



I-235 UNEARTHING THE PAST

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A look at I-235 *then and now*

	1960 - Construction	2002 - Rebuilding
Est. Traffic (avg. vehicles per day)	27,000 - when completed	86,700 - current
Budget	\$57,062,000	\$429,000,000
Timeline	8 years (no traffic)	5 years (under traffic)
Population (Des Moines, Pleasant Hill, Windsor Heights, West Des Moines, Clive, Urbandale, Waukee, Grimes, Johnston, Norwalk – 2000 Census Data)	266,315	322,644

Other I-235 facts

Interstate Segment – I-235 is a 13.83-mile section of the state’s 781.51 miles of Interstate roadway. Commonly referred to as the “Interstate System” the 41,000-mile national system is officially known as the Dwight D. Eisenhower System of Interstate and Defense Highways. The national network was created by the Federal-Aid Highway Act of 1956, signed by President Eisenhower.

Completion Schedule – In 1957 the Des Moines City Council voted 5-0 in support of the freeway plan. In April of that same year, the Federal Bureau of Public Roads provided the Iowa Highway Commission with final approval for construction of the Des Moines’ freeway.

The first section of roadway was opened to traffic December 14, 1961, and the final section on October 30, 1968. Originally, the project was to be completed in 1972. However, in 1963 the Iowa Highway Commission announced it planned to complete the freeway in 1968, four years ahead of schedule.

Planning and Design – In 1957 the Iowa Highway Commission hired the Kansas City, Mo. engineering firm, Howard, Needles, Tammen and Bergendoff (HNTB) to plan and design the I-235 freeway project.

The project was assigned to Ruben N. Bergendoff, a partner in the firm. Paul Heineman, an Iowa State College engineering graduate who had been with HNTB for 10 years, was selected as the project engineer.

This was Iowa’s first urban freeway project; nothing in Iowa had approached the scope of this construction project. In July 1957 HNTB issued its original cost estimate for the project - \$54,763,000 (90 percent federal and 10 percent state funds). The estimate included \$1,038,000 for preliminary engineering, \$21,078,000 for right-of-way, \$6,115,000 for the interchanges, and the balance for the remaining freeway construction.

Preliminary design work for the route, which was completed in 1958, indicated that the route would serve the traffic needs of the area through 1978. It was also designed for the “rapid” freeway speed of 50 miles per hour.

The current rebuilding project is being designed by the Iowa Department of Transportation. Marty Sankey is serving as the project coordinator.



1958 Estimates

Section No.	Description	1958 Cost Estimate	1958 Estimated Traffic Counts (vehicles per day)	Date Opened to Traffic
1	Cottage Grove Avenue east to Keosauqua Way, including interchanges at both streets	7,504,300	33,400	12-14-61
2	Keosauqua Way to Second Avenue	6,089,000	27,315	11-9-63
3	31 st Street to Cottage Grove Avenue	7,920,800	22,630	12-13-66
4	Second Avenue, across the Des Moines River on a new freeway bridge, to East Sixth Street	8,513,400	27,225	11-9-63
5	East Sixth Street to University Avenue interchange at about East 19 th Street or Easton Boulevard	5,205,800	23,668	12-13-66
6	63 rd Street, Des Moines' west city limits, to 31 st Street	5,076,300	16,953	12-6-67
7	East University Avenue or Easton Blvd., north to junction with the I-35/80 interchange	5,638,100	10,891	12-6-67
8	63 rd Street west through West Des Moines to junction with I-35	5,165,000	5,587	10-30-68





Typical construction prices

Construction Item	1958 Price	2001 Price
Clearing land	\$300 per acre	\$867 per acre
Heavy-duty pavement	\$5.80 per sq. yard	\$33.46 per sq. yard
Fencing – urban areas	\$3.50 per foot	\$8.88 per foot
Guardrail	\$4.00 per foot	\$16.13 per foot
Utility access (manholes)	\$500 each	\$1,824 each
Sodding	\$1 per sq. yard	\$3.50 per sq. yard
Seeding	\$350 per acre	\$465 per acre

Original Design Elements – In developing the Interstate system, definite geometric design and construction standards were observed. Those standards, adopted in July 1956, were applied uniformly throughout the United States, and accommodated types and volumes of traffic forecasted for 1975.

Some of those early standards included:

- Fully controlled access roadway (the system can only be accessed at interchange points);
- Each traffic lane was 12 feet in width;
- A completed roadway had to consist of two or more traffic lanes in each direction, separated by medians of a minimum width of 4 feet in highly developed areas and 50 feet in rural areas;
- The outside shoulder had to provide all-weather support for all vehicles and be at least 10 feet wide, the inside shoulder could be narrower;
- Bridges and overpasses had to allow a minimum of 16 feet vertical clearance above the roadway to accommodate the passage of military vehicles;
- All railroad at-grade crossings were eliminated on all through-traffic lanes; and
- Interchanges were placed at a distance of every four miles, exceptions to this rule were allowed in large cities.

Right-of-Way - The cost of purchasing right-of-way in the 1960s was \$21,078,000. Five hundred acres, 1,100 dwelling units, 50 businesses, three elementary schools and two church buildings were purchased to build the original freeway.

