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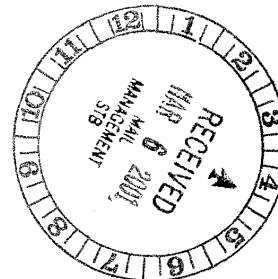
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March 6, 2001

Office of the Secretary
Case Control Unit
Finance Docket No. 33407
Surface Transportation Board
1925 K Street, N.W.
Washington, DC 20423-0001
Attention: Victoria J. Rutson
Environmental Project Director
Environmental Filing



Re: Draft Environmental Impact Statement
Finance Docket No. 33407
Dakota, Minnesota & Eastern Railroad Corporation

Dear Ms. Rutson:

Pursuant to the Draft Environmental Impact Statement (DEIS) served September 27, 2000, and the subsequent order served by the Surface Transportation Board (STB) on December 14, 2000, Mayo Foundation (Mayo) submits its comments. As will be discussed, Mayo maintains that the DEIS does not meet National Environmental Policy Act (NEPA)¹ requirements; fails to adequately address serious impacts of the proposed construction project on human health and welfare issues of specific concern to Mayo and does not identify or develop means to mitigate adverse environmental impacts. In view of substantial

¹ 42 U.S.C. 4332

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deficiencies and ambiguities in the DEIS, Mayo maintains that further development and independent analysis of specific issues is required with a view to issuance of an appropriate supplemental draft environmental impact statement for public comment. Finally, while Mayo fully appreciates that all of the alternatives thus far identified in the DEIS for Rochester and Olmsted County have adverse ramifications, it firmly believes that Alternative R-4 is the least harmful and would best address the substantial public health and welfare concerns that this proposed project has raised.

Insofar as this major railroad construction proceeding involves Rochester and Mayo important human health and welfare issues are most definitely involved and could be seriously affected depending upon the alternative ultimately selected by the Surface Transportation Board. Mayo urges that these issues, some of which involve the very survival of victims of heart attack, are of compelling importance. Ultimately, after environmental issues and alternatives have been adequately identified and independently evaluated, the STB must assure that readily available state of the art medical services currently accessible to all who come to Rochester will not be degraded or impaired as a result of any action taken in this proceeding.

BACKGROUND

Mayo Foundation is a charitable, not-for-profit health care organization based in Rochester, MN. The Foundation is governed by a 30-member Board of Trustees comprised of 16 public members

and 14 physicians and administrators ². Mayo Foundation is the parent of a multi-entity healthcare organization designed specifically to foster the very best patient care by means of integrated programs in clinical practice; advancement of research and medical training ³. Among Mayo's affiliates are Mayo Clinic Rochester, (a 1,260 physician multi-specialty integrated outpatient clinic located in Rochester, MN), Mayo Clinic Jacksonville (a 229 physician multi-specialty integrated outpatient clinic located in Jacksonville, FL), St. Luke's Hospital (a 289 bed hospital located in Jacksonville, FL), and Mayo Clinic Scottsdale (an integrated multi-campus healthcare system located in Scottsdale, AZ that includes a 255 physician multi-specialty integrated group outpatient clinic and a 178 bed hospital). Also affiliated with the Foundation are Mayo Graduate School of Medicine, Mayo Graduate School, Mayo Medical School, Mayo School of Health Related Sciences and Mayo School of Continuing Medical Education. All of Mayo's affiliates concentrate their efforts and resources on protection and advancement of human life by providing the best possible patient care, through integrated programs in clinical practice, education and research at extensive facilities located throughout the nation.

In Rochester, MN Mayo Clinic Rochester and its affiliates, Saint Marys Hospital (a 1,157 bed hospital with a Level IV emergency room facility that serves as a trauma center for all

² Current Board of Trustees, Attachment No. 1.

³ See Mayo Foundation 1999 Annual Report, Attachment No. 2.

of southern Minnesota) and Rochester Methodist Hospital (a 794 bed hospital) (Mayo Rochester) together form the world largest integrated academic medical center, offering patients virtually every medical expertise, treatment and diagnostic service. Its patient care activities are supported by extensive programs in medical education and research. Half of Mayo Rochester's patients come from Minnesota while the other half come from all 50 states and throughout the world. Approximately 80% of the patients who come to Mayo Rochester are treated as outpatients with the other 20% requiring hospitalized care. On a typical day over 1,000 new outpatients arrive for treatment and there are about 150 new admissions to one of the Rochester hospitals. Mayo Rochester employs almost 1,400 highly skilled physicians and scientists who are supported by over 1,500 resident physicians in training and over 20,000 dedicated allied health care personnel.

Mayo Rochester is the second largest private employer in Minnesota and the largest employer in southern Minnesota. In addition to the excellent medical care available at Mayo Rochester facilities, surveys show that patients are attracted by the pleasant, clean, peaceful community of Rochester. A good measure of Mayo Rochester's growth and success is directly attributable to its patient and family friendly environment.⁴

As recently stated by Dr. Hugh C. Smith, Chair of the Mayo Rochester Board of Governors:

⁴ See copy of 1999 Mayo Clinic Facts, Attachment No. 3.

"Mayo Clinic is an economic engine for Rochester and the entire region. Our payroll contribution to the region is greater than (one) billion dollars annually. One-third of our employees live outside of Rochester. Our patients and visitors who travel with them, this is one million people a year, generate \$1.6 billion in health care and an additional \$180 million to other nonmedical businesses such as hotels and restaurants in the region each year. More than half of all this revenue comes from outside our state.

The success of Mayo Clinic and of Rochester are interdependent. In Rochester there are 5,000 hotel rooms to 80,000 people. One hotel room for every 16 citizens. In Minneapolis (MN) there are the same number, 5,000 hotel rooms or one room for every 70 people. Any decline in patient and visitor volume profoundly affects our economy".⁵

As further noted by Dr. Francis Ferguson, Chair, Mayo Foundation Board of Trustees:

"I travel the nation and the world both for Mayo and also as president of Vassar College and I recognize the unique attractiveness and the characteristics of this community, that brings to it patients but also brings to it physicians and scientists that are interested in

⁵ Rochester Public Hearing (RPH), November 16, 2000, Tr. p46.

conducting world class research
that benefits mankind.

The largest railroad project
in the history of the United
States therefore threatens Mayo
Clinic's ability to attract those
patients, and even more so to
attract the world class physicians
and scientists who would want to
live in this community."⁶

In sum, "healthcare is not just an individual concern (in
Rochester).... it is in fact the cornerstone of the community".⁷

With the advent of the DM&E construction project and the
prospect of 37 or more trains a day rumbling through the center
of Rochester in close proximity to Mayo facilities, Mayo has
found it necessary to learn a great deal about railroads and to
actively participate in this proceeding in the interest of all
those who depend upon its world class medical services, and its
programs in medical education and research. After reviewing the
DEIS at issue, Mayo firmly believes it does not adequately
comply with requirements of NEPA and its implementing
regulations. Specifically, Mayo submits the following comments
and urges that additional independent and unbiased investigation
is clearly required in regard to a number of specific issues.
In addition, Mayo urges that the issuance of a supplemental
draft environmental impact statement for appropriate comment is
necessary in accordance with CEQ regulations in order to provide

⁶ RPH, Tr. p64.

⁷ Statement of John Wade, RPH., Tr. p49.

for the appropriate level and type of analysis required for effective comments from the affected public.

Preliminary Statement

Section 102 (C) of NEPA ⁸ requires every recommendation or report on proposals for legislation and other major federal actions to include a detailed statement on the action's environmental impact; any adverse environmental effects which cannot be avoided should the proposed action be implemented; and alternatives to the proposed action. Implementing regulations state that environmental impact statements:

shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.⁹

Agencies charged with NEPA responsibilities also are required to "rigorously explore and objectively evaluate all reasonable alternatives" ¹⁰ and to "discuss means to mitigate adverse environmental impacts". (Emphasis supplied)¹¹

⁸ 42 U.S.C. 4332 (C)
40 C.F.R. 1502.1

⁹ 40 C.F.R. 1502.1

¹⁰ 40 C.F.R. 1502.14

¹¹ 40 C.F.R. 1502.16 (h)

Environmental impact statements may be supplemented, and if a draft statement is so inadequate as to preclude meaningful analysis, the involved agency is required to prepare and circulate a revised draft.¹²

Alternative Development Inconsistent with CEQ Regulations

The DEIS correctly identifies the bypass defined to circumvent the City of Rochester as an alternative to reconstruction of the existing DM&E rail line segment through the City. This alternative was included in the DEIS as a means to avoid the significant impacts that would occur from reconstruction of the line through Rochester, consistent with the CEQ regulations.

However, the DEIS is blatantly deficient in compliance with the CEQ's regulations with respect to alternative identification and evaluation for bypassing the City of Rochester. On page ES-18 of the Executive Summary, section ES-7, "Summary of Significant Environmental Impacts", it is stated, "Based on its environmental analysis to date, SEA determined that the PRB Expansion Project would result in significant long-term adverse environmental impacts." The significant long-term adverse environmental impacts listed for Minnesota include "Safety, including emergency vehicle access and response", "Residential, Business, and Public Land Uses", "Noise and Vibration", "Cultural Resources", and "Environmental Justice". These

¹² 40 C.F.R. 1502.9

significant long-term adverse environmental impacts clearly relate to reconstruction of DM&E's line through Rochester. By its own account, these statements mandate the identification and evaluation of alternative routings in compliance with the CEQ regulations to avoid or minimize adverse impacts. Only one alternative routing is considered (the Rochester bypass alternative) and it is even improperly referred to in sections of the document as "mitigation". There is no discussion that other alternatives were looked at and found not to be "reasonable and feasible", as required by the CEQ regulations.

In accordance with the CEQ regulations, all alternatives to a routing through the City of Rochester must be identified, they must be screened to identify those that are "reasonable and feasible", and a direct, objective, comparison of impacts of those that are found to be "reasonable and feasible" must be conducted. Alternatives to be addressed should include movements over other rail carriers between the Extension Alternatives and Rochester, as well as barging, trucking, and/or combinations thereof. This includes reasonable alternatives not within the jurisdiction of the lead agency, as specified in the CEQ regulations at 1502.14¹³.

¹³ 40 C.F.R. §1502.14

Alternative Routings

Various potential alternative rail routings exist off of DM&E's existing rail line through South Dakota and Minnesota that could be used to move all or part of the proposed coal traffic to numerous viable markets for low sulfur coal. These routings would avoid potentially significant impacts associated with the proposed coal movements through Rochester as well as other communities, including Pierre and Brookings, South Dakota, and Mankato and Owatonna, Minnesota. Failure to consider and analyze these alternatives demonstrates that the SEA did not take the required "hard look" in determining whether the construction proposal meets NEPA's requirements.

We have identified a few example alternative alignments which appear to be "reasonable and feasible" for detailed analysis. They are presented here as illustrative examples only. Some of the line segments are in better condition than others. It is incumbent upon the SEA to thoroughly research others. The cost of upgrading some of these line segments may be even less than the cost of upgrading comparable sections of the existing DM&E line.

In South Dakota, the DM&E could utilize an abandoned former Milwaukee Road right-of-way owned by the State of South Dakota that extends from Rapid City across central South Dakota through Kadoka (where the track begins) to Chamberlain and Mitchell. The line continues on to Canton on the Iowa border as an active railroad owned by the State, but operated by BNSF Railroad as a contractor. This line connects at Mitchell with a north-south

line owned by the State and operated by BNSF and with another BNSF-operated line at Canton. Both are BNSF, UP, and Illinois Central secondary main lines.

In Minnesota, the DM&E operates through Mankato on trackage rights over UP's "Omaha Line", an underutilized former Chicago and North Western secondary mainline linking Omaha with the Twin Cities. The line is in at least FRA class III condition and is rumored to be a possible candidate for sale or abandonment. DM&E traffic destined for the Twin Cities or Duluth Harbor (for barge movement beyond) could easily use this line as an alternative to the DM&E/IMRL routing through Owatonna, thereby bypassing both Owatonna and Rochester entirely. East of Mankato, there is a DM&E branch which leaves the mainline at Waseca and heads in a southeasterly direction to Albert Lea, Minnesota, where it connects with IC's former Cedar Valley rail line to Charles City and Cedar Falls, Iowa. The Cedar Valley line crosses several different east-west arteries leading to Chicago. For example, it crosses IMRL "corn line" and IC's Chicago-Council Bluffs/Sioux City line. Further connections to Chicago are possible by connecting at Waterloo with the Iowa Northern and then to UP at Cedar Rapids and with the Cedar Rapids and Iowa City (CRANDIC), another short line, which connects Cedar Rapids with Iowa City and then with the Iowa Interstate Railroad, a Chicago-Omaha class II railroad. Any of these alternative routings could handle Chicago bound coal traffic, reducing DM&E congestion and bypassing Owatonna and Rochester.

Mayo notes that the Austin Medical Center, an affiliated outpatient clinic and hospital located in Austin, MN (AMC), is separately filing its concerns based on recent indications from the DM&E that some measure of the envisioned traffic increase may well be routed to its final destination through Austin, MN over the IMRL by way of a connection sought by DM&E at Owatonna.¹⁴ While the ramifications of such a connection are dealt with in the DEIS insofar as Owatonna is concerned, nowhere are the impacts of a substantial increase in rail traffic over the IMRL through Austin addressed.

Such alternatives should have been identified and fully evaluated in the DEIS.

Comparison Of Operational Effects Between The Bypass Alternative And Reconstruction Through Rochester is Inadequate, Biased In Favor Of Reconstruction, Does Not Provide For Objective, Direct Comparison Of Effects And Underestimates The Impacts Of Reconstruction Relative To The Bypass.

The CEQ regulations at 1502.14¹⁵, "Alternatives including the proposed action", state "Based on the information and analysis presented in the section on the Affected Environment (1502.15)¹⁶ and the Environmental Consequences (1502.16)¹⁷, it

¹⁴ See copy of AMC Statement, Attachment No.4.

¹⁵ 40 C.F.R. 1502.14

¹⁶ 40 C.F.R. 1502.15

¹⁷ 40 C.F.R. 1502.16

should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public." The draft EIS has underestimated the magnitude of environmental effects from the reconstruction alternative through Rochester in comparison to the environmental effects of the bypass alternative. This is discussed below, individually, for each evaluation parameter.

PROVISION OF EMERGENCY SERVICES AND DELAYS AT GRADE CROSSINGS

The potential significance of vehicular delays at railroad grade crossings within the City of Rochester has been understated in the DEIS. Additionally, some of these effects were either not addressed or were inaccurately addressed. It is critical that these effects be more thoroughly and accurately evaluated. To the best of our knowledge, the potential for emergency vehicle delays to result in death or long-term disabilities is significantly greater with this proposed construction than with any previous rail construction proceeding.

VEHICULAR DELAYS AT GRADE CROSSINGS AND THE RESULTING EFFECT ON THE PROVISION OF EMERGENCY SERVICES WAS MISCALCULATED

Calculations provided in the DEIS for train/highway crossings are incorrect and misleading because the DEIS's calculations of blockage time ignores the time required for the railroad safety switch to open and close the warning devices at

grade crossings. This results in an approximate 42% increase in delays at grade crossings. The 135 unit coal train average delay provided in the DEIS as 2.4 minutes will increase to 3.4 minutes. Additionally, the maximum time that a queued vehicle would be delayed at a crossing would be 6.5 minutes; not 9.8 seconds, as presented in the DEIS. The DEIS calculations were incorrectly based on vehicle ADTs averaged over a 24 hour period. The ADTs are more accurately concentrated over normal "business" hours of 6:00 a.m. and 7:00 p.m.

For class 1 railroads, grade crossing warning devices are activated by an Allen Circuit Switch. The moving train triggers an Allen Circuit Switch which controls a microprocessor and motion detector located in a housing at the crossing signal. Once activated, the processor and motion detector determine the actual speed and location of the train and determine when to activate the crossing signal. In the same manner, once the train has passed the crossing, the motion detector at the opposite side of the grade crossing determines how far away the train should be before it cancels the crossing warning.

