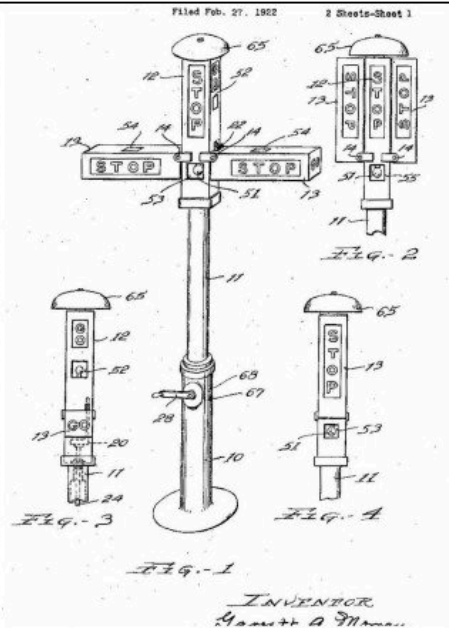
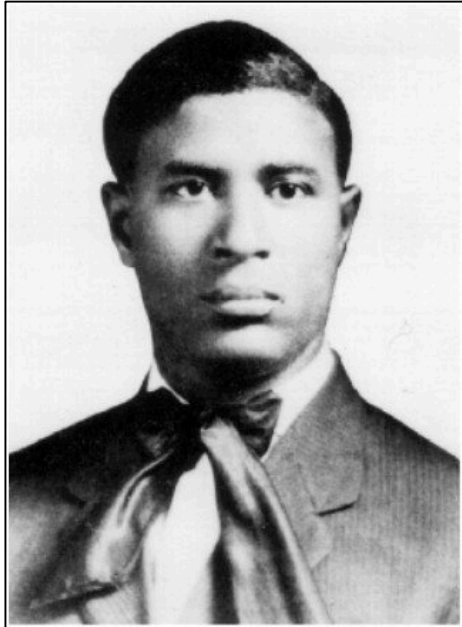


# TRANSPORTATION ENGINEERING

## The GREAT SILK ROAD



### Garrett Morgan Traffic Signal System

**CEE Materials:** This project asks students to explain at least three differences in the AASHTO standards of USA and any selected country from Asia, Central America, South America or Africa.

