Good morning everyone and welcome to all the friends of Northwestern and its Transportation Center. We are here to recognize the 60th anniversary of the Center. But, we are also here to celebrate our shared heritage of working in the transportation sector.

Since the founding of the NUTC a lot has changed. In my remarks, I want to briefly reflect on all that has changed in the last 60 years for we have covered a lot of territory. This community is our community—whether we are operators, customers, suppliers, investors, academics, students or even fans of transportation—and we can look back on the last 60 years and find much to be proud of. It has been quite a journey.

Let’s first roll the tape back.

1954, the year of the Center’s launch, stands out in many ways. For instance, did you know that:

- Eisenhower was president, with Richard Nixon his vice president
- The scandal of the day was the McCarthy hearings
- Brown vs. Education was the big Supreme Court case
- The World Series was carried in color for the first time
- The top rock group – Bill Haley and the Comets
- The top movies – From Here to Eternity, On the Waterfront, Rear Window, and The Caine Mutiny (two of which are transportation movies, I might add)
- The polio vaccine was deployed for the first time
- The first issue of Sports Illustrated was released
- The Dow was at 382 points
- Marilyn Monroe married Joe DiMaggio
- Linus Pauling won a Nobel Prize, as did Ernest Hemmingway
- Edward R. Murrow was the top newscaster
- Our involvement in the Vietnam conflict started with $400M funding

A different world, for sure, across many dimensions. There were a few notable events in transportation as well in 1954:

- The B707 was introduced
- The first nuclear submarine
- The first subway line opened in Canada
- The Grand Prix set a speed record at 100 MPH
- The interstate highway system was finally funded—ten years after approval
- The Air Force Academy was founded
It was two years later, in 1976, that Malcolm McLean pioneered the modern intermodal container system—a vision that is now in full bloom.

But where we started is not the issue. It is more about the journey we have been on over the 60 years since. Let’s have a look at how much has been accomplished.

**Trucking Industry**

Over the last six decades very few sectors have become more vital and vibrant than trucking. Trucking is key to our industries and military. It is said that all freight journeys start or end in a truck of some kind. The industry has provided for millions of jobs—and increasingly over the laws few decades an entrepreneurial opportunity for thousands of owner operators. Paralleling the expansion of paved roads ruraly and the building-out of the Interstate Highway system, trucking grew rapidly in the ’60s and ’70s. It even began to move into pop culture through song, literature and film, with truckers celebrated as modern cowboys: jeans, plaid shirts, hats and CB’s. In 1976, the number one song was CW McCall’s *Convoy*, and top-grossing film *Smokey and the Bandit*.

But that was the romantic side—and it was not all fun and games. The Interstate Highway system demanded a more uniform regulatory scheme as crossing state lines became the norm. Outdated rules—many issued by our old friend the ICC—on hours of service, pricing, truck size and weight, speed had become complex and outdated and not in step with the reality of either shippers or carriers. All stakeholders were frustrated. In the 1980’s we saw considerable attention focused on changing the regulatory course. The Motor Carrier Act of 1980 and the Surface Transportation Act of 1982 both brought much needed reform and started the deregulation of the industry. Not surprisingly, in the 1980’s, 1990’s, and the new century, the American trucking industry blossomed, carrying more than 10B tons, with 26M trucks, 3.5M drivers, 9+M direct jobs. The industry has weathered many storms, both figuratively and literally, in 60 years: safety, energy cost, congestion, infrastructure, and more. Today, the list of challenges is not any shorter—driver shortages, aging workforce, local government hostility and, as always, re-regulation. We will talk about those today.

**Railroads**

Over 60 years the railroads have not been sitting idle. They have played and continue to play a critical and fundamental role in our economy and around the world as well. Clearly vital in World War I and II, the railroads came into the 1959’s facing a number of troubles. Essentially then a patchwork of regional railroads in different hands that needed to connect or interline to other rails to move freight over any distance of consequence. The health of the railroads—and there were many of them—was deteriorating rapidly. The AAR calls this the “Period of the Big Slide”. It was increasingly apparent in 1954 that the industry and many of its players could not continue on this course. Hobbled by stifling regulation by the ICC and government funding of competing modes like truck and barge, they were slowly headed for extinction.
As a self-financed mode, deteriorating financials led to disinvestment, deteriorating service, and accidents—a significant threat to carriers and shippers alike. Rail track mileage was rapidly disappearing, reflecting sharp declines in both freight and passenger traffic. This set off a wave of mergers and consolidations among carriers that continued for three to four decades—some by choice, many others through bankruptcy. In fact, one of our BAC members, the NS, essentially started off that movement in 1959 by merging the Norfolk Western with the Virginian. In no other sector were the needs of the industry (including operators, shippers, investors, and communities) more out of synch with the regulatory regime than in rail. A series of crises and challenges (particularly in the Northeast) showed an industry headed for liquidation and effectively the loss of a national rail network. Regulatory relief was slow in coming. We lost many flags during that period—Pennsylvania, New York Central, Erie Lackawanna, Milwaukee Road, Rock Island, and Conrail. The Staggers Rail Act of 1980 came none too soon, shifting the regulatory focus to get more balance and in effect deregulating the industry.