This switch is located some distance from the crossing, calculated using the following formula:

Switch distance from crossing = 30 (sec) X 1.467 (ft/sec) X MPH
Switch distance for a 45 MPH train is: $30 \times 1.467 \times 45 = 1980.45$
feet
45 MPH train travel time from switch to crossing = $\frac{1980.45}{45} = 44 = 45$ seconds.

Giving the equipment a few seconds to work, the safety signals would close the crossing between 30-45 seconds prior to

the train reaching the crossing. Similarly, circuitry at the opposite side of the grade crossing would require about the same 30-45 seconds to reopen the crossing after the train has safely passed. This more correctly calculated time is approximately 42% longer than the DEIS configured time for crossing blockage, a figure that is used as the basis for the remaining calculations in the DEIS.

Example:

DEIS calculation:

TB = Time during which train blocks a crossing, in minutes

L = Length of train in feet

V = Train speed in MPH

88 = Conversion factor from MPH to feet per minute

$TB = L \div (V \times 88) + .5$ (if this is supposed to represent signal closing, then the signal opening time is ignored)

$TB = 7400 \div (45 \times 88) = .5$

TB = 2.4 minutes blockage time

However, if the necessary 90 seconds of signal time were factored into the DEIS's formulas, it would look like this:

$TB = L \div (V \times 88) + 1.5$

1.5 = 90 seconds allowance to account for switch activation time

$TB = 7400 \div (45 \times 88) + 1.5$

$TB = (7400 \div 3960) + 1.5$

TB = 3.4 minutes blockage time (this is 42% longer than the DEIS configured time and all subsequent formulas using the DEIS's

wrong blocked time would produce results shorter than actual time).

If the switches required only 30 seconds each to operate the opening and closing signals:

$$TB = L + (V \times 88) + 1$$

$$TB = 7400 + (45 \times 88) + 1$$

TB = 2.9 minutes blockage time (20% longer than the DEIS configured time and all subsequent formulas using the DEIS's wrong blocked time would produce results shorter than actual time).

DEIS Table 3-MNG34, contains data showing "Maximum Vehicles Queue" and "Average Delay for All Vehicles (sec/vehicle)." This data is misleading for several reasons:

1. The DEIS assumes that the ADT is spaced evenly over 24 hours, when, in fact, the majority of the highway traffic occurs during the normal "business" hours of 6:00 a.m. and 7:00 p.m. No attempt has been shown in the DEIS to account for this rather normal traffic flow. By assuming an even 24-hour traffic flow, the results of further calculations showing blocked time and highway vehicle movement time across rail lines are diminished.

2. The figures used in Table 3-MNG34 are "averaged," diminishing calculated wait times at crossings. And, by "averaging" the wait time, the reader is not aware that the total time is accumulative in that each succeeding vehicle can not start to move until the one in front has moved, adding to the delay time. Even with this problem, these data can be more meaningfully shown as "vehicles queued X

average delay = total time." For example, using Table 3 data for the crossing at MP 004910 (Broadway in Rochester, MN):
Train length Vehicles Queued X Seconds Delay = Total time of delay for last vehicle

6,400 feet 39.7 X 9.8 = 389/60 = 6.5 minutes

7,400 feet 22.7 X 3.2 = 73/60 = 1.2 minutes

3. Using the DEIS's data shows that the last vehicle to exit a grade crossing intersection, after the crossing signal changes, would have been waiting for approximately either 1.2 or 6.5 minutes until it had the opportunity to cross, not the "averaged" 3.2 or 9.8 seconds shown. Keep in mind, that as the vehicles wait to move over the grade crossing, more vehicles are moving in behind them as additional traffic continues to approach and stop at the blocked crossing.

4. Considering the DEIS-given ADT for Broadway at 19,200, or 13.3 per minute (averaged for 24 hrs), the DEIS should have calculated the additional vehicles that become blocked while waiting for the original queue to move. The DEIS failed to do so.

In the example above, while the last queued vehicle (no. 39.7) waits 6.5 minutes to clear the crossing, an additional 86.5 vehicles (6.5 minutes X 13.3 vehicles per minute) have lined up behind, and an additional 13.3 vehicles accumulate for each minute traffic does not move at normal speed through the crossing. If the actual vehicle traffic were calculated for the 6:00 a.m. to 7:00 p.m. "normal" business traffic, the actual

wait time would be significantly greater than that shown in Table 3.

Furthermore, DEIS Volume VII-B, Appendix H shows that the majority of rail traffic will be traveling during daylight hours, not evenly spaced throughout the day. During the winter months, this would approximately coincide with the 6:00 a.m. - 7:00 p.m. business traffic. The STB formulas do not take this into account, but instead "averages" both rail and highway movement over 24 hours, diminishing any impacts resulting from blocked rail crossings. Proper data and formulae would show that rail movement through Rochester would be significantly more adversely affected than currently shown in the DEIS. The calculations in the DEIS must be re-done to reflect this more realistic approach.

The DEIS also understates the comparative difference in vehicular delays at grade crossings between the No-Action Alternative and the Reconstruction Alternative. The delay calculations for the No-Action Alternative through Rochester are based on 12 trains per day. As stated in other sections of the DEIS, referenced elsewhere in these comments, there are currently only three trains per day that move through Rochester. The increase in number of trains per day would be from three to 37, not 12 to 37. The resulting difference in delay is actually four times greater than defined. This change in level of impact must be re-evaluated.

Impact on Emergency Care

As shown above, the potential impacts of vehicle delays at railroad crossings within the City of Rochester have been understated in the DEIS. Moreover, some of these effects were either not addressed or inaccurately addressed. Mayo's specific concern in this regard centers on the impact of such delays on emergency medical response, particularly in cases involving cardiac care.

During the public hearings in Rochester, Dr. Raymond J. Gibbons, a nationally renowned cardiologist and expert on emergency response, stepped forward to express his grave concerns as to the adverse impact of a precipitous increase in train traffic through the midst of Rochester. He emphasized:

"[i]f you keel over (suffer, cardiac arrest) anywhere else along this (DM&E) train route your chances (of survival) are about five percent. In Rochester your chances are 40 to 50 percent, eight to ten fold higher because we have (automatic external defibrillators) in every police car (and other emergency vehicles). Time is critical. The data shows that the difference between dying and surviving is 36 seconds." (Emphasis supplied)¹⁸

¹⁸ RPH., Tr. p. 110

In a separate statement which is being filed for consideration in regard to adequacy of the DEIS, Dr. Gibbons points out:

"In the Rochester experience (which is summarized not only in the medical literature but on the Rochester Police Department web page: <http://www.cirochester.mm.us/police;defibl.htm>), the average time to first shock in those patients who survive is 5.8 minutes; the average time to shock in those patients who die is 6.4 minutes. This is only a 36 second difference. (Emphasis supplied)¹⁹

Mayo has also pioneered the use of emergency balloon angioplasty (reopening of a blocked coronary artery through use of a balloon angioplasty catheter). This procedure, that significantly reduces the size and damage of heart attacks and improves survival, is available in only 20 percent of the United States. Heart attack victims in the region, whether from Owatonna, Stewartville, Rochester or any other community or rural area in southern Minnesota who can benefit from this life saving care, are rushed to Saint Marys Hospital in Rochester,

¹⁹ Copy of Dr. Raymond J. Gibbons Statement, Attachment No.5, p.3. See also Annals of Emergency Medicine Volume 28 (5) November 1996 pp. 480-485. Reproduced with permission of Annals of Emergency Medicine, Attachment No. 6.

the only hospital in the area that performs these emergency life saving procedures. If patients arrive at night, on weekends or holidays, emergency medical teams comprised of four key professionals must get to the hospital immediately. Mayo specialists perform more than 200 after hours emergency angioplasties every year - this is three to four life saving procedures a week. Dr. Gibbons emphasizes:

"The time delays published by the Mayo Clinic from the Saint Marys Hospital experience are among the shortest in the world. They reflect the small size of the City of Rochester, an excellent hospital system, and the absence of traffic delays when the emergency response team of four individuals drives to the hospital."

(Emphasis supplied.²⁰)

At the conclusion of his statement during the Rochester hearing Dr. Gibbons stressed:

We have the best responsive times in the world. They are the envy of every other institution. They will decrease if the trains go through. In summary, we have the finest emergency cardiac care system of any city along this route. It is indeed one of the best in the world. If you put the trains through, it will cost lives. There

²⁰ Attachment No. 5, p.3.

is no uncertainty about that. The only uncertainty is exactly when the train will get in the way. Whoever approves this project bears responsibility for those lives. As a physician, I would not want that responsibility. (Emphasis supplied).²¹

All Rochester hospitals are located south of the rail line. However most of the community's recent growth has been north of the tracks. For the past three years, Gold Cross Ambulance Service reports that it was called upon to provide emergency service (lights and siren) requiring it to cross over DM&E tracks on the way to a victim as follows:

1,545 times during 1998

1,641 times during 1999

1,757 times during 2000

This information does not include instances where initial emergency response was provided by Rochester police personnel. In this regard, at the Rochester Public Hearing, Rochester Chief of Police Roger Peterson emphasized:

An immediate medical emergency response is critical to saving the victims, especially of heart attacks. In our community, utilizing defibrillator technology available in emergency response vehicles immediately does not mean the 15 minutes or the 30

²¹ RPH., Tr. p. 111.

minutes indicated in the impact statement. We have four (minutes). If we get there within that time we provide citizens of this community with the highest survival rate for heart attack victims in the country. If we don't, they don't survive. It's that simple. If we spend that time waiting for trains, they don't survive."²²

Chief Peterson expressed considerable concern that the DEIS suggests that the emergency response problem can be mitigated by such methods as using an oncoming traffic lane while waiting for a train to clear a crossing, then proceeding to cross ahead of other vehicles after the train passes. To that Chief Peterson responded:

"The suggestion that emergency vehicles ignore state laws and proceed in such a dangerous manner is something the federal agency just shouldn't be suggesting."²³

Mayo heartily concurs in that criticism.

Chief Peterson also criticizes the DEIS implication that emergency vehicles should be expected to engage in a race with trains to crossings. Mayo fully agrees in the assessment that such behavior is extremely dangerous and should be discouraged rather than suggested as a means for mitigating crossing delay.

²² RPH., Tr. p. 226-267

²³ Id.

Mayo Participation In Merger Rules Proceeding

During the course of its involvement in this proceeding, Mayo became aware that the Board was requesting comments on the ways the Board's current merger regulations should be modified to promote and enhance competition and other public interest goals.²⁴ Since Mayo's attention was already focused on the public interest and safety issues in this proceeding, Mayo determined it was important to also participate in the rulemaking proceeding. In that regard, Mayo has noted the serious concerns previously raised by the State of Ohio which has found it necessary to commit to a \$200 million program to build railroad/highway grade separations, 90% of which will be at taxpayers expense. That State has emphasized this program was made necessary because of dramatic increases in rail traffic through Ohio communities that have come about as a direct result of the recent division of Conrail lines between CSXT and Norfolk Southern.

Mayo notes with considerable concern a recent statement by Ohio Governor Taft:

"I am deeply concerned about the safety of our citizens who live, work and attend schools near these rail lines. With the completion of these projects we will not only address existing safety concerns, but increase traffic mobility and promote

²⁴ Ex Parte No. 582 (Sub-No. 1)

economic development in the affected communities."²⁵

Mayo further notes that urgently needed relief for Ohio communities will be phased in over a ten-year period. The prospect of having to face that same problem in Rochester to accommodate private gain to the railroad and its distant customers is intolerable to Mayo.

In the course of its participation in the rulemaking proceeding, Mayo noted that the U.S. Department of Transportation is concerned that the UP/SP and CSX/NS/CR transactions have demonstrated that STB's current procedures do not address many of the adverse community and environmental impacts of a consolidation.²⁶ As a result, DOT urged STB to consider new approaches and to explore options to merger related environmental impacts, including areas which significantly affect communities, even though they do not meet current threshold levels. Mayo strongly concurred with DOT's assessment and urged the STB to extend the much needed changes in its process to include construction proposals under 49 U.S.C. 10901.²⁷

²⁵ See copy of Governor Taft Press Release dated February 20, 2001. Attachment No.7.

²⁶ Ex Parte 582 (Sub-No. 1) October 3, 2000 Decision, Appendix 1 at p. 219-221.

²⁷ Comments of Mayo Foundation Submitted 11/17/00, See Attachment No. 8, p. 3,6.

Mayo also agreed with concerns raised by the California Public Utilities Commission in regard to rail carriers with accident records above industry average or otherwise deemed unacceptable²⁸. Specifically, Mayo urged the STB to specify that approval of applications involving a carrier with an adverse safety record be withheld unless the Board is satisfied, on the basis of clear and convincing evidence, that safety performance will be raised to (and maintained at) fully acceptable levels. Mayo further urged that the same requirement should be extended to construction applications since safety is every bit as much a concern in such proceedings (including the instant proposal which involves a carrier with an abysmal safety record)²⁹.

In its initial submission in Ex Parte 582 (Sub-No. 1), Mayo noted that it is aware that the STB has required all rail merger applicants to work with the Federal Railroad Administration (FRA) to develop Safety Integration Plans (SIPS) in an effort to ensure safe operations will be maintained during implementation of merger proposals. Mayo also took note of the joint rulemaking proceeding in which FRA and the STB have proposed regulations to provide coordinated consideration of safety regulation issues in railroad merger cases. (STB Ex Parte 574 and FRA Docket No. SIP-1). However, Mayo noted with considerable concern that the STB has not proposed to extend its

²⁸ Id., p. 4.

²⁹ Id., p. 4,.6.

regulations to include construction proposals although the FRA deems such coverage both necessary and appropriate ³⁰.

Mayo subsequently raised the issue as to who should bear the cost for essential mitigation or avoidance made necessary by merger or construction cases. In that regard Mayo emphasized that in the instant proceeding both it and the surrounding community are faced with paying a very high price for the project in the form of substantial impacts that would adversely affect Mayo and Rochester. In this regard the City of Rochester is submitting a comprehensive cost comparison of utilizing the City route verses the bypass alternative. That study concluded that total economic cost of using the existing corridor would be over \$71 million more than would be involved with the proposed bypass. Mayo endorses that study and commends it to SEA's careful consideration.

Where applicant carrier(s) stand to benefit materially from a proposal that portends substantial burdens on communities, Mayo has urged that the cost of mitigating or avoiding such burdens should be allocated accordingly³¹. Mayo reaffirms its position in that regard.

Subsequently, Mayo joined the US Department of Agriculture and the State of Ohio in urging expansion of proposed merger rules to make provision for Board approval of railroad alliances and adequate remediation of impacts resulting from such alliances. Mayo agrees with Ohio that increased train traffic

³⁰ See Attachment No. 9, p. 6-7.

³¹ See Attachment No. 8, p.5.

through a community resulting from a rail alliance has the same negative impacts as increased train traffic from a merger (or a construction project). Specifically, Mayo emphasized that railroad transactions which will result in more train traffic with attendant impacts on emergency service and public health require Board action that will ensure adequate remedial measures will be required whenever necessary in the public interest.³²

Mayo reaffirms all of the concerns it has raised in regard to crossing delays, carrier safety and allocation of the burden of the cost of mitigation to the direct beneficiaries of railroad expansion proposals. Clearly, substantial revision of the DEIS evaluation of grade crossing delays in Rochester is required and appropriate findings should be circulated for public comment in the form of a comprehensive supplemental draft environmental impact statement.

**ADDITIONAL FACTORS THAT WILL AFFECT A DETERMINATION OF IMPACTS
RELATIVE TO DELAYS AT GRADE CROSSINGS WERE NOT ADEQUATELY
CONSIDERED**

There are many aspects of DM&E's proposed rail reconstruction and operation through the City of Rochester that could additionally exacerbate the provision of emergency services and add to the delay at grade crossings. The potential significance of these operational considerations were

³² See copy of Mayo Rebuttal comments dated. January 17, 2001, Attachment No.10.

understated, not addressed, or inaccurately addressed in the DEIS. Additional evaluation of these factors is required in order to comply with the NEPA requirement for provision of "... full and fair discussion of significant environmental impacts..."³³ Each are discussed below.

