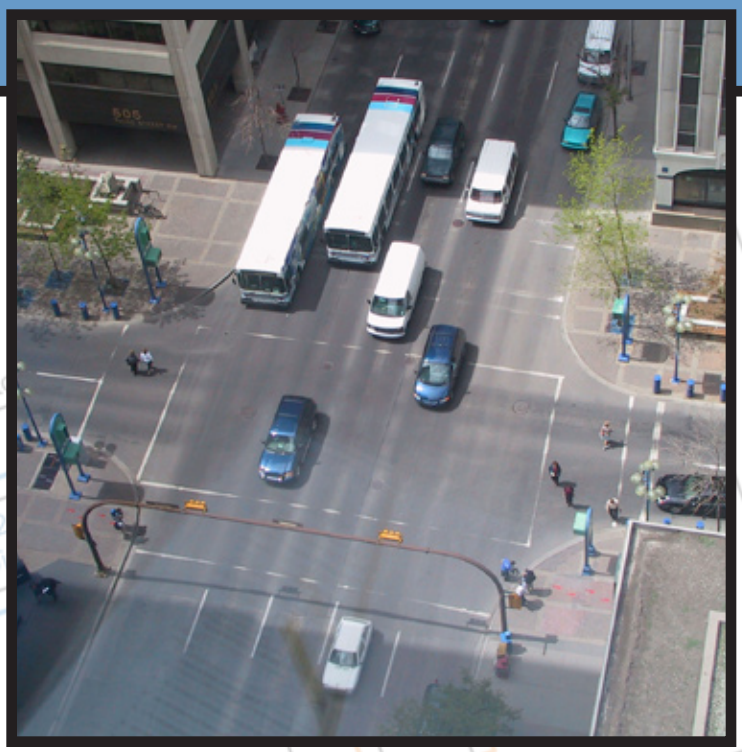
Benefits of EMTRAC

- Precise control of priority-detection approach zones using EMTRAC system software.
- GPS-based system uses latest technology to ensure position accuracy and reliability.
- Frequency-hopping spread spectrum radio signal has superior range and utilizes AES encryption for security.
- Ability to request priority control based on any number of predetermined factors.
- Ability to custom tailor the system to meet the individual needs of each specific area in the city.

EMTRAC has also proven successful in emergency vehicle environments.



Vehicle and Intersection Components

The main vehicle components of the EMTRAC system include:

- **Vehicle Computer Unit**: This compact electronics enclosure is easily concealed behind interior panels.
- **Combo GPS/UHF Antenna**: This compact antenna easily mounts on the top of the vehicle.

The main intersection components include:

- **Priority Detector**: This unit is available in either a rack-mount version (for Model 170 controllers) or a shelf-mount version (for NEMA controllers).
- **Omni-Directional Antenna**: This antenna mounts on a traffic pole (or traffic cabinet) at each equipped intersection.

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