The three elementary schools in the path of the freeway were among the oldest in the Des Moines Public School System: Crocker School at Sixth Avenue and School Street, constructed in 1875; Longfellow School at East 7th and Maple Streets, built in 1882; and Webster School at East 12th and Lyon Streets, built in 1877.

The two churches acquired were First Presbyterian and the Reorganized Church of Jesus Christ of Latter Day Saints, both near East 12th and Maple Streets.

The project also took a slice off the southern edge of Waveland Golf Course and passed through the middle of the Des Moines Golf and Country Club.



Freeway Name – Officially, the name of the Des Moines freeway is “Interstate Highway 235.” However, it was designated in the 1960s the John MacVicar Freeway by the Des Moines City Council.

The plan to name the new freeway the John MacVicar Freeway was first suggested in 1958 by the Des Moines Pioneer Club, but gained little support at that time. The John MacVicars, father and son, were reportedly the closest thing to a political dynasty Des Moines has ever known. They held city offices at intervals over a period of more than 50 years.

The elder MacVicar was mayor from 1896 to 1900, streets commissioner in 1908-12, mayor again in 1916-18 and public safety commissioner in 1922-24. He was elected mayor again in 1928, but died seven months later.

John MacVicar, the younger, was city streets commissioner in 1932-34 and 1936-40, and was mayor from 1942 to 1948. He died in 1950.

Firsts – The first roadway segment along I-235 opened to traffic in December 1961. It was a 1.2-mile segment from Cottage Grove Avenue past Keosauqua Way to 12th Street. At that time, this “busy” segment reportedly carried 33,400 vehicles per day. The section took nearly three years to complete and cost \$9.5 million.

On May 9, 1960, the first bridge over the freeway was opened - Harding Road Bridge (270-foot long, 40 feet wide). This was the first piece of the freeway that was actually put into use.

Iowa Highway Commission crews began clearing snow from the first segment of the Des Moines Freeway on Jan. 16, 1962.

The “Mixmaster” – Named by highway engineers in 1961, the “Mixmaster,” this was one of the most intricate interchanges on the Interstate system in Iowa. It serves as a connection for the Des Moines freeway at a point where north-south Interstate 35 separates from east-west Interstate 80.

Bridges – The original I-235 bridges were built with a 14.5-foot clearance, despite a ruling at that time recommending bridges be 16 feet high to accommodate the movement of military equipment. It was decided to route military traffic around Des Moines without using the I-235 corridor because of the expense of redesigning the bridges and their approaches.

There are 71 bridges in the I-235 corridor.

Familiar Names – Some of the contractors involved in the original construction of I-235 are once again playing a role in its reconstruction. For example, Cramer-Bayse Construction Company built at least five freeway bridges in the Harding Road-Cottage Grove area.



Period Quotes

“The citizens of Des Moines reacted a bit slowly when news of the proposed freeway broke in December 1956. It was too much to digest in one sitting.”

Des Moines Tribune

Tuesday, May 13, 1958

“In relation to the traffic it will carry, the Des Moines Freeway will be one of the fastest, safest and most economical highways Iowa could build.”

Jo S. Stong, Highway Commission

May 1961

“He found the freeway’s unhurried atmosphere and the general refusal there to bow slavishly to arbitrary driving rules quite charming, almost European in character.”

Donald Kaul, Register Reporter (In his column “Over the Coffee” Kaul described a Des Moines man’s journey along the freeway)

Oct. 7, 1965

Discoveries from another age - In October 1961, construction crews unearthed a solid granite, 25-ton boulder near Second and School Streets. The enormous rock mass was found some 20 feet below grade. It was the largest rock deposit of its kind ever seen this far south in Iowa (similar deposits have been found in the Marshalltown area). The boulder was a glacial deposit, having been brought down by the ice from someplace in Canada perhaps 200,000 years ago, well prior to Iowa’s last glacier 25,000 to 30,000 years ago.

In May of 1962, the huge rock was moved to the lawn of Harold Goldman of Des Moines in the Southern Hills area, where it was made available to Drake University’s geology classes for examination and study.

A similar granite stone was found in 1966 and placed on a small parkway at the south end of the pedestrian bridge leading to Center Street and Roosevelt High School (about 100 feet from where it was found). This boulder was seven feet in diameter, representing 13 cubic feet of mass, weighing approximately 19 tons. Experts who examined the rock said it was at least a half a billion years old, and for at least 12,000 of those years had lain buried 22 feet deep, a few hundred feet from the present side of Roosevelt High School. At the urging of area residents, the Des Moines City Parks Department relocated the stone to its home near the 44th Street pedestrian bridge as an enduring monument to some of the oldest rock in the world, that of the Canadian Shield, which extends into Minnesota.

Freeway Beautification – 1,800 trees were planted along the freeway in 1965 as part of the Iowa Highway Commission’s beautification program. The total cost of the planting was \$27,800 and included pfitzer, white pine, red oak, flowering crab, hawthorn, red bud, spruce, and pin oak trees.