Crossing Signal Failures

The Federal Railroad Administration maintains records on highway-rail grade crossing activation failures. For the period 1998 - 2000, the FRA documented a total of 1,786 failures, nationwide.³⁴ Although information was not obtained by the FRA on the amount of delay caused by these failures, it is important to note that this represents another factor of delay and therefore should be included in the evaluation of effects on the potential for loss of life or debilitating injuries that could result from delays at grade crossings.

Blocking Multiple Grade Crossings

The DEIS is mute on the effect of multiple grade crossing blockage. This is a serious consideration with respect to provision of emergency services and evacuation plans for Mayo Rochester facilities as well as Olmsted Community Hospital and the Federal Medical Center of Rochester. This is of particular significance due to the fact that only one grade-separated crossing exists within the city of Rochester (at US Route 52).

³³ 40 C.F.R. 1502.1

³⁴ Copy of FRA Statistics, Attachment No.11.

The DEIS states that the 135-car unit coal trains proposed for transit through the city of Rochester will be 1.4 miles in length. Measurements on maps of Rochester show that as many as 12 grade crossings can be blocked concurrently by a single unit coal train. Under normal train operations, this means that numerous grade crossings will always be blocked almost simultaneously as down-line grade crossing safety devices are activated while up-line grade crossings remain blocked or are being deactivated. This compounds the effect of grade crossing delays, particularly with respect to the provision of emergency services. This poses potentially significant life-threatening consequences if a prolonged delay should occur, e.g., as the result of signal failure, rail-vehicular accidents, derailments, or spills.

Reconstruction Activities:

The DEIS, on page 3.2-77 states that, as a result of reconstruction activities, "Existing road crossings, both grade and grade separated, may require closure and associated detours during reconstruction of the rail line at the crossing. These closures would reroute normal traffic patterns, potentially increasing traffic and congestion in residential areas and on roadways not adequate to handle the increased number of vehicles." These are major construction activities associated with double tracking some grade crossings, construction of sidings, and re-doing the base of existing trackage to support the heavier weight of coal movements. The time required for these construction and related disruptions undertakings is not

provided nor addressed in the DEIS. Clearly, these activities would have a substantial effect on grade crossing access. The significant effects of these actions on the provision of emergency services are also not addressed.

On page 3.2-77, it is stated, "DM&E has indicated that reconstruction would occur in such a manner as to maintain rail service along the rail line. Some delays to trains may occur, but no significant impacts are anticipated." The document continues to a discussion of post-construction rail movements without evaluating the effects of grade crossing closures that would occur during reconstruction of the line through Rochester. This evaluation needs to be performed. The basic tenant of the NEPA, as implemented by the Council on Environmental Quality NEPA Regulations, is for statements such as the above referenced "...but no significant impacts are anticipated" to be based on a conscientious evaluation of effects. Doing otherwise would be directly contrary to the requisite "hard look" requirement.

The delays at grade crossing that would occur during reconstruction activities clearly have the potential to produce significant adverse effects. Crossing delays from slower movement of trains and additional routing times of emergency vehicles around detours could make the difference between life and death or serious debilitations. No information is provided with regard to the extent of delays from reconstruction or lower speeds of trains.

Rail Sidings

On page 2-67 section 2.2.8, "Sidings", it is stated that sidings will be from 3-7 miles in length and be spaced from 12-20 miles apart. This design is for the purpose of allowing trains traveling in opposite directions at different speeds to pass safely, without having to reduce speed or stop. Loaded east-bound trains are proposed to travel at 45 MPH and the unloaded west-bound trains are proposed to slow to 40 MPH when entering sidings.

Volume I, Chapter 2, Table 2.6 identifies the location of sidings in Olmsted County by milepost. Those within the Rochester area are proposed to be three miles in length. It is questionable that 40 mph will be slow enough for safe passage between trains on a siding only three miles long. Adequate supporting documentation needs to be provided. Potential ramifications exist with longer sidings and/or slower speeds relative to delays and safety at grade crossings.

Table 2-6 identifies three new proposed siding locations within the Rochester area under Extension Alternative B. One is proposed to cross Route 104 eastward approximately two miles, between mileposts 52.0 and 55.0. Another siding is proposed to be located between mileposts 45.0 and 48.0. This siding would cross East Circle Drive/City Road 22 at milepost 47.1, extending approximately one mile west of East Circle Drive/City Road 22. On page 1-28 under "Operations", it is stated that empty return trains will slow to 40 mph to enter sidings and that sometimes these trains may stop at sidings. This implies that trains may

also slow to below 40 mph onto sidings. Additional delays at grade crossings in the vicinity of a siding will occur from the deceleration of trains as they slow or stop at sidings. Due to the close proximity of many grade crossings within Rochester, a train of 1.25 or 1.4 miles in length could add significantly to the delay at several grade crossings simultaneously as it decelerates in its approach to a siding. It has been calculated that a 1.4 mile long train could simultaneously block up to 12 grade crossings in Rochester. Similar levels of delay would occur as it accelerates upon leaving a siding. These effects must be evaluated.

Three conversions of on-grade crossings in Rochester from single- to double-tracked crossings are proposed under all Extension Alternatives (Tables 3 - MN-H97, 3MN-H100 and 3-MN-H103). Four double tracked crossings currently exist within Rochester, and no statements are made about changing any existing double-tracked crossing to single-tracked. It can only be assumed that conversions to doubled-tracked are intended to be also used as bypass sidings. Two-way operations over these grade crossings would significantly add to delays and safety impacts at these locations. The purpose for double-tracking at these locations must be defined and the associated potential impacts must be thoroughly evaluated.

Although placement of sidings are defined, statements are made in the document that these locations may not be fixed; e.g. such as where there is not sufficient width or additional needed land cannot be obtained. Under these circumstances it is stated

that alternative locations for the sidings will be sought. As indicated above, the location of sidings is critical to the resultant delay and safety at grade crossings. The lack of certainty of siding locations and the potential impacts must be fully addressed.

EMERGENCY EVACUATIONS

All Mayo Rochester facilities, as well as those of Olmsted Community Hospital and the Federal Medical Center, have Emergency Evacuation Plans. Evacuation concerns have not been addressed in defining the potential impacts of the proposed action and alternatives. Potentially devastating impacts could result if necessary evacuation at these facilities could not be accomplished or was substantially impaired as the result of reconstruction activities, rail accidents, spills, or derailments.

The evacuation of Mayo facilities would require movement of hundreds of individuals from dispersed facilities throughout Rochester to numerous and distant locations throughout the region. Mayo's two hospitals in Rochester are continually full, with approximately 1,000 acutely ill patients, approximately 150 of them in intensive care. Evacuation of these patients in the event of a toxic spill or other incident involving release of hazardous materials would be virtually impossible. As stated by Dr. Hugh Smith:

"There are simply not enough ambulances or hospital beds that could care for this many seriously ill or injured patients without significant risk to life.

Such a catastrophe would leave our hospitals inaccessible to seriously ill or impaired in our region during this critical time.³⁵"

Evacuation efforts would result in numerous additional vehicles on the local roads, most of which would have to cross one or more grade crossings. The Federal Medical Center would experience similar transport characteristics. Its situation is even more complicated due to the security issues involved with transporting prisoners. All of Rochester's medical facilities are in close proximity to each other and to the DM&E rail line.³⁶ If the cause for evacuation were railroad-related, the evacuations of Mayo , Olmsted Community Hospital and the Federal Medical Center would be occurring simultaneously. Also thousands of elderly citizens live in close proximity to the DM&E tracks and there are schools and businesses located close by. Here too, evacuation would be difficult if not impossible.

Evacuations absent a railroad-related accident could be significantly affected by railroad construction and operation due to delays at grade crossings. These effects must be evaluated. A railroad-related cause for evacuations would have far greater significant effects; it would most likely be associated with blocked grade crossings. As indicated elsewhere in these comments, train stoppage within the City of Rochester would easily result in up to 12 grade crossings being blocked simultaneously. This presents a potentially significant threat

³⁵ By line - Dr. Hugh Smith, dated 3-16-00, Attachment No. 12

³⁶ See Map of Downtown Rochester, Attachment No. 13.

to human health and safety, as well as the possible loss of life, if evacuation of critical care patients is delayed. These effects must be thoroughly evaluated.

On December 17, 2000, hundreds of residents of Oshkosh, WI, were evacuated from their homes when a fire broke out in a boxcar loaded with 141,000 pounds of sodium-hydrosulfite. News accounts indicated that it would be two to four days before residents would be allowed to return to their homes.³⁷

As noted by Dr. Hugh Smith in his statement at the Rochester Public Meeting on November 16, 2000:

"We believe the DM&E expansion poses a health risk and safety threat. There are no restrictions on what the railroad will haul at higher speeds through our city. They can haul hazardous material, including propane and anhydrous ammonia. Of the thousand acutely ill patients in Mayo hospitals every day, 150 of them are in intensive care units; many on respirators or other support devices. It would be impossible to safely evacuate them, because there are more intensive care unit beds in Rochester than all intensive care unit beds in all hospitals in all cities and towns along the

³⁷ See copy of Washington Post article of Monday, December, 18, 2000, Attachment No. 14.

DM&E line from Wyoming to Winona. If we have a derailment and hazardous chemical spill there is no hospital within a hundred miles that could handle even one-sixth of our patients if they survive the trip.³⁸

The very same concern is identified by Dr. Peter C. Amadio, Chair, Legislation Committee Zumbro Valley Medical Society. In a statement entered on December 1, 2000, Dr. Amadio emphasizes:

"We are aware of no other community in the United States in which there is a similar highly complex concentration of medical services, so far from comparable facilities, and so close to a potential high speed, high volume freight line. Again, we see no potential to mitigate these real and significant health care risks, other than to deny the service expansion through Rochester (emphasis supplied);³⁹

The Federal Medical Center faces difficult evacuation problems in view of its demanding responsibility as custodian and caregiver for inmate patients and its general inmate population. The unique evacuation problems faced by Mayo, Olmsted Community Hospital, the Federal Medical Center and the

³⁸ Tr. p. 44-45

³⁹ See copy of Statement p. 3, Attachment No.15.

surrounding community are a serious environmental issue that should have been addressed and fully considered in the DEIS. Rochester Police Chief Peterson summed up the evacuation dilemma in compelling terms:

"you have heard about our inability to evacuate people from (Mayo Clinic) in the event of a train incident. In that regard trains are not like trucks. I would like you to consider public safety in your response to that proposal."⁴⁰

In view of the severity of problems Mayo, urges that it is essential that SEA thoroughly evaluate the situation and issue its findings in a supplemental draft environmental impact statement for comment by all concerned parties.

VIBRATION

The DEIS properly recognized a significant threat to large amounts of vibration sensitive equipment such as magnetic imaging systems housed in Mayo's Charlton North building.⁴¹ However the problem is much more serious and extensive than recognized in the DEIS. As stated by Dr. Hugh Smith:

"To our knowledge the largest number of highly sensitive magnetic resonance imaging,

⁴⁰ RPH., p. 268/269

⁴¹ DEIS Volume IV, p. 7-27

or MRI, scanners in the world, 12 of them are located less than a thousand feet from the DM&E line. MR scanners are sensitive to vibrations as small as one millionth that of gravity, vibration from a loaded coal train at 45 miles per hour can measurably impact on the images for more than 26,000 patients that we scan each year.

Unfortunately, the newer magnetic resonance scanners are U-shaped rather than tubular. This eases patient claustrophobia and allows medical access to the patient during procedures and the scan. Unfortunately, if you think about it, the U-shape of these next generation scanners gives them the characteristic of a giant tuning fork; and with their lower mass, make them even more vulnerable to vibration."⁴²

Dr. Matthew A. Bernstein, Ph.D. Senior

Consultant in Mayo's Department of Diagnostic Radiology, affirms that Mayo is actively interested in installing a GE Open Speed [TM] 0.7 Telsa, MRI unit in its Charlton Northeast Building because of that unit's significant advantages for scanning claustrophobic, very heavy or pediatric patients. While all MRI scanners are very sensitive to vibration, the open

⁴² RPH., Tr. p. 45

speed scanner is 10 times more sensitive to vibration than the standard 1.5 Telsa cylindrical bore scanners that are currently sited at the Charlton North and Charlton Northeast Buildings.

Vibration can cause smearing and/or "ghosting" which can render the image non-diagnostic and the MIR exams worthless. Specific concerns as to the impact of vibration on MRI equipment and maximum allowable vibration for state of the art open sided equipment are set forth in the attached statement of Dr. Bernstein.⁴³

James L. Rae, Professor of Physiology and Biophysics and Ophthalmology at Mayo Foundation in Rochester, has serious concerns that high speed trains through Rochester may have an extremely negative impact on his research program on cells of the lens and cornea. He works with instrumentation so sensitive that in addition to recording tiny currents it also "hears" the sound energy of a whisper in the room. Vibrational movements that exceed 50 nanometers (<2000 of an inch) make measurements impossible. A second measurement taken in the course of his work involves an optical 3-dimensional reconstruction of single cells using a \$250,000 confocal microscope. For this measurement vibrational movements cannot exceed 10 nanometers. Dr. Rae notes that low speed trains moving through Rochester have not yet caused problems. However, he is very much concerned that increased vibration and sound associated with the proposed increase in the number and speed of trains through

⁴³ Attachment No. 16.

Rochester could destroy the precision of the micromanipulation equipment and make his work impossible. He also notes that similar equipment is currently in use by more than 100 highly skilled Mayo investigators. In view of the sensitivity and critical importance of this equipment, Dr. Rae urges the necessity of comprehensive sensitive sound and vibrational energy measurements as a function of distance from the tracks to adequately assess the impact of DM&E's proposal.⁴⁴

Dr. Allen T. Bishop, Chair of Mayo's Division of Hand Surgery, routinely performs microsurgical procedures for resident and fellow training using ceiling mounted Zeiss operating microscopes which are highly vibration sensitive. In addition, Dr. Bishop performs experimental microsurgical procedures in the Microsurgery Research Laboratory using similar equipment. Members of his division are also routinely involved in microsurgical reconstruction at Saint Marys Hospital and Rochester Methodist Hospital. He emphasizes that all of these activities, clinical, education and research, use instruments that are vibration sensitive.⁴⁵

Dr. Lester E. Wold, Chair, Department of Laboratory Medicine and Pathology, expresses grave concerns about the potential impact of the DM&E proposal. During 2000 over seven million tests or services were delivered by his department to patients being seen as outpatients or hospitalized in-patients in

⁴⁴ See Statement of James L. Rae, Ph.D., Attachment No.17.

⁴⁵ See Statement of Allen T. Bishop, M.D., Attachment No.18.

Rochester. Much of the equipment used in providing these services contains sophisticated electronic components or mechanical components that are vibration sensitive. Even with current conditions, Mayo has found it necessary to place microscopes, microtomes and automated equipment on special vibration-dampening platforms. Relocation of these laboratories is not an option, as it would result in unacceptable delay in returning test results to physicians caring for critically ill patients. Dr. Wold maintains that the negative impact of vibration related to the proposed expansion of DM&E traffic through Rochester seriously threatens the quality of care provided by Mayo.⁴⁶

The sensitivity, location and sheer numbers of highly sensitive diagnostic and treatment medical equipment in close proximity to the DM&E clearly necessitates comprehensive vibration studies to determine whether adverse effects of increased traffic over the DM&E could be mitigated sufficiently to protect existing equipment. The results of such studies should be available to all concerned for evaluation and comments before SEA undertakes to make specific recommendations for mitigation in the form of a final environmental impact statement.

NOISE

During the Rochester public hearings David Bishop, an attorney who has practiced law and lived in the community for 46

⁴⁶ See Statement of Lester E. Wold, M.D., Attachment No.19.

years and has represented a part of Rochester in the State House of Representatives for 10 years, expressed his grave concerns as to the noise impact of a precipitous increase of rail traffic through the midst of the City. Specifically, Representative Bishop stated:

"I have been in the hospital myself in the last year, and I know how desperately the patients that are at the hospital need sleep and they do not need disturbances. They do not need 15 horns going through 15 intersections three or four times a night."