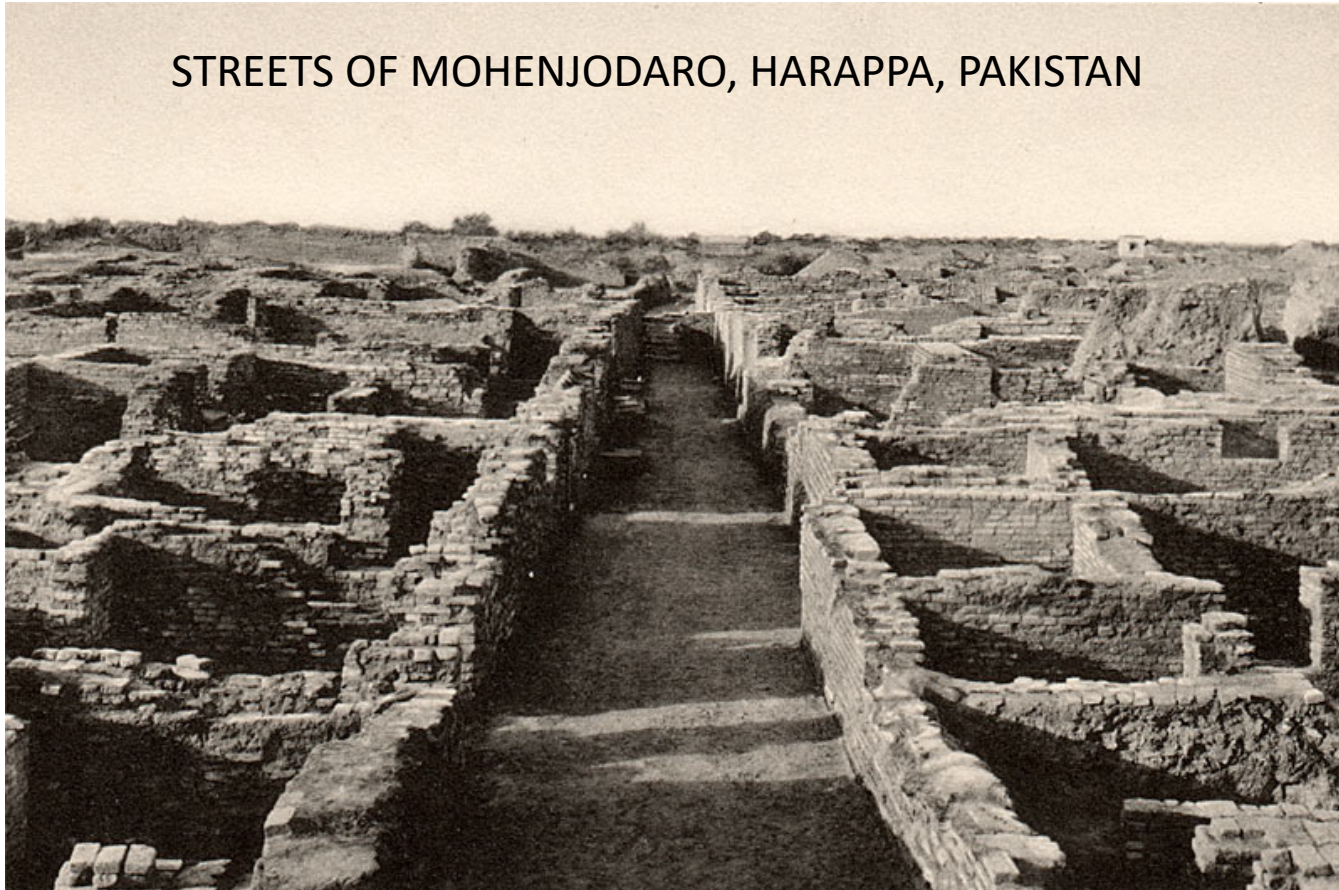


**Video presentations; Team projects;**

# HARAPPAN ROADS (Indus Valley Civilizations)

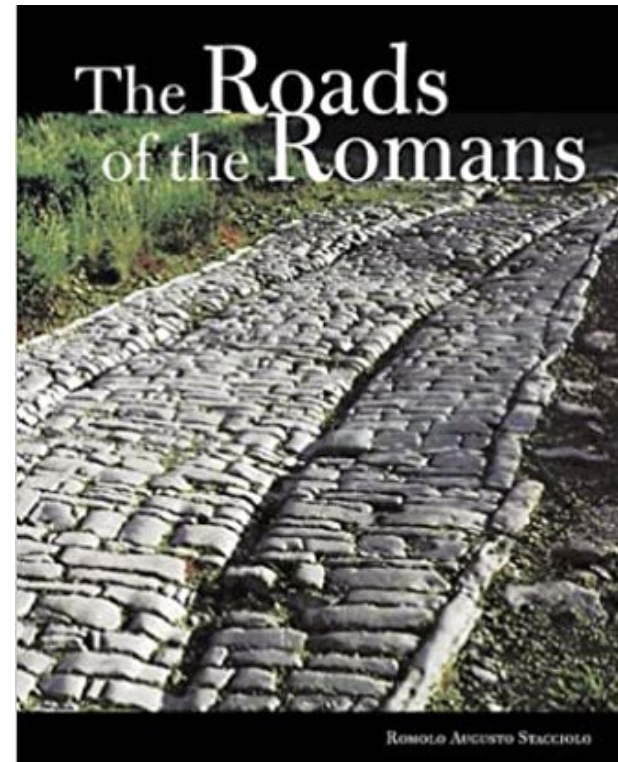
Street paving has been found from the first human settlements around 4000 BC in cities of the [Indus Valley Civilization](#) on the [Indian subcontinent](#) in modern-day [Pakistan](#), such as [Harappa](#) and [Mohenjo-Daro](#). Roads in the towns were straight and long, intersecting one another at right angles.

STREETS OF MOHENJODARO, HARAPPA, PAKISTAN



# ROMAN ROADS

The Romans built great roads. These '[Roman roads](#)' used deep roadbeds of crushed stone as an underlying layer to ensure that they kept dry, as the water would flow out from the crushed stone, instead of becoming mud in clay soils. Spanning over 50,000 miles and three continents, the network was a defensive matrix as well as a means to integrate the provinces into their empire. Without it, the empire would never have grown so vast or lasted as long.



The Roads of the Romans (Getty Trust Publications: J. Paul Getty Museum)

# EARLY TAR PAVED ROADS

In the [medieval Islamic world](#), many roads were built throughout the [Arab Empire](#). The most sophisticated roads were those of [Baghdad](#), [Iraq](#), which were paved with tar in the 8th century. Tar was derived from petroleum accessed from [oil fields](#) in the region, through the chemical process of [destructive distillation](#).

At the beginning days of Baghdad, road surfaces were paved with tar from oil deposits.

Mayans, Aztecs, and Incas built roads from inland cities to coast to move food and trade goods.



# EARLIEST ROAD IN THE USA NATCHEZ TRACE



The Natchez Trace Parkway leads you 444 miles through three states and 10,000 years of history. Established as a unit of the National Park Service in 1938 and officially completed in 2005, the Parkway commemorates the most significant highway of the Old Southwest

# TRANSPORTATION EQUITY

- Transportation planning and policy can affect both racial and social equity.
- Build healthy, equitable communities through **transportation** funding, policy, and projects.

## Transportation Planning Equity Impacts:

- The quality of transportation available affects people's economic and social opportunities.
- Transport facilities, activities and services impose various indirect and external costs, such as congestion delay and accident risk imposed on other road users, infrastructure costs not funded through user fees, pollution, and undesirable land use impacts.
- Transport expenditures represent a major share of household, business and government expenditures.
- Transport facilities require significant public resources (tax funding and road rights of way), the allocation of which can favor some people over others.
- Transport planning decisions can affect development location and type, and therefore housing accessibility, land values and local economic activity.
- Transport planning decisions can affect employment and economic development which have distributional impacts.



# Equity and Mobility: A Comic Treatment for Transportation Professionals

Todd Litman, Planetizen

