

Section 8.—Standard Time and Time Zones in Canada.*

In former times, when transportation was slow and people for the most part lived within their own communities, it was natural enough that each community should have its own local time based on sun time. The difference in sun time as between communities is, of course, determined by the difference in their longitude. Inasmuch as the sun appears to travel the 360 degrees around the world in 24 hours or 1,440 minutes, a community which is precisely one degree of longitude west of another community in the same latitude naturally has the sun rise and set four minutes later than it rises and sets in the community which is one degree farther east. Local time, in so far as it was accurately kept, tended therefore to conform to "sun time" and noon came when the sun reached its highest point.

The advent of more rapid transportation, however, made these local times extremely inconvenient for travellers. In particular, railway time tables were found almost impossible to work out on the basis of the local times of each community. Consequently in Great Britain, where the differences of longitude are comparatively small, the problem was solved in 1880 by placing the whole country on the time of Greenwich observatory, while Irish time was standardized at twenty-five minutes behind English time, being the time of Dublin. The American continent, however, extends over such an enormous distance from east to west that it was impracticable to have a single standard of time. Accordingly, in the United States the railways for their own purposes divided the country into four time regions, which were called Eastern, Central, Mountain and Pacific, the time used in these zones being five, six, seven and eight hours, respectively, behind Greenwich time. The change from one time to another was made at divisional points on the several railways and this time, known as railway time, was adopted by most towns in place of their own local time.

From 1878 on, Sir Sandford Fleming had been advocating the general use of what are called standard time zones and this suggestion was adopted at a world conference held at Washington in 1884. Sir Sandford Fleming proposed that the number of times in the world should be reduced to twenty-four, each time zone to extend over one twenty-fourth of the surface of the earth and to include all the territory between two meridians, fifteen degrees of longitude apart, the standard for all times being Greenwich time, and all other time zones being a definite number of hours either in advance of or behind Greenwich. These proposals have been very generally accepted. Mid-European and East European time are to-day respectively one hour and two hours in advance of Greenwich, while on this continent the Atlantic, Eastern, Central, Mountain, Pacific, Yukon and Alaska time zones have times, respectively, four, five, six, seven, eight, nine and ten hours behind Greenwich. The differences are usually expressed in intervals of so many hours' difference from Greenwich. However, some countries and localities of smaller area have times which are not an exact hour's difference from Greenwich, Newfoundland and Labrador, for example, having a time three hours and thirty-one minutes behind Greenwich. This difference of three hours and thirty-one minutes would correspond to west longitude $52^{\circ} 45'$, which is nearly the longitude of St. Johns, Newfoundland.

In Canada, Atlantic standard time, which is the local time at the 60th meridian running near Sydney, Nova Scotia, and is four hours behind Greenwich, is used in the Maritime Provinces and those parts of Quebec and the Northwest Territories

*Based on a paper "Standard Time and Time Zones in Canada", by C. C. Smith, Dominion Observatory, Ottawa.