Mayo concurs in the concerns raised by Representative Bishop.

Mayo also notes with concern the findings of Mr. Phil Wheeler, AICP Planning Director concerning inadequacy of noise impact analysis in the DEIS. Specifically, Mr. Wheeler has shown that the DEIS has failed to account for the close proximity of at-grade crossings in Rochester and the severity of the resulting impact of nearly continuous locomotive horn noise as fast moving trains pass through the community. In his study, Mr. Wheeler also points out that the DEIS has failed to take into account the effect of planned variable maintenance during evening hours on the frequency and impact of night time train traffic should alternative R-2 ultimately be approved.⁴⁷

⁴⁷ Mr. Wheeler is Director of the Rochester - Olmsted Planning Department, a combined City-County Agency. Mr. Wheeler's findings are appended to the comments which are being submitted by the Olmsted County Board of Commissioners.

Section 3.3.2.7.1. on pages 3.3-64 through 3.3.-67 of the DEIS presents the results of the noise impact analysis for the segment of rail line proposed for reconstruction through Rochester in direct comparison to the alternative bypass. The comparative data are presented in Tables 3.3-13 through 3.3-16 for Alternatives R-1: No-Action , R-2: Reconstruction of Existing Rail Line, R-3: Bypass for Coal Traffic Only, and R-4: Bypass for All Rail Traffic. These data show that significantly more sensitive receptors would be affected with reconstruction of the existing line segment through Rochester than with the bypass alternative. Even though such a large difference is shown, the analysis significantly underestimates the actual effect. These data represent an unsegregated count of all sensitive receptors that would be exposed within the defined noise level contours. As aptly stated by Peter C. Amadio, M.D., on behalf of the Zumbro Valley Medical Society:

"We believe that the around the clock disturbance of the high noise levels will have an adverse effect on our patients' ability to sleep. Patient sleep deprivation is historically a major problem in hospitals, and one that we have worked hard to alleviate here in Rochester through better hospital design. The DM&E expansion, and the added noise it entails, runs the risk of completely undoing our efforts, to the detriment of patient care.

Unfortunately, we can see no mitigation for these problems.⁴⁸

The composition of noise sensitive receptors varies significantly between the existing line and the alignment of the alternate bypass. There are a significantly greater number of schools, hospitals, churches, etc., along the existing line, including Mayo Rochester, with facilities within 1,000 feet of the existing rail line and the Federal Medical Center within 100 feet of the existing line, as recognized in the DEIS at page 3.3 - 55. These differences and the specific concerns identified by Mr. Phil Wheeler must be addressed, consistent with the CEQ NEPA-implementing regulations.

The comparative data presented in Tables 3.3-13 through 3.3-16 also underestimates the difference in comparative noise impacts between Alternative R-1, No-Action, and Alternative R-2; Reconstruction of Existing rail line. It is stated on page 3.1-39 that the evaluation of noise impact for the No-Action Alternative is based on existing rail traffic of 12 trains per day. As referenced in other sections of these comments, the DEIS correctly states in numerous other sections of the document that the existing rail traffic through Rochester is only three trains per day. Three trains per day compared to 37 clearly represents a more significant difference in impact verses a change from 12 to 37 trains. This analysis must be revised to more accurately reflect the difference in effect between the No-

⁴⁸ See Attachment No.15, p.2.

Action Alternative and the Reconstruction of Existing Rail Line Alternative.

The DEIS mentions that whistle-free grade crossings may be utilized to help mitigate the effects of train noise associated with locomotive horn blowing as warnings when approaching grade crossings. The viability of this mitigation approach must be further evaluated by the STB. It is our understanding that grade crossings would have to be closed even further in advance of approaching trains when whistle-free grade crossings are utilized. This would result in additional delays at grade crossings incorporating this mitigation approach and would further exacerbate the concerns with delays in emergency medical response addressed earlier in these comments. This additional delay must be determined and evaluated.

AIR QUALITY

As reflected in the separate statement submitted by Dr. Peter C. Amadio, Chair, Legislation Committee, Zumbro Valley Medical Society:

"The physicians of southeastern Minnesota are also concerned about the general community health impact of this project. The trains themselves will create considerable air pollution; the traffic obstructions, which are caused by the train traffic, will be sources of additional pollution. Finally, coal dust and other debris blown from the trains will worsen air quality further. Rochester, Minnesota is unique in that its

central core is almost entirely dedicated to health care. Many people who come to Rochester have a respiratory disease. This DM&E project will worsen the quality of the air environment and this is not a problem which we feel can be mitigated in any reasonable fashion."⁴⁹

While coal dust may pose a threat to air quality, an even greater threat comes from the harmful emissions of diesel locomotives and the long lines of automobiles waiting for trains to pass.⁵⁰

Mayo is very much concerned that the DEIS is silent as to health risks associated with the DM&E project. In this regard, Mayo commends to SEA's attention relevant studies recently reported in The New England Journal of Medicine⁵¹ concerning the health risks from fine particulate, airborne substances.

Mayo notes with concern the specific criticisms raised by the Olmsted County Environmental Commission (OCEC) concerning

⁴⁹ Attachment No. 15, p. 3-4.

⁵⁰ This week at Mayo Clinic, December 15, 2000, Article by Hugh C. Smith, MD and Michael J. Murry, MD, Ph.D. - Attachment No. 20, p. 2

⁵¹ Fair Particulate Air Pollution and Mortality in 20 U.S. Cities by Jonathan M. Samet, MD, Francesca Dominici, Ph.D., Frank C. Currier, Ph.D., Ivan Coursac, M.S., and Scott L. Zeger, Ph.D., December 14, 2000 issue. See also Particulate Air Pollution and Mortality - Clearing the Air (Editorials); Ware, James H. December 14, 2000.

the shortcomings of the DEIS in regard to air quality issues.⁵² Among other substantial faults in the DEIS, OCEC points out that the DEIS fails to acknowledge that Minnesota has a federally approved state implementation plan which contains air quality permit thresholds more stringent than federal requirements. OCEC further notes that the DEIS fails to compare the proposed DM&E emissions to established federal permit thresholds; fails to include any reference to, or discussion of, hazardous air pollutants as required by the Clean Air Act; does not provide for or include the results of a review under the Prevention of Significant Deterioration provisions of the New Source Review Program as required under 40 C.F.R. § 52; fails to evaluate health impacts from NO₂ and its contribution to increased levels of ground-level ozone; and fails to quantify expected mercury emissions from the proposed project.

In view of the serious health consequences directly related to increasing levels of air pollutants, Mayo endorses the specific comments prepared and adopted by OCEC and joins in its insistence on adequate development and analysis of this critical issue. Mayo urges that it is essential that the SEA thoroughly evaluate these issues and set forth its findings in a supplemental draft environmental impact statement for appropriate comments by all concerned.

⁵² See Air Quality comments by Olmstead County Environmental Commission. Separately submitted with comments by Olmsted County Board of Commissioners.

Safety

Spills and Derailments

The DEIS, on page, 3.2-104 states that operations over the reconstructed rail line through Minnesota will not result in an increase in the types or amounts of hazardous materials transported over the line and that the likelihood of an accident involving the release of hazardous materials or contaminants will be reduced. This is not necessarily correct. As defined elsewhere in these comments, the DEIS asserts that as a result of an improved line infrastructure, DM&E expects increased shipments by existing shippers and anticipates being able to attract new shippers. As stated elsewhere in these comments, it is also anticipated that an improved rail facility will provide opportunities for DM&E to enter into trackage rights agreements with other carriers.

The DEIS does not define the types and amounts of hazardous and toxic materials that are currently transported over the line. It does, however indicate, on page 5-12, that it currently transports ethanol from Heartlands Grain Fuels and Farmland Industries in Huron, South Dakota and that it anticipates increased transport of this commodity. We also know that liquid propane is moved over the line. In 1998 a tanker car of liquid propane was one of several cars that derailed in Kasson, Minnesota, just 12 miles west of Rochester. Also, there are reports of releases of jet fuel, diesel fuel, lube oil and petroleum along the DM&E line. Given the resultant line improvements, it can be assumed that the types and quantities of

hazardous and toxic materials transported over the line will increase. It is irresponsible and inaccurate for the DEIS to state that there will not be an increase in these types of commodities. This needs to be more fully evaluated.

The statement that accident rates will be improved, without supporting documentation, does not meet the requirements of the CEQ regulations. This type of statement has to be supported, particularly in light of the significant ramifications of a hazardous or toxic spill within the City of Rochester, given the concentration of health care facilities and the potentially life-threatening impact of such incidents. As part of this evaluation, the SEA must consider the statement of the Citizens to Stop the Coal Trains that over 56% of the defects cited by federal and state officials and approximately one-third of derailments on the DM&E line were not attributable to track conditions.⁵³

Vehicular-Rail Accidents

DEIS safety data in Volume 7-B, Appendix H, shows that there will be about a 40 - 100% increase in accidents - .011 to .022 fatalities per year. This may initially appear as non-significant, but it represents a doubling in fatalities and belies the fact that any increase in fatalities should not be tolerated. The potential increase in fatalities is also

⁵³ See copy of Citizens to Stop the Coal Trains letter addressed to the Federal Railroad Administration concerning DM&E safety record and derailment dated January 8, 2001. Attachment No. 21.

understated. Volume 7-B, Appendix H, Safety, provides data on pre- and post construction accidents. All post-construction calculations that are provided are exclusive to coal movements at 20, 50 and 100 MNT for Extension Alternatives B, C, and D. There is no inclusion of other commodities, not even existing rail traffic. There is also no discussion about the additional rail traffic DM&E says it will be able to obtain due to the better service, in statements throughout the document. It is also apparent that a highly improved DM&E main line of such length would create numerous opportunities for DM&E to enter into trackage rights agreements that will increase the number of trains over the reconstructed line. This additional train traffic and its potential impacts must be included in the evaluation.

NATURAL RESOURCES

The DEIS states in the Executive Summary, on page ES-57, "Due to their location through rural, undeveloped areas, alternatives R-3 (the bypass to move only future coal traffic) and R-4 (the bypass to move future coal and commodities currently moving through Rochester on DM&E's existing system) would have far fewer impacts to human resources than Alternative R-2 (reconstruction of the existing rail line through Rochester). However, these alternatives would have substantially more impacts to natural resources, such as soils, vegetation, wildlife, wetlands, and farmland." In all actuality, the opposite is more likely the case. Potentially, significantly more valuable habitat will be destroyed with

reconstruction of the line through Rochester than with the bypass. Rail line rights-of-way, particularly in agricultural or urbanized areas, typically provide the most valuable wildlife habitat in the region. Their value in many cases stems simply from being some of the only wildlife habitat in the area. Most other habitat was sacrificed to agriculture or urbanization. The relative value of right-of-way is comparable to hedgerows in agricultural lands, but is even far greater.

A major tenant of wildlife biology is that three conditions must be met in order to provide effective wildlife habitat - cover, water, and food. And, the closer the juxtaposition of all three, the more effective the habitat. Rail line rights-of-way are unique in this regard. They typically have water in the parallel drainage ditches and the water provides for good growth of cover and food plants. The cover tends not to be cleared in part of the right-of-way, and these areas remain relatively isolated from human disturbance. Rail line rights-of-way also typically support wetlands within the drainage ditches on both sides of the track. These are frequently the sites of threatened and endangered plant and animal species.

It therefore becomes essential to distinguish among types of habitat that would be affected, not simply the amount of open land that would be taken. This type of analysis needs to be performed. Reconstruction of the existing line will require destruction of valuable habitats on both sides of the existing line in order to replace and widen the sub-base to support the

heavier car loadings, to construct the sidings, and to double-track grade crossings. Page 1-23, in Volume 1 states, "The right-of-way width for new rail line would be a minimum (emphasis added) of 200 feet...", and the additional width of the right-of-way may be required in areas requiring abnormal cuts and fills. It further states, on page 1-23 that the construction area will extend an additional 20 feet on both sides of the right-of-way. This amounts to a total minimum width of vegetation clearance of 240 feet. This will destroy extensive areas of valuable wildlife habitat, including wetlands. The amount and type of habitat that will be destroyed must be documented in direct comparison to the bypass alternative.

HISTORIC AND ARCHEOLOGICAL RESOURCES

The evaluation of effects on historic and archeological resources is incomplete. The DEIS only identified historic structures that were listed on the National Register of Historic Places, or that were eligible for listing, that were within the rail line right-of-way. Section 106 of the National Historic Preservation Act⁵⁴ requires that all such structures be identified within "The Area of Potential Effects" (APE). The DEIS defines the requirement for definition of the APE in footnote 10, on page 3.1-106. "Area of potential effects means the geographic area or areas within which an undertaking may

⁵⁴ 16 U.S.C. 1470 f

directly or indirectly (emphasis added) cause changes in the character or use of historic properties, if any such properties exist". As stated in footnote 11, on page 3.1-106, the types of effects to adjacent properties that must be addressed include diminishing the integrity of the property's location, setting, feeling, or association. Footnote 11 continues to cite the Act, stating, "Adverse effects may include reasonable foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

On page 3.1-106 it is stated that consultations will be made with the State Historic Preservation Officer and others to identify structures outside of the reconstruction boundaries that are listed, or eligible for listing in the National Register of Historic Places. None are identified within the Rochester area. Only sites that are within the right-of-way, or are abutting the right-of-way are identified. These are listed in Table 3.1-22. However, in a very cursory review by the Olmsted Historical Society during a telephone conversation, a number of sites were identified that could be potentially eligible for listing in the National Register of Historic Places that also could be affected by the proposed action with respect to diminishing the integrity of the property's location, setting, feeling, or association. These included the library block on Broadway, the Seneca Foods canary, buildings in the 400 block of Broadway, Oakwood Cemetery, St. Mary's Hospital, Assisi Heights, the Plummer Building, a barn owned by Christopher Graham, and Pill Hill. The latter is a listed Historic

District. We are also aware that there are some Stone trestles in the Garvin Brook area near Stockton, MN that are listed in the National Register of Historic Places. A more thorough search for sites that are listed on the National Register of Historic Places or eligible for listing must be conducted and a thorough evaluation of potential effects on these sites must be conducted.

No discussion could be found of the effects on historic or archeological resources for the proposed rail yards constructions. An adequate level of investigation and analysis needs to be performed for these components of the proposed project.

Comparison Of Construction Effects Between the Bypass Alternative And Reconstruction Through Rochester Is Understated, Inadequate And Does Not Provide For Objective, Direct, Comparison Of Effects Of Reconstruction Relative To The Bypass Alternative.

The proposed reconstruction of DM&E's existing rail line through Rochester will entail major construction activities. As stated in the DEIS, the entire line segment will have to be excavated and completely rebuilt in order to support transit of the heavier unit coal trains. This will impose effects through Rochester of new rail line construction, in addition to the effects associated with removal of an existing rail line. The area through which the bypass would be constructed would not experience the added effects of the latter. Additionally, the reconstruction alternative will include the expansion of several

grade crossings from single-track to double-track and sidings will be constructed at the western and eastern sides of Rochester.

This represents major construction activity that will result in significant adverse effects, in and by themselves. There is hardly any identification or evaluation of the effects in DEIS with the comparison of effects between the reconstruction and bypass alternatives for Rochester. The amount of time that would be required for these construction activities is also not provided. Given the magnitude of such a construction project and the constraints on construction activities through the middle of a built up city, the time required for these construction activities will by no means be inconsequential, as implied in the DEIS.

Given the above, the DEIS is clearly deficient in its evaluation of the construction-related effects of the proposed project. Impacts associated with the reconstruction alternative through Rochester are of significantly greater magnitude than implied in the DEIS. They will also clearly be significantly greater relative to the bypass alternative. The comparison of construction-related impacts between the two alternatives must be more fully evaluated in order to fulfill the CEQ requirements of "...full (emphasis added) and fair discussion of impacts." (40 C.F.R. 1502.1) and "...it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear

basis for choice (emphasis added) among options by the decision maker and the public." (40 C.F.R. 1502.1).

