Some examples of people quickly accomplishing ambitious things together.

• **BankAmericard.** Dee Hock was given 90 days to launch the BankAmericard card (which became the Visa card), starting from scratch. He did. In that period, he signed up more than 100,000 customers. *Source: Electronic Value Exchange*.

- P-80 Shooting Star. Kelly Johnson and his team designed and delivered the P-80 Shooting Star, the first jet fighter used by the USAF, in 143 days. Source: Skunk Works.
- Marinship. "Shipyard construction was begun promptly after a telegram from the United States Maritime Commission was received by the W. A. Bechtel Company. The telegram was received on 2 March 1942, the Sausalito site selected on 3 March, and a proposal to build the shipyard presented in Washington DC was made on 9 March. Ten minutes into the presentation U. S. Maritime Commission administrators told the W.A. Bechtel Company to build the shipyard. Physical construction began on 28 March. Construction start was delayed two weeks to allow the 42 families living on Pine Point, which was scheduled to be demolished to build the shipyard, to move." The first ship was completed on September 15 of that year, 197 days after receiving the telegram. Source: Marinship on the Fast Track.
- The Spirit of St. Louis. In 1927, Donald Hall and Charles Lindbergh designed and built *Spirit* in 60 days. "To determine the amount of fuel the plane would need, Lindbergh and Hall drove to the San Diego Public Library at 820 E St. Using a globe and a piece of string, Lindbergh estimated the distance from New York to Paris. It came out to 3,600 statute miles, which Hall calculated would require 400 gallons of gas." *Source:* Ryan Airlines gave Lindbergh wings.
- The Eiffel Tower. The Eiffel Tower was built in 2 years and 2 months; that is, in 793 days. When completed in 1889, it became the tallest building in the world, a record it held for more than 40 years. It cost about \$40 million in 2019 dollars. Source: <u>Eiffel's Tower</u>.
- Treasure Island. In 1935, San Francisco decided to commemorate the
 completion of the Golden Gate and Bay Bridges by building a new island as a
 home for the Golden Gate International Exposition. Treasure Island, a 400 acre
 man-made island in the middle of the San Francisco Bay, was the result.
 Construction started in 1935 and was complete by March 1937. Source: San
 Francisco Fair: Treasure Island.
- Apollo 8. On August 9 1968, NASA decided that Apollo 8 should go to the moon. It launched on December 21 1968, 134 days later. Source: <u>Apollo Spacecraft Chronology</u>.
- The Alaska Highway. Starting in 1942, 1,700 miles of military roadway were built over the course of 234 days, connecting eastern British Columbia with Fairbanks, Alaska. Source: <u>The Alaska Highway</u>.
- Disneyland. Walt Disney's conception of "The Happiest Place on Earth" was brought to life in 366 days. Source: <u>Under Construction: A look inside Walt</u> <u>Disney's Disneyland.</u>
- The Empire State Building. Construction was started and finished in 410 days. Source: Empire State Building.
- The Berlin Airlift. On 24 June 1948, the Soviet Union initiated a blockade of Berlin. Two days later, the Berlin Airlift commenced. Over the following 463 days, the US, the UK, and France flew 277,000 flights with 300 aircraft to deliver the supplies required to support 2.2 million Berlin residents. On average,

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a supply aircraft landed every 2 minutes for 14 months. As part of this effort, Tegel airport was built. Planning started in July 1948; construction started August 5 1948; the first landing took place November 5 1948 (92 days after construction started); the official opening of the airport took place December 5 1948. Source: The Candy Bombers.

