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100 Years in the Making...Minnesota's Highway System

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In the early 1900s Minnesota's roadway system barely existed as compared to today's highway network. Roads were usually nothing more than dirt trails used for mail service and for farmers to get their goods to the market. Some of these roads included corduroy treatments – logs placed perpendicular to the direction of travel to provide a more stable load bearing surface. When the automobile was introduced to America, these roads proved to be unreliable or provided unpleasant and bumpy rides.



Ford Model T "stuck in the mud", circa 1900's

The introduction of the automobile would transform how America and Minnesota dealt with its roadway system. In 1917 the Minnesota Department of Highways (now called the Minnesota Department of Transportation - MnDOT) was created in response to the federal highway funding bill. The first Commissioner was Charles Merit Babcock serving from 1917 to 1932. A roster and photos of all 18 commissioners can be found on MnDOT's website at: <http://www.dot.state.mn.us/library/commissioners.html>. Goals of Minnesota's early highways department were to provide paved roads (at least with gravel), to shorten routes between cities, and to eliminate at-grade rail crossings. Important roadways

were paved with Portland-cement concrete, either 18 or 20 feet wide. Vehicle taxes were used to fund the highway construction.



Charles Merit Babcock

In 1920 the Babcock Amendment to the Minnesota Constitution established Constitutional Route numbers 1 to 70, which can only be changed through a constitutional amendment. Routes numbers greater than 70 are referred to as Legislative Routes and can be changed by the legislature. Routes were defined to connect specific cities. At that time, there were already over 333,000 licensed motor vehicles in Minnesota. Today the routes can encompass many different numbered highways. For example, Constitutional Route 1 connects Iowa to Ontario, Canada via many different cities. It is comprised of US 65, I-35, MN 3, MN 149, US 61, Chisago CR 30, MN 361, MN 23, MN 73/27, Carlton CR 61, MN 210/45 and MN 61, and is generally considered to be superseded by I-35. Constitutional Route 58 (MN 58) connecting Zumbrota to Red Wing remains the same marked highway as it was in 1926. It is 23.5 miles in length, and was first paved in 1940.



Minnesota's first highway map - 1919

In 1926 the US Highway system was created through recommendations of the Joint Board on Interstate Highways to the American Association of State Highway Officials (AASHTO). Generally, north-south routes are odd numbered, with major routes ending in “1”; and east-west routes are even numbered, with major routes ending in “0”. The US Highway system generally relied on existing roads and highways at that time.

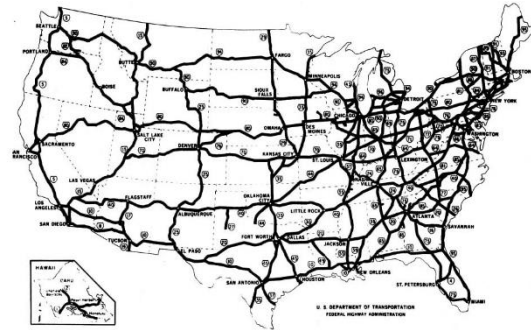


18 foot wide concrete pavement south of Weaver (Wabasha County) – part of State Route 3, one year before marked as US 61

The Federal-Aid Highway Act of 1956, popularly known as the National Interstate and Defense Highways Act, was signed into law on June 29, 1956, by President Dwight D. Eisenhower. The

original authorization was for 25 billion dollars for the construction of 41,000 miles of Interstate Highways. This was the largest public works project in American history at that time.

The Dwight D. Eisenhower System of Interstate and Defense Highways



Map of the proposed Interstate Highway System

Minnesota’s first segment of Interstate Highway opened with a formal ribbon cutting ceremony on August 21, 1958. This 8.3 mile segment of I-35 (Interstate Route 390) cost 3.1 million dollars. Governor Freeman and Commissioner Zimmermann spoke at the event claiming this would mark a new era in highway construction. Minnesota would be constructing 888 miles of Interstate Highways in less than 15 years.



Images from Minnesota Highways newsletters, July and September, 1958

Today Minnesota has 12,000 miles of state highways that carry about 60% of miles traveled on the 141,000 miles of roadways in Minnesota, or 90 million miles of the 155 million miles traveled each day in Minnesota. The State highways comprise 74% of the State’s capital assets.



Our highways are part of a multi-modal transportation system connecting us to a global economy through interfaces with air, water and rail modes. Highways now include many forms of alternative choices and cutting edge technology. Examples of alternative choices include High Occupancy Vehicle Lanes, Managed Lanes, Toll Lanes, Bus Rapid Transit and Bus only lanes. Technology brings us real-time traveler information, and innovative intersection and interchange types move more vehicles safely. Investments must now stretch the dollars by “doing more with less” compared to the robust funding levels seen with the development of the Interstate Highway System. The environmental clearance and permitting process is also more complex than it was decades ago.

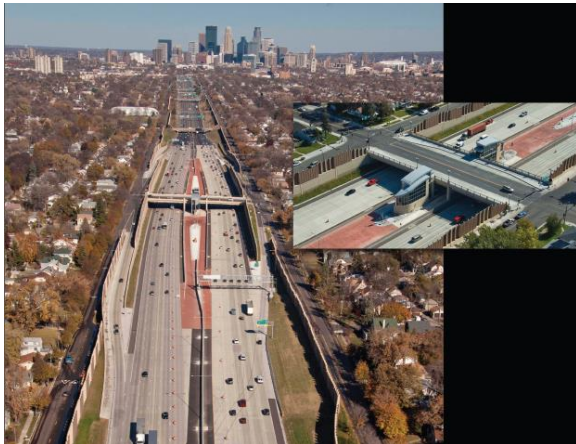
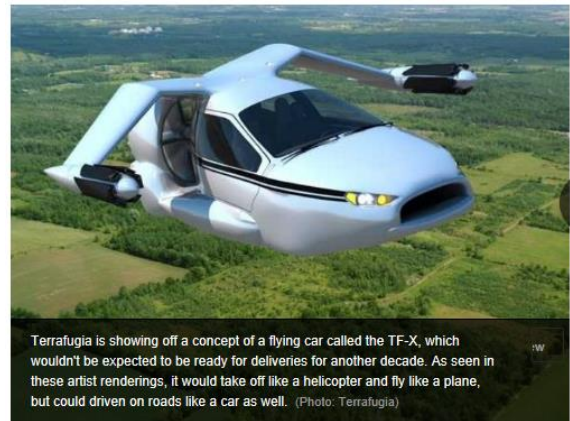


Image of I-35W at 46th Street in Minneapolis

How will our highway system look and function in the future? The closing speaker at the 2014 Minnesota Transportation Conference, Simon Anderson, “Futur1st”, asked us to stop and

think – what transformations will occur in the future? Recall how the automobile transformed our highways. Are we on the verge of another transformation? The company *Terrafugia* created a prototype flying car and had its maiden flight in 2009, near Plattsburgh, New York. The name *Terrafugia* is Latin for “escape the earth”. The company was founded in 2006 by MIT trained aerospace engineers and MBAs and is located in Woburn, Massachusetts.



Terrafugia's flying car TF-X

Sources:
Minnesota Department of Transportation
Federal Highway Administration
Wikipedia
DeadPioneers.com
Terrafugia
SRF Consulting Group, Inc.