ANALYSIS OF RAIL YARDS IS DEFICIENT

On page 1.29, Volume I, under Section 1.4.2, "Operation", it is stated that DM&E proposes to construct five new rail yards and upgrade existing yards as part of the proposed project. The yards are proposed to serve as crew change, maintenance, fueling, inspection, train assembly and disassembly, and dispatch locations. In the section "Rail Yards", beginning on page 2-65 of Volume I, additional information is provided on the proposed rail yards, including Table 2.5, "Proposed Rail Yards for Alternatives B, C, and D".

Mayo recognizes, as stated in a footnote on page ES-62, that rail yard construction does not normally require authority from the STB, but they were included as part of the evaluation in the DEIS because they would not be built if not for the proposed project. This is consistent with the CEQ NEPA-implementing regulations. It is therefore required that their evaluation be fully consistent with the CEQ regulations, including the identification and evaluation of alternative locations and cumulative impacts of the rail yards taken collectively and in combination with the proposed project.

The DEIS's development of alternatives and evaluation of effects for each proposed rail yard does not meet the requirements specified in the CEQ regulations. Pages 4.10-1 through 4.11-37 of Volume III-B, "Chapter 4: South

Dakota/Wyoming (continued)" define and evaluate the new rail yards that are proposed for construction in South Dakota and Wyoming. Pages 3.5-1 through 3.5-46 of Volume II "Chapter 3: Minnesota" defines and evaluates the new rail yards that are proposed for construction in Minnesota. Alternatives are defined for only two of the 19 potential rail yards sites. These two yards are the West Staging and Marshaling Yard, located on the Campbell and Weston County, Wyoming boundary, and the Middle East Staging and Marshaling Yard west of Mankato, Minnesota.

The 19 rail yards that were evaluated cannot be considered as alternatives under the CEQ regulations. These represent differences in locations of rail yards that would be required under the different "Extension Alternatives" of new rail line construction that alternatively could be constructed to access the Power River Basin coal resources. The Extension Alternatives differ in resultant mileage of newly constructed rail line. Placement of rail yards is a direct function of miles the trains will have to travel from the coal source. Alternative locations for each rail yard therefore must be identified and evaluated.

Each rail yard is also given only a very cursory evaluation of effects. This level of evaluation is insufficient. Any of these proposed rail yards, in and by themselves, would otherwise merit independent EISs. Each will occupy large land areas; 14 of the 19 rail yards identified are over 100 acres in size; seven are over 300 acres. The largest rail yard identified,

Option B of the West Staging and Marshaling Yard in Wyoming, is 945 acres. Further analysis and development is clearly required.

LOCOMOTIVE MAINTENANCE SHOP ANALYSIS

On page 1.30, under 1.4.3, "Maintenance" it is stated that a new car maintenance shop capable of maintaining 300 or more locomotives will be constructed as part of the proposed project. No evaluation of effects of this proposed facility can be found in the document or identification of alternative locations that were addressed. The comments provided above relative to the proposed rail yards apply equally as well to the proposed locomotive maintenance shop.

FAILURE TO IDENTIFY ADVERSE EFFECTS THAT CANNOT BE AVOIDED

The CEQ regulations at 1502.16, "Environmental consequences", specify, "The discussion (of environmental consequences) will include ... any adverse environmental effects which cannot be avoided should the proposal be implemented,...". Nowhere within the discussion of environmental consequences is "effects which cannot be avoided," specifically discussed.

MITIGATION

On page 7-1 of the DEIS the statement is made, "The potential environmental effects SEA identified, both beneficial and adverse, could be substantial. As discussed in detail in Chapters 3 and 4, the potential environmental benefits of this project is that DM&E's existing system in Minnesota and the eastern half of South Dakota, which is currently in generally poor condition, would be completely upgraded to allow movement

of unit coal trains, thus enhancing the safety of DM&E's existing rail operations. On the other hand, the dramatic increase in the number of trains operating on the existing system (from approximately 3 trains a day to 37) - and the impact caused by construction and operation of the lengthy new rail line through generally pristine rural areas - would have significant environmental consequences, some of which, such as noise, would be difficult to mitigate. SEA's environmental analysis and its resulting preliminary environmental mitigation recommendations reflect the variety and complexity of the environmental issues and the most reasonable and feasible way to minimize some of the environmental impacts discovered during the course of SEA's environmental review."

Based on these statements, it is clear that SEA recognizes the importance and need for mitigation. However, no mitigation is defined to reduce or eliminate the potentially significant effects that are identified for reconstruction through Rochester, as required by the CEQ regulations. The bypass is referred to in the document as mitigation, but it is not. The bypass is an alternative.

In Volume IV, Section 7.7, "Guide to Environmental Mitigation Measures", proposed mitigation measures are listed. These are all very vague and generic. In order to comply with the CEQ regulations, mitigation measures must be specifically defined to reduce or eliminate specific, potentially significant impacts. The identification of more specific mitigation measures is required.

On page 7-2, it is specifically stated that not much was done with mitigation for specific communities (mentions Rochester as one of the communities). The reasons provided were that impacts will be largely the same for all of the communities; that each will experience the same construction-related impacts and same number of trains; that noise impacts are not community specific - just has to do with the proximity of residences to the right-of-way; and that all ranchers would experience the same impacts moving cattle over the right-of-way, regardless of where the ranch would be located. This is highly erroneous and clearly contrary to the purpose and intent of the NEPA and the requirements of the CEQ regulations.

All communities and ranches obviously are not the same. This is one of the reasons why the CEQ regulations require comparative evaluations of alternatives and refers to the identification and comparative analysis of alternatives as "...the heart of the environmental impact statement". Mitigation must be addressed on a case-by-case basis, as different types of mitigation are appropriate for the same category of impact in different geographical locations, in direct response to the different conditions that exist in each of the different geographical locations.

It is stated on page 7-3, "SEA also has not designed any environmental mitigation specific to the two remaining potential bypass routes around Brookings, South Dakota and Rochester, Minnesota. If SEA identifies one or more of these bypass as

environmentally preferable in the Final EIS, SEA will develop and recommend environmental mitigation applicable to that bypass for the Final EIS, if appropriate." Insult is then added to injury by stating in the next paragraph, "SEA requests comments on the preliminary environmental mitigation measures presented in this chapter. In particular, if commentators believe that the unique circumstances of a community warrant individually-tailored environmental mitigation in addition to the environmental mitigation in the Draft EIS, SEA urges the **commentor** to submit suggestions for environmental mitigation, and why it would be appropriate, to SEA during the public comment period." (Emphasis supplied).

As with its discussion of alternatives, once again the SEA errs by not fulfilling the CEQ requirements by deferring requirements that must be met in the draft EIS. The CEQ regulations clearly specify that mitigation measures be included in the draft EIS, and not be left for the final EIS. The CEQ regulations state at Section 1502.9(a)⁵⁵, "The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act." It goes even further, following in the next sentence, "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." Section

⁵⁵ 40 C.F.R. 1502.9 (a)

1502.14(f) (of CEQ Regulation)⁵⁶ specifies, "Include appropriate mitigation measures not already included in the proposed action or alternatives." Section 1502.16(h)⁵⁷, specifies, that the evaluation of effects includes "Means to mitigate adverse environmental impacts (if not fully covered under 1502.14(f))."⁵⁸

The identification of mitigation measures is required as an integral part of the impact evaluation. Alternatives must be compared on the basis of their relative differences in level of effects. This means the level of effects after consideration of mitigation, not before. These comparative "net" levels of effects provide for the comparison of alternatives that is supposed to be made available to the public for review and comment in the draft EIS. Meaningful comments cannot otherwise be derived and the entire draft commenting procedure becomes a meaningless and futile exercise.

It had to be quite obvious to the SEA, even without the public hearing input, that specific mitigation measures were required for reconstruction through Rochester. Putting it off on the public is irresponsible and non-compliant. SEA and their consultants should have the knowledge and expertise to recognize that this should not have been done. The SEA and its consultants have identified specific mitigation measures that have been integrated into the evaluation of effects of numerous

⁵⁶ 40 C.F.R. 1502.14 (f)

⁵⁷ 40 C.F.R. 1502.16 (h)

⁵⁸ 40 C.F.R. 1502.14 (f)

previous DEISs on rail line construction. Putting it off for comments once again shows a lack of objectivity and bias toward the reconstruction alternative.

Conclusion

The only purpose of economic activity is to help sustain human life and to enhance the quality of existence. Where a proposed undertaking would clearly degrade the quality of life; threaten the very survival of heart attack victims by inhibiting the response capability of advanced medical care and exacerbate the potential for a major emergency where evacuation is virtually impossible: then it is time to stand back and really take the hard-look that is expected in circumstances requiring NEPA evaluation and appropriate recommendation in the public interest.

As stated above Mayo maintains that the Draft EIS does not fulfill NEPA requirements in regard to examination of alternatives, thorough evaluation of key environmental issues and by failing to identify and evaluate mitigation measures. Since these deficiencies preclude meaningful analysis and evaluation of key environmental issues, Mayo also maintains that further investigation of specific issues and a supplemental draft environmental impact statement is required. Mayo submits that the circumstances here are even more compelling than those which precipitated further investigation and issuance of a supplemental draft environmental impact statement for comment by interested parties in Somerset R. Corp. - Constr. - Niagara County, NY., 366 I.C.C. 144 (1982).

Mayo further questions the SEA's compliance with the CEQ regulation's requirements for third party contracting. The CEQ regulations, at 40 C.F.R. 1506.5, "Agency Responsibility", state, "If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents." Several of the comments we have provided above define a clear bias toward DM&E's preferred alternative for reconstruction through the City of Rochester. Numerous other comments clearly demonstrate a lack of objectivity and non-compliance with the CEQ regulations with respect to most requirements for preparation for Environmental Impact Statements in order to meet the court-determined "hard look".

The SEA is well experienced in the preparation of EISs for rail line construction, and can be reasonably referred to as the national expert in this regard. It can therefore be presumably concluded that these deficiencies in CEQ compliance stem from a lack of adequate guidance, participation and independent evaluation. This contention is further supported by the strong inference that the SEA does not have the personnel resources necessary to sufficiently guide, participate and independently evaluate an undertaking of this magnitude concurrent with its other responsibilities. The level of participation required by this DEIS was beyond any proceeding in recent history. The DEIS states, on page ES-1 that, "The PRB Expansion Project is the

largest and most challenging construction proposal ever before the Board".

During his comments at the Rochester Public Meeting on November 16, 2000, Hon. Walter Mondale recalled:

"As I grew up I came to be astonished by the magnificence of the Mayo medical complex. Then during my years in the Senate, when I served on both health sub-committees, I became increasingly impressed by the national reputation that Mayo has maybe the best center of its kind in the world. Then when I was Ambassador to Japan, again, I heard from leading doctors in that region. So what we have here is an extraordinary, special, unique and I believe the best medical center in the world. There are many reasons for that. But one is that Rochester and this region is a wonderful place to live. It has repeatedly been rated as the most livable or one of the most livable communities in the United States. When you come here, you can sit down, you can think, you can teach, you can practice medicine, you can do research and that's what they have done until now. They are the best there is. I am afraid that if this unit train as designed comes through this city as

planned, it could disrupt and endanger the magnificence of what we have created here. The reason it is so good is the best doctors and health professionals in the world decide upon many, many great options that they really want to be in Rochester. It's because of the quality of medicine and the quality of life and it's because they can raise their children here and feel good about it." (Tr. p. 65)⁵⁹

Dr. Frances Ferguson, Chair, of the Mayo Foundation Board of Trustees recalled that the Mayo Clinic and Rochester have been home to pioneering open heart surgery, the surgical process of hip replacement, non surgical treatment of gall stones and Nobel prize for the discovery of cortisone and many other pioneering efforts that are benefiting mankind all over the world. She firmly believes an exponential increase in rail traffic through the middle of Rochester threatens Mayo's continuing ability to attract patients and exceptional physicians and scientists interested in world class research. She aptly sums up Mayo's position in stating:

"I think it's imperative to identify a solution that harms the fewest number of people. Simply put, it would be unconscionable to allow 37 or more mile plus

⁵⁹ RPH., tr. P. 225

long coal trains to barrel through the heart of this community and next to a world class treasure that benefits millions of people in this country and throughout the world.⁶⁰

Mayo firmly believes that its position concerning the vital necessity for diverting heavy rail traffic from the midst of Rochester is in the best interest of all concerned. At the same time, Mayo believes in the long term future for rail service in the region and has long advocated a high speed rail link between Minneapolis and Chicago. Such a link could be routed to facilitate utilization of unused capacity at the Rochester International Airport and thereby alleviate strained capacity at the Minneapolis/St. Paul International Airport. Mayo is confident that thorough investigation and independent evaluation of all relevant factors and alternatives including future needs of the region, will clearly lead to a choice that is both constructive and least harmful to all concerned.

Mayo urges SEA to undertake comprehensive inquiries into the issues and deficiencies that have been identified and to issue a supplemental draft environmental impact statement for further comments once necessary investigations are completed. Mayo urges SEA to recognize that overriding public health and

⁶⁰ RPH., Tr. p. 65.

welfare issues require a strong recommendation of alternative routing or bypass of Rochester to avoid severe and unmitigatable harm that would surely result from the primary proposal.

Mayo endorses and commends the statement "[i]n cases where the public health or welfare is at issue, such concerns should take precedence over matters of economic, special or temporary convenience" which is found in a similar case involving STB's predecessor.⁶¹

The public health and welfare are very much at issue in this proceeding and Mayo steadfastly maintains that those concerns must take precedence over initiatives seeking economic gain for a select few if no satisfactory resolution of conflicting public interest can otherwise be found.

Respectfully submitted,



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Counsel for: Mayo Foundation

⁶¹ Tonque River Railroad Company - Rail Construction and Operation - In Custer, Powder River and Rosebud Counties, MT. I.C.C. Finance Docket No. 30186, et al., Appendix B, slip op at 39 (September 4, 1985).



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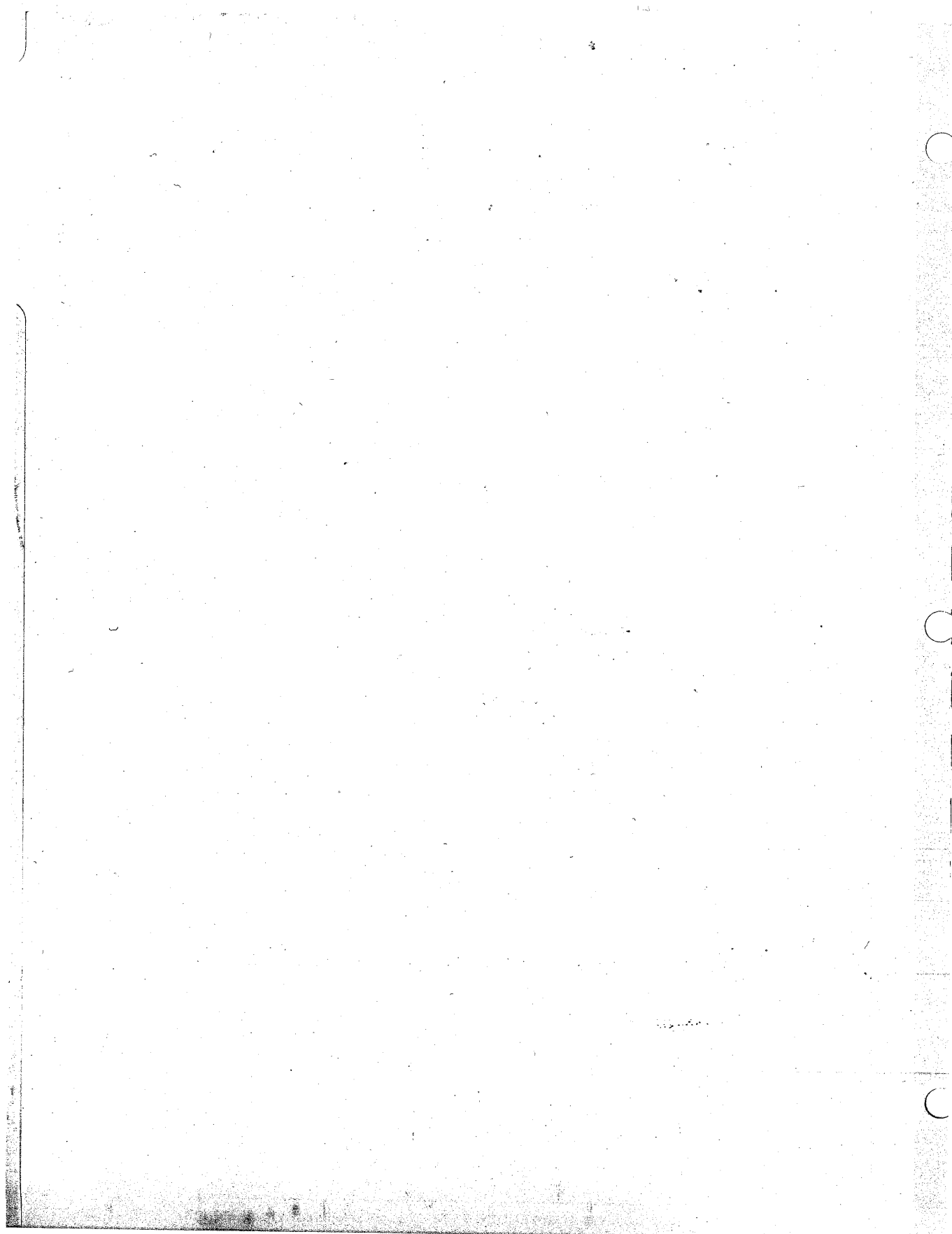
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1999 Annual Report

... a thousand words

Mayo Foundation

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Mayo will provide
the best care
to every patient



every day
through
integrated
clinical practice,
education
and research.