- The Pentagon. The construction of the world's largest office building was led by Brehon Somervell. The decision to proceed with the project was made on a Thursday evening. Initial drawings were completed that Sunday. Construction started two months later, on September 11 1941, and was finished on January 15 1943, 491 days later. When asked when something was needed, Somervell's go-to response was "the day before yesterday". Source: The Pentagon.
- Boeing 747. Boeing decided to start the 747 program in March 1966. The first 747 was completed on September 30 1968, about 930 days later. Source: Boeing 747: A History.
- The New York Subway. The first contract was awarded on February 21 1900.
 28 stations opened and general operation commenced on October 27 1904, 4.7 years later. In April 2000, the MTA decided to build the Second Avenue Subway. The first phase, with 3 stations, opened on January 1 2017. Source: The New York Times.
- TGV. On April 30 1976, the French government approved a plan to build a high-speed rail link between Paris and Lyon, the first high-speed rail line in Europe. This line was to use completely new electric locomotives, also to be developed in France as part of the project. The ensuing line opened on September 26 1981, 1,975 days later. On September 24 1996, the California High-Speed Rail Authority was formed. The completion of the first phase of California's high-speed rail project, a line connecting San Francisco and Anaheim, is currently estimated to happen in 2033, 37 years (i.e. around 13,000 days) after the authority was formed. Source: On the Fast Track.
- **USS Nautilus.** The US decided to build the world's first nuclear submarine in July 1951. It entered service on September 30 1954, 1,173 days later. *Source: Cold War Submarines.*
- JavaScript. Brendan Eich implemented the first prototype for JavaScript in 10 days, in May 1995. It shipped in beta in September of that year. Source:
 <u>Brendan Eich's history of the language</u>.
- **Unix.** Ken Thompson wrote the first version in three weeks. *Source:* <u>UNIX: A</u> <u>History and a Memoir.</u>
- Xerox Alto. Work on the Xerox Alto, the first GUI-oriented computer, started in November 1972 because of a bet: "Chuck said that a futuristic computer could be done 'in three months' and a Xerox exec bet him a case of wine that it couldn't be done". Building the Alto required extensive hardware, operating system, and application design and implementation. The first complete Altos were introduced on March 1 1973. Source: Alan Kay.
- **Shenzhen.** In one year, between 1998 and 1999, Shenzhen added 1 million residents (a 22% increase), growing from 4.4 million to 5.4 million people. *Source:* <u>PopulationStat.</u>
- **iPod**. Tony Fadell was hired to create the iPod in late January 2001. Steve Jobs greenlit the project in March 2001. They hired a contract manufacturer in April 2001, announced the product in October 2001, and shipped the first production iPod to customers in November 2001, around 290 days after getting started. *Source: Tony Fadell*.
- **Amazon Prime.** Amazon started to implement the first version of Amazon Prime in late 2004 and announced it on February 2 2005, six weeks later.

Source: The making of Amazon Prime.

- Git. Linus Torvalds started working on Git on April 3 2005. It was self-hosting 4
 days later. On April 20 2005, 17 days after work commenced, Linux 2.6.12-rc3
 was publicly released with Git. Source: <u>LKML</u>.
- COVID-19 vaccines. On January 10 2020, the SARS-CoV-2 genome was published. 3 days later, Moderna finalized the sequence for mRNA-1273, its mRNA vaccine candidate; the first batch was manufactured on February 7. On February 24 (45 days after genome publication), Moderna shipped the first batch of mRNA-1273 to the NIH for use in their Phase 1 clinical study. 266 days of clinical trials and regulatory coordination followed. On November 16, Moderna announced that the vaccine's efficacy was 94.5%. Source: linked materials. Note: the BioNTech vaccine was produced on a similarly impressive timeline but I haven't yet tracked down sufficiently granular information about its development—pointers appreciated.

San Francisco proposed a <u>new bus lane</u> on Van Ness in 2001. It opened in <u>2022</u>, yielding a project duration of around 7,600 days. "The project has been delayed due to an increase of wet weather since the project started," said Paul Rose, a San Francisco Municipal Transportation Agency spokesperson. The project cost \$346 million, i.e. \$110,000 per meter. The Alaska Highway, mentioned above, constructed across remote tundra, cost \$793 per meter in 2019 dollars.

Please send me more entries. (Preferably with sources.)

What's going on?

The physical infrastructure projects enumerated above occurred before 1970 to a disproportionate degree. Why? Some works containing hypotheses:

- Marc Dunkelman <u>investigated</u> why Penn Station renovation efforts have repeatedly failed.
- Alon Levy points out that not only has *construction* slowed but so too has <u>actual</u> operation.
- Lynne Sagalyn wrote a book about why redeveloping Ground Zero took so long.
 Ed Glaeser, reviewing it for the *Times*, writes "her story teaches us how and why America has changed since 1931, when the Port Authority of New York and New Jersey could build the George Washington Bridge the world's longest suspension bridge at the time in 49 months."
- Herbert Kaufman wrote a book about red tape; the foreword from Philip Howard includes the claim that the nature of bureaucratic constrictions in the US changed in the 60s.
- Howard also wrote a <u>report</u> entitled *Two Years Not Ten Years: Redesigning Infrastructure Approvals*, diving deeper on this topic. George Will <u>wrote a column</u> about it.
- In <u>American Government: Brief Version</u>, the authors contrast an "Old System" and a "New System" of American government; they, too, argue that something significant changed in the 60s.
- Mancur Olson <u>argued</u> that stable societies naturally tend to become less dynamic and more beholden to special interest groups with time. Empirical support for the claim is mixed. Synthesizing some themes above, Francis Fukuyama <u>argued</u> that interest groups have now made the US a "vetocracy".