

Initial studies related to Travelers Information Stations
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Re-Edited by Frank Weed, 2015

In the early years of the National Park Service (NPS), personal contact by rangers with the visiting public was frequent and personal. At the park entrance the visitor was informed of important regulations, points of interest, and his questions were answered in an unhurried way. In later years, with increased interest and attendance to our National Park areas, this method of public contact became largely reduced to the sale of an entrance permit and the supplying of a brochure or folder. However, in addition to promotion of safety and the protection of natural features, the NPS was committed to a broader form of making physical features accessible and interpretation understandable to the visiting public. As the visitation load increased, the latter was carried out by the ranger-naturalists and park rangers (usually in group situations), visitor center displays, information folders, and interpretive signs.

Interpreters were anxious for a radio system that could reach visitors in their automobiles, enabling them to point out points of interest and to warn of hazards (animal, physical obstructions, or other hazards). Protection people could see radio's usefulness for disseminating road information, especially as to closures and/or restrictions (e.g. chains, snow, ice, wind, etc.). However, there were no regulations permitting this type of broadcast operation.

The first known attempt, other than signs, at reaching motorists was a transmitter/message repeater that was placed in operation in Yellowstone National Park by the Museum Branch in the 1960's. It was not a licensed operation and further details are not available about this first test of communicating by radio with the public. In the early 1970's, interest intensified and spread to other federal and state agencies who had similar needs. FCC Rule 15 permitted low-power transmission in the broadcast band, but the range was inadequate for reaching moving vehicles. In 1975 - 76 representatives of the Division of Radiocommunications and Frequency Management, U.S. Department of the Interior, Washington, D.C., were active in meeting with the FCC and other interested users to develop "the conditions under which Traveler's Information Stations (TIS) could be established for government and non-government use."

Largely through the "push" by Steve L. Windes, Interior representative to the Interagency Radio Advisory Committee, a temporary authorization was granted for the use of 1610 and 530 kHz. Final rules for use of these frequencies were established in 1977. This was not without concern by the National Association of Broadcasters, who sent a delegation to the NPS Denver Service Center, indicating their concern about the proselytizing of park visitors from listening to their broadcast stations. They were informed that the severely restricted range of TIS would not seriously hurt their listening audience. Furthermore, in the case of NPS, BLM, and others, TIS would be used mostly in remote areas where reception of standard broadcast stations was only fair to non-existent.

The NPS and BLM Service Centers (in Denver) joined forces and took the lead in researching the distance-coverage possibilities within the limitations of the FCC rules, and in contacting manufacturers who could produce transmitters and message repeaters for TIS use.

The interest had spread to some state and municipal agencies, NASA, DOD, FWS, Highway Department, airports, and others in addition to the various Interior agencies.

"TIS units should be versatile so they can be utilized along roadways as well as in places such as parks, historical sites, marinas, tourist information centers, highway rest stops and campgrounds. TIS should prove valuable in disaster situations, highway accident control, and detour movements.

"TIS benefits include improved public relations, interpretive messages, elimination of traffic bottlenecks, and the provision of safety messages to the travelling public ... all accomplished without large signs or staffing."

In 1973 an exit-poll at Yellowstone NP indicated that 86 percent listened, or tried to listen, to TIS broadcasts at various locations where roadside signs called attention to the broadcasts. However, it was subsequently learned that some specific precautions must be observed if visitor interest and TIS credibility is to be maintained:

1. Signs informing the public of the desirability to tune to TIS must be located close enough to the transmitter to assure a field strength that most vehicle radios can receive the transmissions.
2. Signs must be promptly covered any time a transmitter/ message repeater is inoperative. Failure to receive a TIS station will discourage visitors from tuning to future TIS units. TIS credibility will be jeopardized.
3. Avoid trivia in messages. They should be useful and informative. They are not entertainment.
4. Provide preventive maintenance so that transmissions will be effective and clear. In 1975 a joint BLM/NPS report recommended interagency cooperation in adopting standard TIS signs, equipment standards, engineering standards.

Engineering studies conducted by the NPS's Denver Service Center showed that a range of two to four miles could be expected on 530 kHz, depending upon soil conductivity and terrain. A range of three to four miles could be expected on 1610 kHz. Factors limiting the range also included a 20' antenna height limitation (FCC rule), and tuning and sensitivity limitation of vehicle receivers (some could not reach both 530 and 1610kHz). A sampling of vehicles owned by the NPS service-center personnel resulted in establishment of receiver-sensitivity criteria, which was in turn used to determine the above-reported useful range. Many car radios could exceed these ranges, but the criteria was established to assure that 95% of the cars used by the public would be able to receive the TIS messages.

Subsequent to these studies and over the years, car radios have included both ends of the radio spectrum where TIS can be broadcast and improvements in TIS installation techniques have improved the range within which TIS can be received.