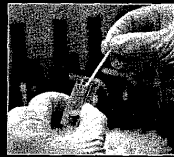


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A THOUSAND WORDS



MICHAEL B. WOOD, M.D.
President, Mayo Foundation
Orthopedic Surgeon

It is often said that a picture is worth a thousand words. An image helps us define the richness of an experience or an ideal when mere words fail.

Over the years, many words have been written to describe Mayo Clinic and its unique approach to patient care, medical education and research: teamwork ... compassion ... innovation ... advocacy ... dedication. In the 1999 Mayo Foundation Annual Report, "... a thousand words," we've used photography to show you these principles in action.

I invite you to turn the page and meet a few of the patients and visitors who come to Mayo Clinic each year seeking diagnosis and treatment for complex medical conditions. Take a glimpse at the work that our physicians and allied health staff do to heal the sick. Discover the next generation of healthcare leaders who are enrolled in Mayo Clinic educational programs. And explore promising areas of research to which Mayo Clinic scientists are devoting their careers.

At Mayo Clinic, we strive to provide the best care to every patient every day through integrated clinical practice, education and research. This is our constant touchstone. But don't simply take my word for it. Come and see.

Michael B. Wood

The National Cancer Institute (NCI) awarded the Mayo Clinic Cancer Center "comprehensive" status, **the highest possible designation for a cancer center**. NCI also awarded the center \$14.8 million over the next five years through a Cancer Center Support Grant.

Albert Lea Medical Center — part of Mayo Health System and Mayo Clinic Rochester opened a new oncology center in Albert Lea, Minn. Staffed by Mayo Clinic radiation and medical oncologists, the center allows patients to receive **quality cancer diagnosis and care close to home.**

The state of Florida granted approval for **heart and lung transplantation programs** at Mayo Clinic/St. Luke's Hospital in Jacksonville.

The Mayo Clinic Jacksonville/St. Luke's Hospital liver transplant program **performed 75 transplants in its first year of operation.**

Mayo Clinic Hospital in Phoenix **admitted more than 8,000 patients** and performed more than 5,100 surgeries during its first year.

RESEARCH

Mayo Clinic Jacksonville was selected by the National Institute of Neurological Disorders and Stroke as one of eight medical centers in the nation to be a **Parkinson's Disease Research Center of Excellence**.

Mayo Clinic Rochester reported the results of a **new treatment option** — plasma exchange — that was effective in over 40 percent of patients with severe attacks of multiple sclerosis and related diseases that cause inflammation and myelin destruction in the brain and spinal cord.

A Mayo Clinic Rochester study documented that bed partners lose an hour of sleep per night due to a snoring spouse.

Mayo Clinic Jacksonville scientists showed that a **specially created molecule** injected into the abdomen of a rat can cross the nearly impassable blood-brain barrier and can stop the chemical reaction in the brain that the molecule was designed to impede. The unexpected finding could lead to drugs specifically created to fight disease at the molecular level.

A new Mayo Clinic Rochester study of Fen-phen found that **heart valve disease may improve** after patients stop taking the drugs.

A team of Mayo Clinic Scottsdale researchers reported the cloning of the virus that causes Hepatitis C.

Mayo Clinic Rochester researchers identified that fidgeting — or “non-exercise activity thermogenesis” — is one reason that some people don’t gain weight when they overeat.

The prestigious Howard Hughes Medical Institute awarded Mayo Clinic a \$1.6 million **grant to support biomedical research.**

EDUCATION

Mayo Foundation was awarded the maximum of **10 years of accreditation** as a degree-granting institution by the North Central Association of Colleges and Schools Commission on Institutions of Higher Education.

The Mayo School of Continuing Medical Education **received an exemplary status**, six-year accreditation from the Accreditation Council of Continuing Medical Education. The school educated more than 20,000 physicians in approximately 140 courses.

Mayo Clinic Jacksonville now offers 27 residency and fellowship programs.

The number of residents, fellows and students studying at Mayo Clinic Scottsdale exceeded 100 for the first time.

Mayo Graduate School hosted Stanley **Prusiner, M.D.**, as the 1999 Occidental Petroleum Nobel Laureate lecturer at Mayo Clinic Rochester. Dr. Prusiner won the Nobel Prize in Medicine or Physiology in 1997 for his research on prion-related diseases.

A multi-specialty Procedural Skills Center is being developed by Mayo Graduate School of Medicine and will be located in the new laboratory services building in Rochester.

“Cardiology: Today and Tomorrow,” Mayo Clinic’s live, interactive video satellite program **covering the latest developments in cardiovascular disease**, received the Award of the Minister of Foreign Affairs for excellence in medical information using technology and media given by the International Forum for Educational Media and Distance Learning in Health ‘99.

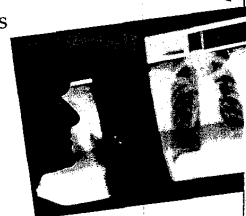
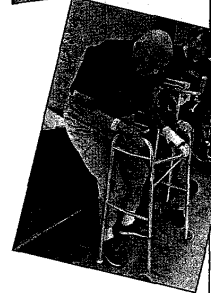
OTHER

Denis Cortese, M.D., was named chair of the Board of Governors at Mayo Clinic Jacksonville and chair of the Board of Directors at St. Luke’s Hospital. He succeeded Leo Black, M.D., who had led both organizations since 1990.

Mayo Foundation announced that it will create a **new interactive health education Internet portal** for the general public in 2000. This new portal will improve Mayo’s ability to satisfy a growing public demand for interactive educational resources from Mayo Clinic.

A Mayo Clinic emergency helicopter pilot was named **Pilot of the Year** for his success in aiding a pilot in distress.

A team of five Mayo Clinic doctors and two nurses provided **volunteer medical relief** for Kosovar Albanian refugees in the Balkans.





PATIENT CARE



To review the most current information about a patient's medications, Mayo Clinic Scottsdale physicians Bhavesh Patel, M.D., seated, and Charles Peterson, M.D., check an online database. Computers in patient care units at Mayo Clinic Hospital (Arizona) provide quick access to current medical references.

*"The physician
and the staff
have one
common goal,
working together
to produce
something
beautiful.
It means a lot
to the people
who are here
and experience
Mayo Clinic
firsthand."*

*A Mayo Clinic
employee*

*"We have never been allowed to lose sight of the fact that
the main purpose to be served by the clinic is the care of the sick."*

—William J. Mayo, M.D., Mayo Clinic founder

PATIENT CARE

Popular "Red Rover" strollers make short work of long walks. Justin Scott, 10, is quite happy to push his little brother Nicholas, 2, as they accompany their mother through a Mayo Clinic Rochester (Minnesota) pedestrian subway.



Patients Curtis and Marjorie Green take a moment to peruse their appointment schedules while visiting Mayo Clinic Rochester. Mr. Green worked for the architectural firm that designed the Siebens Medical Education Building, the first Mayo Clinic building to be completely funded by benefactors.



It boils down to clean sheets. More than half of the linens that are laundered and sterilized at Saint Marys Hospital, Mayo Clinic Rochester, are surgical linens destined for the hospital's 51 operating rooms. Employee Cindy Baudoin is a technician in the Department of Linens and Central Services.

"... I always thought of Mayo Clinic as an elite clinic for movie stars and high-class people with fancy cars, furs and lots of money. Now I know Mayo Clinic is a place for anyone who is sick ... I love to tell people how welcome they are at Mayo Clinic. I'm just a 52-year-old farm wife from northern Minnesota, and I fit in at Mayo Clinic perfectly."

A patient from Minnesota



Service with a smile. General Service employee Delores Hall helps direct patients to their appointments and assists them with the elevators at Mayo Clinic Rochester.



Mayo Clinic Scottsdale emergency medicine physician Adam Field, M.D., places a few stitches in the chin of his patient, Michael Feller, 14, who fell while ice-skating.

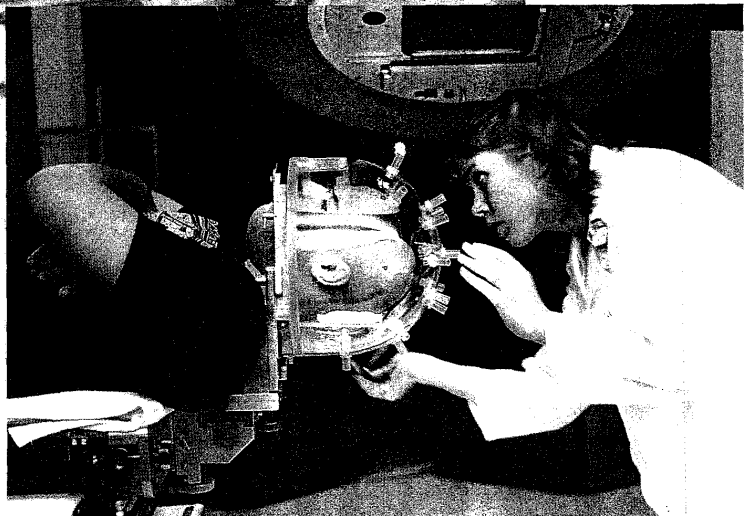
PATIENT CARE

"One patient, having traveled from New Mexico, told me he felt the whole Mayo community had been concerned with his recovery: the nurses who directly cared for him while in the hospital, the consultants who diagnosed and treated him, and the Mayo scientists who researched and developed cutting-edge treatments for his condition."

A Mayo Medical School student

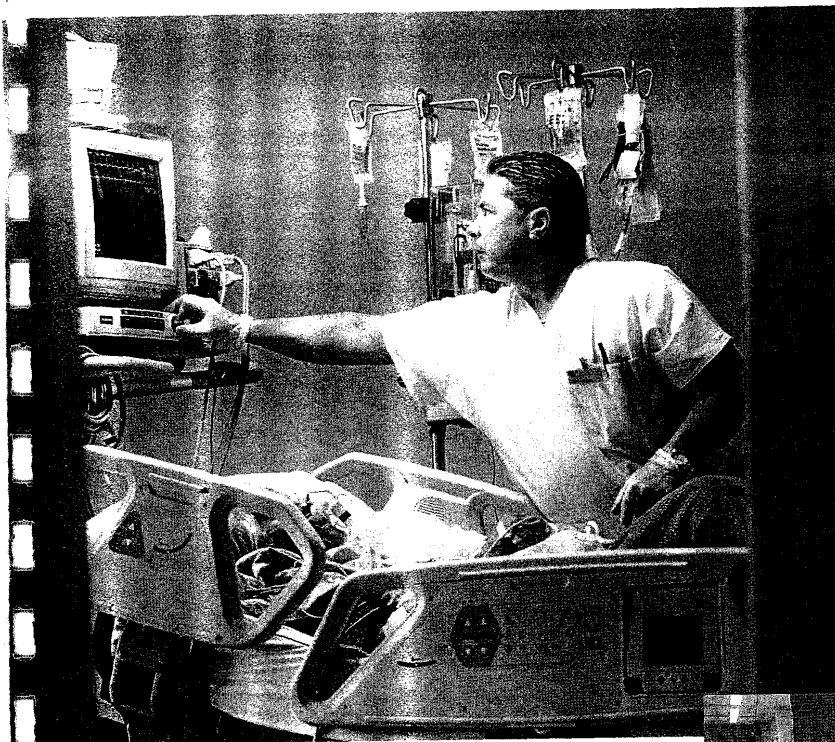


During the evening shift in the Special Care Nursery, registered nurse Linda Martin-Malcolm covers a night feeding as she cares for a baby born prematurely at St. Luke's Hospital, Mayo Clinic Jacksonville (Florida).



With a gentle touch and a discerning eye, lead radiation therapist Kimberly Kraft of Mayo Clinic Jacksonville works with a 17-year-old patient from Lebanon.

PATIENT CARE



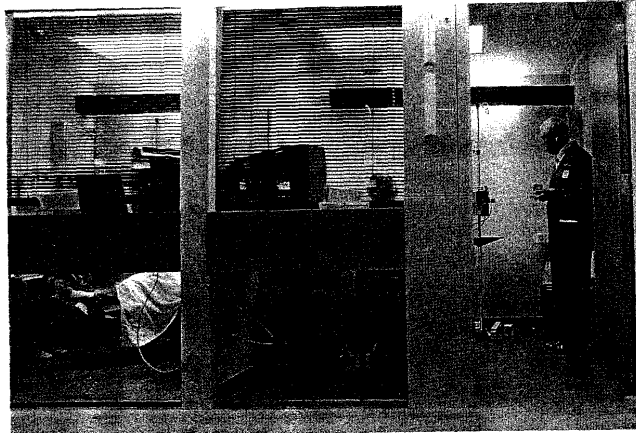
"... From the moment my mother arrived, she was given the kind of treatment her own family would have given her."

The daughter of a patient from Arizona

"State-of-the-art technology is great, but it doesn't replace bedside nursing," says Intensive Care Unit nurse Timothy McCarthy as he carefully monitors his patient's vital signs at Mayo Clinic Hospital.



Reflecting a spirit of caring, physical therapist Sarah Gruska uses a mirror to help patient Hussen Omar check his progress as he works to recover from a stroke at Saint Marys Hospital, Mayo Clinic Rochester.



"Sometimes people just want to talk." Volunteers like Curt Mortenson, right, offer reading material, coffee and conversation to patients undergoing chemotherapy treatment at Mayo Clinic Rochester. Many of these volunteers have overcome cancer themselves.