Now let’s fast forward to today. We now have five to six major rail systems and many strong regional short-line railroad systems. We are living in a period dubbed the “rail renaissance”. In 2010, The Economist magazine said of the US railroads, “They are universally recognized as the best in the world”. In the 20 years between 1981 and 2000, rates rose 172%, service quality markedly improved, and market share began to recover. The dream of Malcolm McLean of an integrated system of modes is finally becoming a reality in both international and now domestic. One of the keys to the rail’s success has been technology: advances in locomotives, signaling, communications, information technology, unit trains and more. While rail executives can look proudly on both their past progress and their status today, however, once again, the regulators are knocking at their door.

A word of caution: rail rates (revenue per ton-mile) are now 42% lower in 2013 than they were in 1981. Importantly for the future, reinvestment in track, structures and equipment are at record levels.

Aviation

The 1950s brought us the first commercial jet, Comet 1. In 1958, the Federal Aviation Act was passed, creating the FAA while retaining the CAB. The 1950s also saw the introduction of advanced tools and approaches such as ILS and VORs. At the same time, the 1950s spurred the development of the airport system and many important airports today, such as Dulles, O’Hare, and LAX; many more followed in the 1960s.

Jet aircraft evolution and innovation played a huge part in this mode, possibly more than anything else. During the ’60s and ’70s, there a wide range of new aircraft was introduced for both long and short haul. The B727, B737, DC-8, B747, and Concorde were followed later by the B747, B767, B757 and a wide range of regional aircraft in the ’70s, ’80s, and ’90s—in turn followed by the B777 and the Airbus fleets after 2000.
However, no mode has seen more turmoil that the airline sector. The old joke was, *How do you make a small fortune in the airline industry? Start with a big one!*

Another common theme was regulation. Over the years, the airline industry has had a number of minders for a variety of purposes, including the CAA, CAB, FAA, and NTSB to name a few. As traffic grew, it became apparent that regulation was standing in the way. The Airline Deregulation Act of 1978 phased out the CAB, allowing the market to determine where airlines flew and what they charged. However, it took many years to get the industry in balance. Airline capacity grew, travelers followed, but capacity on the ground was slow in coming. As with other sectors and modes, this freedom led to bankruptcies and mergers that continue to this day.

On the other hand, aerospace continues to be wildly different from other modes. Over the last 60 years, we have actually seen the government play a greater and still growing role in aviation in infrastructure, safety, certification, air operations, noise, taxation, technology, user fees, and congestion. This has perhaps been good for safety and security, but it has done little for cost and customer experience. Regardless, today the government is all over this sector, and that shows no sign of ending.

Air cargo is also essential to the air industry. 80% of air cargo rides in passenger hulls; cargo and passenger fortunes are closely linked. But let’s look back on one of the important contributions made in cargo by players in the US over the last several decades. In 1962, Fred Smith turned a term paper into a vision and then into an industry. DHL followed in 1969 offering service from San Francisco to Hawaii. TNT started its air service in Europe in 1979. Coming from its road base, UPS joined the fray in 1981, becoming an airline. Taken together, UPS and FedEx operate more than 1,200 aircraft and serve in excess of 1,000 airports worldwide. They are now the mainstays of e-fulfillment in all of our lives.

**Water Transport**

Last, but not least, is our water mode. This is clearly a big, far-reaching, complex, and highly segmented transport mode, perhaps serving the widest array of industries, the most varied geography, and the greatest variance of political and regulatory regimes of all modes. Barges and tugs move literally every type freight around the world. Recognizing the long-time participation of our inland carriers at the Center and on the BAC, let me briefly highlight that sector.

Water transport is one of the more storied segments of the transportation industry, with records going back to 1700. In fact, the earliest infrastructure projects in a young America were primarily canals and tow paths, which played key roles in the expansion of our country. The industry and government have since the beginning teamed to create a strong and viable inland water system. Always popular with Congress, waterway expansion, dredging, and harbor and lock improvement have fueled the growth and expansion of this sector.
Far from being “yesterday’s” technology, inland waterways continue to be highly competitive in cargo. The rule of thumb on many commodities, particularly in mining, still holds true: to save money, get it on water as soon as possible. To meet customer needs and competitive challenges, the industry and government have used public investment in infrastructure and private investment in technology to enable our barges to go faster, carry more, serve more sites, with greater safety. The only challenge they can’t readily address is water levels: we seem to have too much or too little and rarely just enough.

Finally, I would be remiss if I talked only about the modes. A key feature in the last 60 years—as well as the next 60 and beyond—are the many intermediaries in transportation. Freight forwarders, brokers, 3PLs, 4PLs, IMCs and others have been essential to the evolution of freight transportation over the last few decades. Providing needed services, new technologies, a dose of focus and entrepreneurial drive that let each stakeholder play its best role; they are a key part of our transportation heritage.

We are lucky to work in such a storied, dynamic and vital industry as transportation. It is part of our country’s start, expansion, and success in the past. Transportation is still critical to our economy’s strength in the future here, abroad, and now on other planets as we learned last night. The Northwestern University Transportation Center has been right in the midst of that growth. Like the rail, air, road, and water modes themselves, the Center is at its best when we assemble private sector shippers and operators, government policy makers and regulators, local communities, and vendors of products and services to address how best to combine innovation, investment, and sound government policy; to improve safety and service; to bring more value to customers and investors; and to address other challenges we will face in the future.