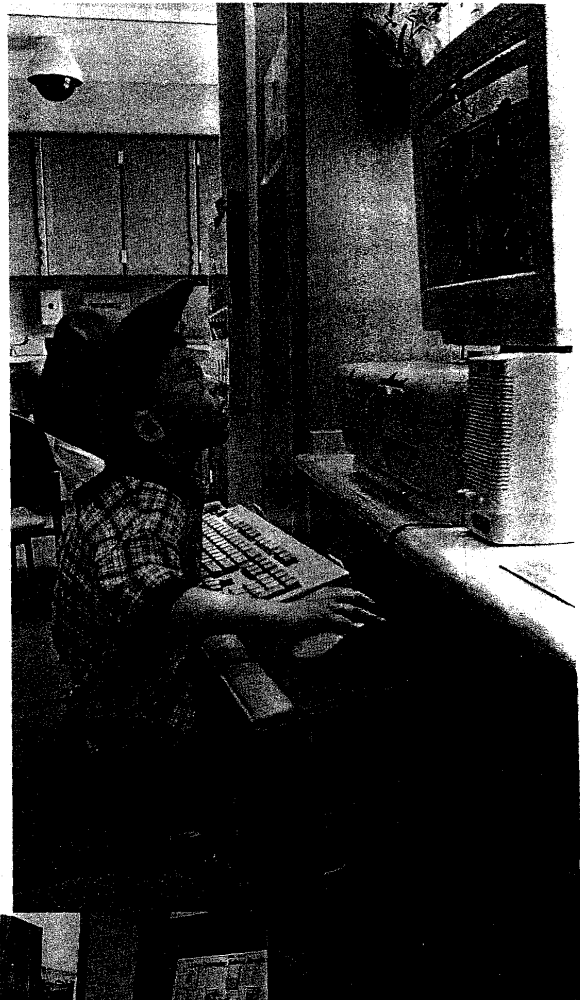
PATIENT CARE

*"Compassion is
the healer here:
one person's
reaching out
to lift a little
of the suffering
from another."*

A patient from Pennsylvania



The ties that bind — a surgeon's handiwork. More than 114,000 surgeries were performed at Mayo in 1999.



"I'm waiting for my little brother." Four-year-old B.J. Vaught plays a computer game at Mayo Eugenio Litta Children's Hospital, Mayo Clinic Rochester. B.J.'s brother, Brody, is being treated for a rare genetic intestinal disease.

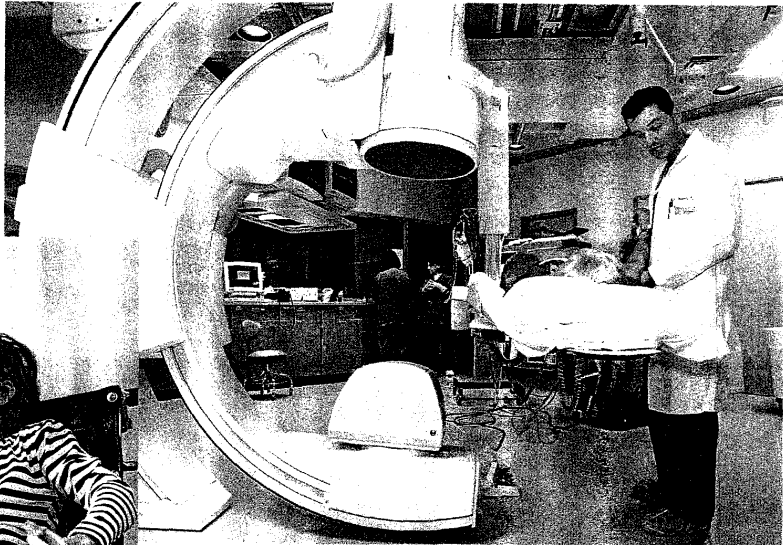


Physician assistant Robin Poczos, left, works at the LeRoy Clinic in LeRoy, Minn., part of Mayo Health System — a network of clinics and hospitals in 60 communities in Minnesota, Iowa and Wisconsin. The LeRoy Clinic's staff of five cares for the medical needs of this rural community.

PATIENT CARE



Our reach should exceed our grasp. Occupational therapist Julie Demirsar helps 10-year-old Caroline Simmons regain strength in her right arm as she recovers from a stroke at Mayo Eugenio Litta Children's Hospital, Mayo Clinic Rochester.



Mayo Clinic Scottsdale radiologist Eric Huettl, M.D., explains a procedure to patient Pat Ebert. Suspended completely from the ceiling, this "floating table" allows radiologists to conduct diagnostic and interventional procedures without any obstructions, making imaging easier and more efficient.

"Mayo Clinic is a safe haven during the storms in our lives."

A Mayo Clinic employee



Mayo Clinic Rochester patient Bruce Aga draws an appreciative crowd of patients and employees as he sings along with pianist Dan Rengsdorf in the Hage Atrium of the Siebens Medical Education Building.



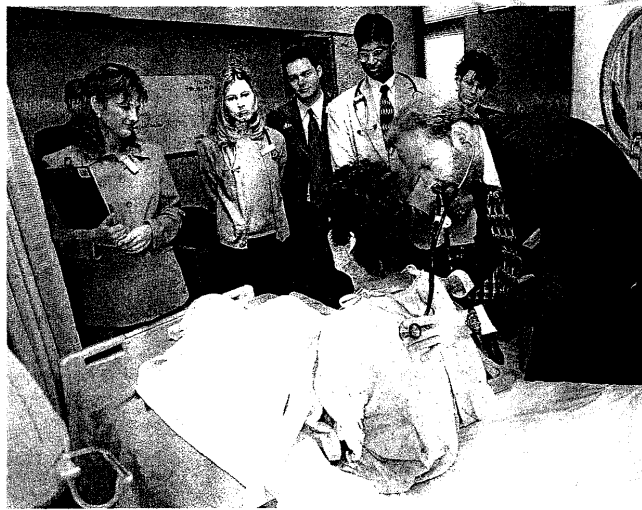
Patients and their families relax in the sunny atrium of Mayo Clinic Scottsdale.



EDUCATION

"I have traveled here from the University of Missouri – Columbia to interview for a family medicine residency. It gives me goose bumps to think that I have the opportunity to train at this site. God bless those who spend their lives striving to enrich the lives of others. I only hope that I can provide the same quality of caring, compassion, consistency and grace as those who have gone before me."

A medical school student from Missouri



During morning rounds, attending physician Frederick Edwards, M.D., teams with residents and students to provide care for patient Bessi Sisk, Mayo Clinic Hospital.

"There are two objects of medical education: To heal the sick and to advance the science."

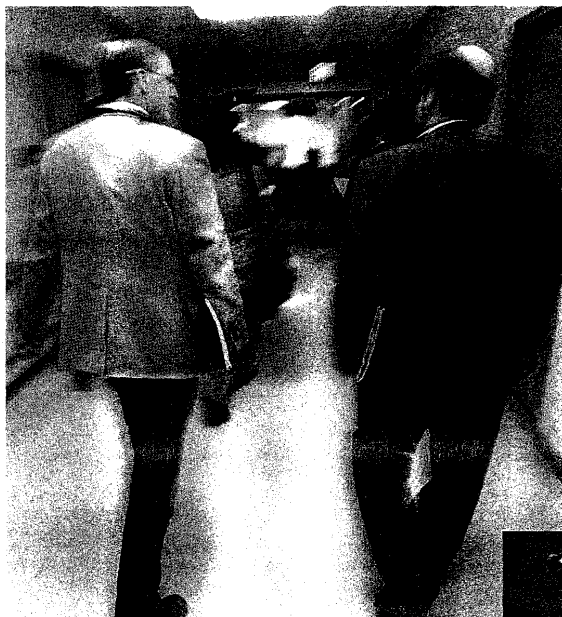
—Charles H. Mayo, M.D., Mayo Clinic founder

EDUCATION

*"Mayo Clinic
gave me a deep
appreciation
of the
human dignity
that must be
respected
when dealing
with illness."*

*A Mayo Medical School
graduate*

*A brisk pace
and ongoing
discussion link
consultations
during morning
rounds at
Mayo Clinic
Hospital.*



Anatomy class. Mayo Medical School students Leah Rowland, Mark Jensen and Edwin Wells III listen intently as Miguel Cabanela, M.D., explains the anatomy of the lower extremity as it applies to orthopedic surgery.



Before attending a class on knee replacement surgery at Mayo Clinic Rochester's Patient Education Center, patients Evelyn and Paul Boedeker relax in the center's lobby near the Transparent Man. The six-foot-tall sculpture constructed in 1932 gives visitors a glimpse inside the human body.

EDUCATION



Teamwork. Tonia Young-Fadok, M.D., works closely with Heidi Chua, M.D., a fellow in colon and rectal surgery at Mayo Graduate School of Medicine.



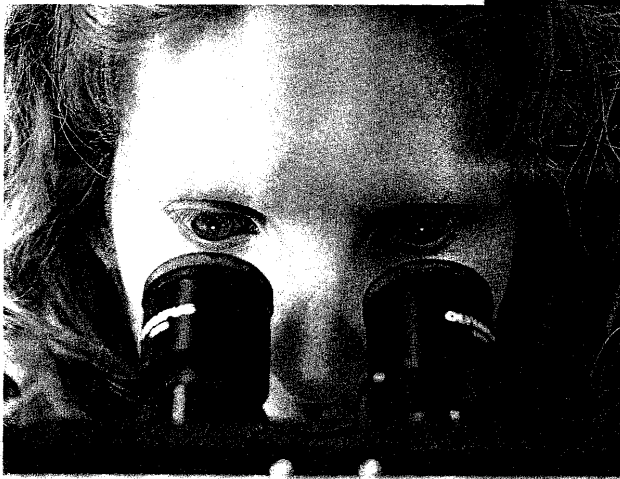
First-year Mayo Medical School student Jennifer Chalgren listens intently to an allergy class lecture recorded on CD-ROM, using a headset to avoid disturbing the others working in the student center's computer lab.



The prospect of a Mayo Clinic medical education attracts the best and the brightest. In 1999, nearly 3,300 students applied for one of the 42 spots available in Mayo Medical School.

EDUCATION

The Mayo Medical Library was established in 1907. It serves as the central clinical and research library of Mayo Foundation and contains an extensive archive of historic medical writings. Collectively, the Mayo Clinic libraries contain 350,000 volumes and more than 4,300 periodical subscriptions.



Cytotechnology student Emily Barr-Fritcher screens a specimen for abdominal cancer at Mayo Clinic Rochester's cytotechnology laboratory. The 12-month training program is one of 26 healthcare professional education programs offered by Mayo School of Health-Related Sciences.

"You get a good education, and you work with nice people ... it may sound corny, but there really is a 'Mayo way.' It's different."

A Mayo Graduate School of Medicine resident



A celebration of life. Only one day old, newborn Timothy Bremer basks in the sun and the attention of his mother Matilda Watkins and Shannon Bradley, M.D., an obstetrics and gynecology resident at Mayo Graduate School of Medicine.

EDUCATION



"After all of the books and classes, we realize that much of the knowledge we have gained was taught to us from each person at the end of our stethoscope."

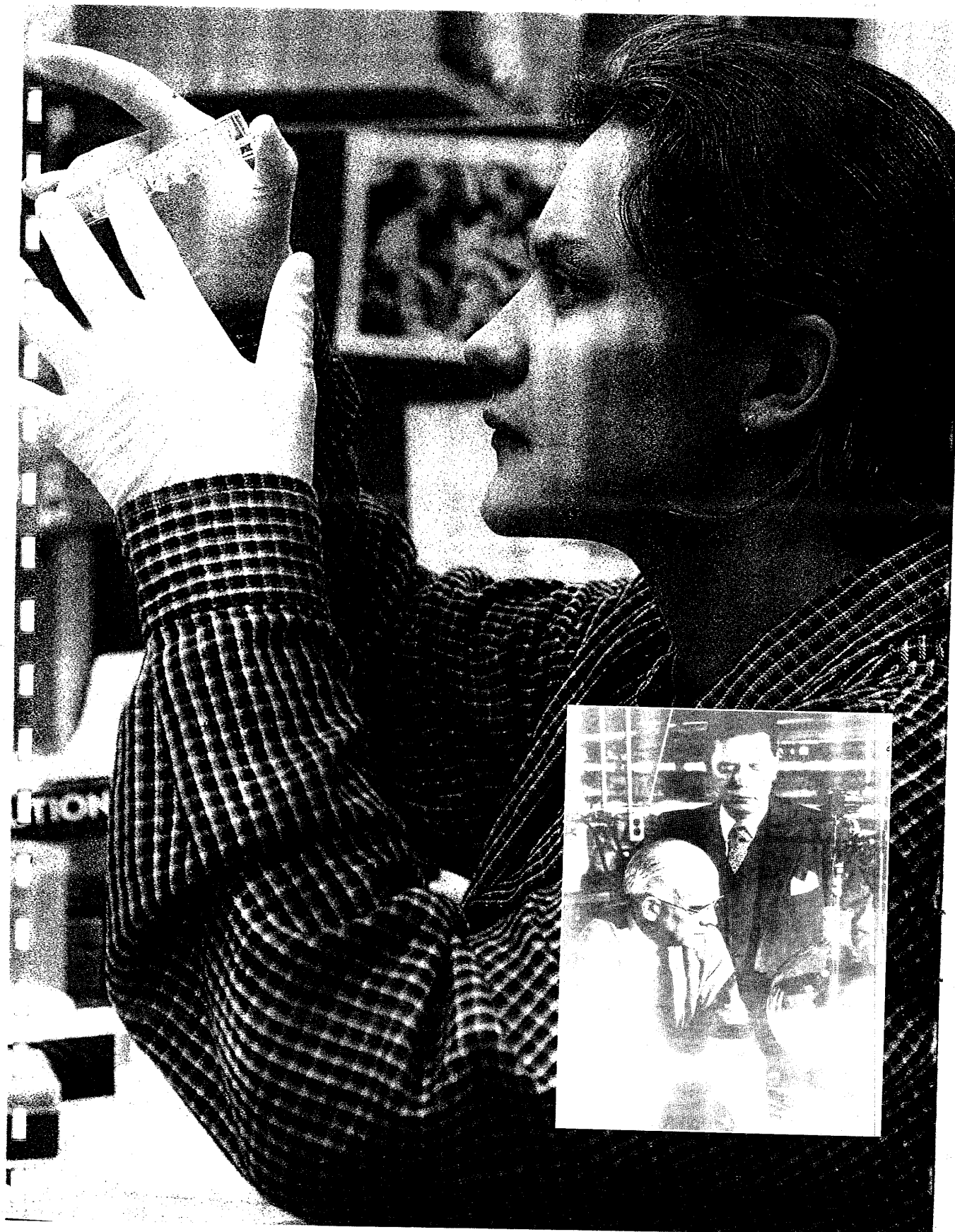
A Mayo Medical School graduate



Under the eye of Mayo Clinic benefactor Earl Perry Charlton, Debjani Mukherjee, M.D., a family medicine resident from India, studies for her clinical skills assessment.



Working and learning together. Third-year medical student and teaching assistant Matthew Martinez takes a moment to help first-year student Sandy Fritzlär.

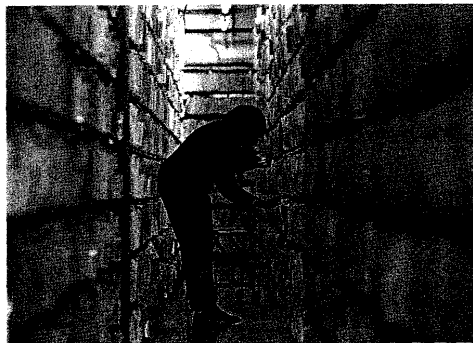
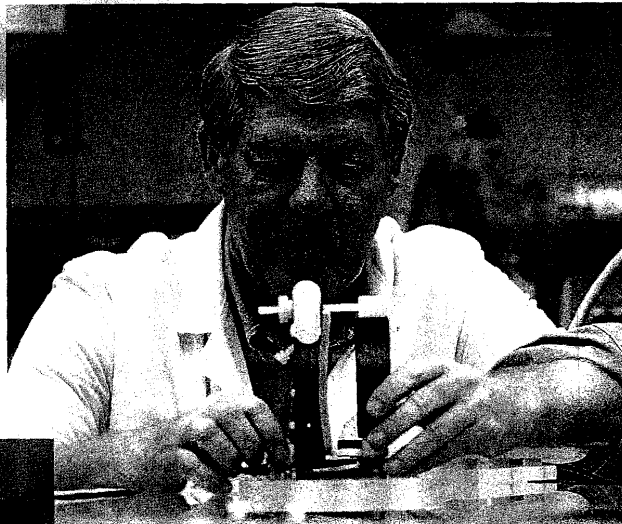


RESEARCH

"To me, hunting for something scientific and finding it are life's greatest pleasures. It's like explorers who walk across the South Pole or climb mountains or dive deep into the sea."

A Mayo Clinic scientist

Design engineer Fredrick Schultz creates custom medical equipment and machines for use in research projects at Mayo Clinic Rochester's Biomechanics Laboratory. Here, he puts final touches on a device that measures wrist motion.



Mayo Clinic Rochester's Medical Records Department contains more than five million patient records, dating back to the first patients of the clinic. Researchers use this treasure chest of medical knowledge to study the causes, natural history and outcomes of disease. Here, Erin Gardner pulls requested files.

"The research we do today will determine the type of medical and surgical practice which we carry on at the clinic tomorrow."

—William J. Mayo, M.D., Mayo Clinic founder

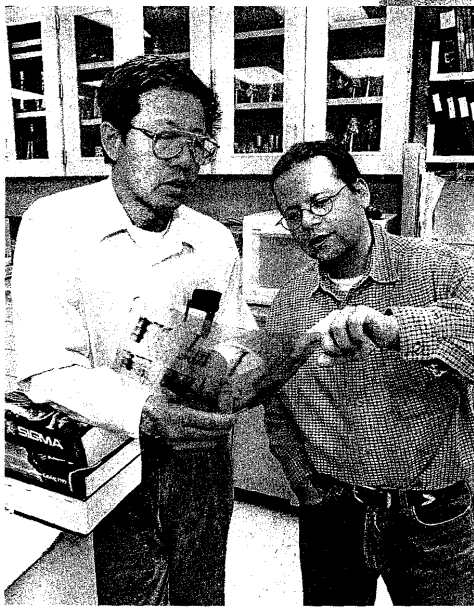
RESEARCH

*"The how is
never enough;
I have to know
the why."*

A Mayo Clinic scientist



Missing but accounted for. Empty hooks indicate staff still at work in this Mayo Clinic Rochester laboratory that tests specimens sent from around the world.



Xiu-Bao Chang, Ph.D., and Marcus Hämmerle, Ph.D., discuss an autoradiograph of the protein responsible for cystic fibrosis. Primary research at the laboratory of Mayo Clinic Scottsdale scientist John Riordan, Ph.D., is focused on identifying and altering this genetic mutation.

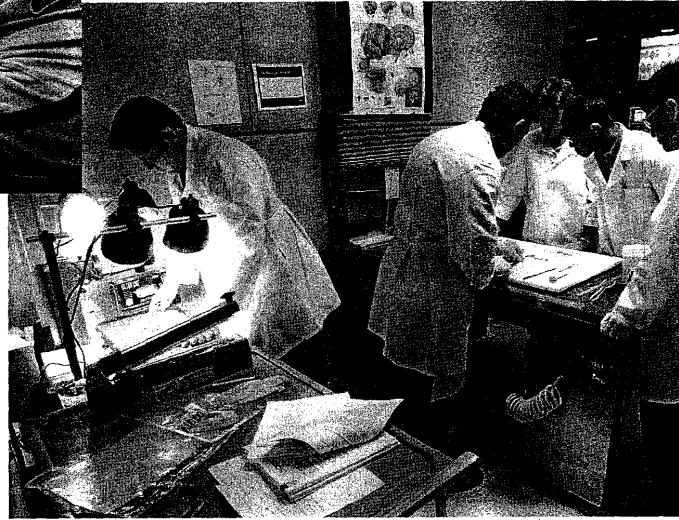


Animal care technician Kerry Lindsay, Mayo Clinic Scottsdale, provides care for transgenic mice and other animals used in biomedical research. Transgenic mice are engineered to carry human genes and allow scientists to study disease in living organisms. Mayo Clinic is committed to conducting animal research that improves human health, and attention is taken to ensure that animals are treated with care.

RESEARCH



Researching potential new treatments for allergic asthma, Mayo Clinic Scottsdale investigators use computer software to evaluate lung function in mice. From left, James Logan, software educator, Michael Borchers, Ph.D., Grzegorz Cieslewicz, M.D., Patricia Carrigan, a Mayo Graduate School student, and Jeffrey Crosby, Ph.D.



Dennis Dickson, M.D., center, leads a neuropathology (brain dissection) conference at his laboratory. Mayo Clinic Jacksonville researchers are engaged in a large-scale study of Alzheimer's disease and the mechanisms by which nerve cells in the brain communicate with one another.



Mayo Clinic Scottsdale scientist John McDonald, M.D., Ph.D., adjusts a chromatography column used to remove contaminants from urea prior to its use in protein purification procedures. Dr. McDonald's research focuses on the cell biology of molecules that maintain tissue integrity.

"Our son has had the great honor and privilege to work at Mayo Clinic on a research fellowship. It has been the experience of a lifetime for him, and he has learned a great deal, not only about biology and research, but about himself and life as well."

The mother of a graduate student from Wisconsin

RESEARCH

Measuring how human bone cells respond to estrogen therapy may aid in defining new treatments for osteoporosis. Technician Larry Pederson tests cell secretions in the laboratory of Thomas Spelsberg, Ph.D., Biochemistry and Molecular Biology, Mayo Clinic Rochester.

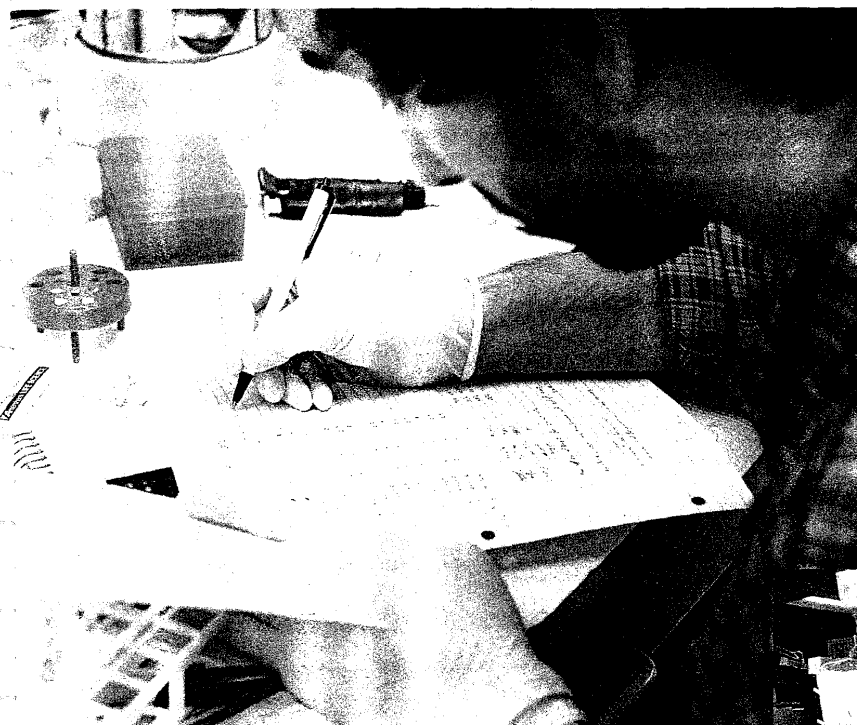


"Being a medical scientist myself, I have been knowing 'Mayo' for years with admiration. And then today is the day I pay my visit with appreciation."

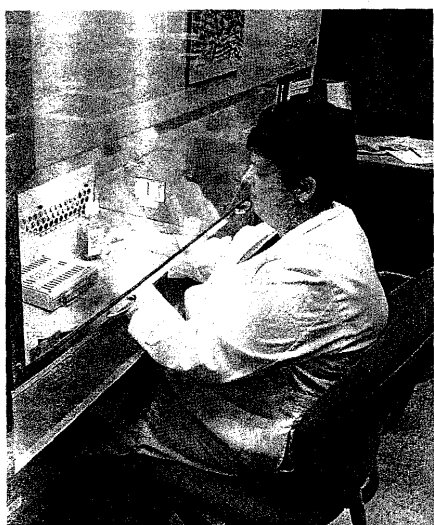
A visiting scientist from Japan

Research fellow Yan Asmann, Ph.D., works with gastrointestinal hormone receptors in the laboratory of Laurence Miller, M.D., Mayo Clinic Rochester. An understanding of the molecular basis of hormone binding can contribute to the computer-aided design of new drugs.

RESEARCH



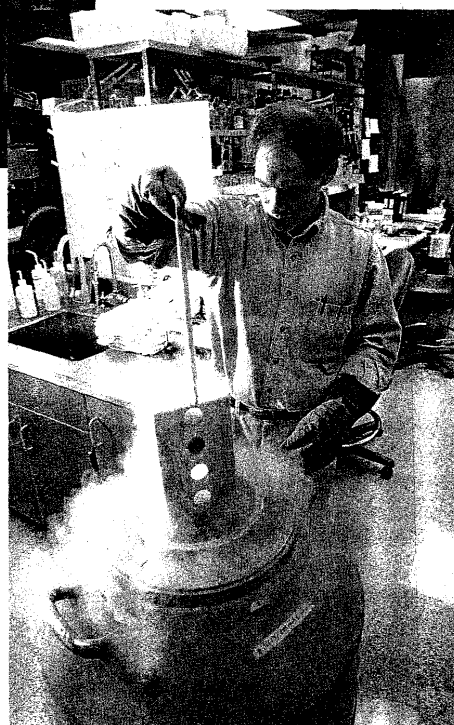
Research fellow Miguel Dominguez Geeraerts, Ph.D., prepares small fragments of DNA for sequencing in the laboratory of Richard Pagano, Ph.D., Mayo Clinic Rochester. Research here has focused on the accumulation of lipids (fats) at the cellular level. Investigators hope to discover why patients affected by genetic lipid storage diseases such as Tay-Sachs often experience developmental delay, cerebral palsy or psychiatric illness.



Laboratory technologist Cindy Bahler works in the ophthalmology research laboratory of Douglas Johnson, M.D., Mayo Clinic Rochester. Investigators are working to determine the underlying causes of glaucoma, which affects more than 1.4 million people in the United States and is a leading cause of blindness.

"It was clear to me that research would have the most potential of reaping the most benefits for people."

A Mayo Clinic scientist



Using thick, insulated mittens to protect his hands from the freezing cryogenic liquid-nitrogen tank, Arthur Warrington, Ph.D., unloads human antibody samples. The neurology laboratory of Moses Rodriguez, M.D., at Mayo Clinic Rochester is testing the antibodies for possible use in the treatment of multiple sclerosis.

FINANCIAL SUMMARY

Demand for Mayo Clinic's services remained high in 1999, and income from patient care activities totaled \$71 million. However, income from current activities (taking into account all operational activities, including research, education and non-practice operations) — a key indicator of Mayo's financial performance — decreased to \$2.6 million as a result of increases in program expenses.

"Mayo Clinic has been investing in the future — building facilities and hiring staff — and that growth is costly," says Michael Wood, M.D., president of Mayo Foundation. "Mayo is financially healthy, and our growth will continue during the first decade of the 21st century. But it will be a carefully measured process, and we'll keep a watchful eye on expenses and continue to identify new revenue opportunities.

"We have benefited from the generosity of the Mayo brothers and their successors," he continues. "They managed this organization in a responsible, fiscally conservative and ethically upright manner. It is our responsibility to pass on to the next generation what we have been given."

Mayo Foundation uses income to sustain its mission — to provide the best care to every patient every day through integrated clinical practice, education and research. In addition, funds support capital investments.

"Mayo operates on a very narrow margin, so small changes in revenue or expense show up quickly in the bottom line," says John Herrell, chief administrative officer of Mayo Foundation. "The expense side of the equation grew more quickly in 1999, so we'll be working to bring things more into balance.

"Mayo ended the year with \$106 million of excess revenue over expenses primarily because of the favorable stock market environment," Herrell notes. "But investment results vary widely from year-to-year, and we can't rely on this source of funding for the long-term."

Mayo Clinic services

In 1999, demand for Mayo Clinic's services remained high. Mayo Clinic healthcare professionals cared for more than 496,000 patients with an increasing mix of complex, acute illnesses. Income from patient care was \$71 million. Revenue from patient care was \$2.8 billion, up 15 percent from 1998. However, patient care expenses rose by 17 percent, leading to a decrease in patient care income of \$32 million compared with 1998, when income from patient care activities was inordinately high.

Investment results

Mayo's 1999 investment results were excellent. Mayo has a well-diversified portfolio of investments including stocks, bonds and other assets from both domestic and international markets. An investment return of \$52 million is allocated as a consistent level of support for Mayo Clinic's programs in research and education. The remainder offsets inflation and provides protection against potential downturns in future markets.

Research and education expenses

Mayo Foundation continued its firm commitment to research and education as integral parts of the Mayo mission. Total spending on research increased to \$240 million from \$206 million in 1998, with extramural funding accounting for \$127 million. Education program expenses increased to \$118 million, with Mayo funds accounting for \$88 million of this amount.

Income from diversification

Income from diversification efforts — principally Mayo Collaborative Services, Mayo Medical Ventures and Gold Cross — remained steady at about \$20 million. Income from these initiatives supports programs in medical education and research.

Note: These pages are designed to provide a snapshot of Mayo's financial performance in 1999. As a non-publicly traded, not-for-profit foundation, Mayo Foundation is not required to report detailed financial information.

MAYO FOUNDATION

Comparative financial statement summary
Unrestricted and restricted funds combined — 1999 and 1998
(in millions)

Consolidated statement of activities	1999	1998	Change
Patient care revenue	2,750.5	2,385.5	365.0
Patient care expense	2,679.4	2,282.4	397.0
Net from patient care	\$ 71.1	\$ 103.1	\$ (32.0)
Contributions - (net) current activities	32.7	43.2	(10.5)
Investments	52.1	54.0	(1.9)
Diversification activities	20.2	21.1	(0.9)
Research, education and administration	(173.5)	(149.6)	(23.9)
Income from current activities	\$ 2.6	\$ 71.8	\$ (69.2)
Contributions - (net) endowment and capital	43.8	40.6	3.2
Unallocated investment return	158.1	28.8	129.3
Special benefit, pension, post-retirement costs	(46.5)	(38.0)	(8.5)
Other	(51.9)	(17.0)	(34.9)
Excess (deficit) of revenues over expenses	\$ 106.1	\$ 86.2	\$ 19.9
Consolidated statement of financial position [December 31]			
	1999	1998	Change
Assets			
Cash and cash equivalents	11.4	8.7	2.7
Receivables for medical services - net	715.5	695.1	20.4
Investments - at market	1,600.5	1,545.1	55.4
Other assets	412.5	386.6	25.9
Land and facilities - cost less depreciation	2,153.1	1,952.1	201.0
Total	\$ 4,893.0	\$ 4,587.6	\$ 305.4
Liabilities and net worth			
Accounts payable and other liabilities	1,376.7	1,172.3	204.4
Long-term debt	934.0	939.1	(5.1)
Net worth	2,582.3	2,476.2	106.1
Total	\$ 4,893.0	\$ 4,587.6	\$ 305.4

The above summary is intended to present a brief review of Mayo's financial condition and activities for 1999 compared with 1998. The financial statements of Mayo Foundation for the year ending December 31, 1999, were examined by Ernst & Young LLP. A copy of its report and Mayo's financial statement can be obtained by writing to the Treasurer, Mayo Foundation, Rochester, MN, 55905.

Contributions

Philanthropic support is essential for Mayo Clinic to advance the course of medical science. Private gifts fund innovative programs in medical care, research and education throughout Mayo Foundation. Contributions also help provide the buildings and equipment to support these programs.

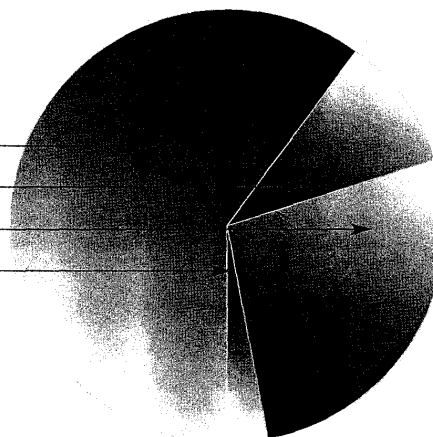
In 1999, Mayo received more than \$104 million in contributions, private research grants and endowments. This total consisted of gifts, realized estates and trusts, and documented commitments from 51,386 grateful patients, friends, corporations, private foundations, alumni and staff.

FINANCIAL SUMMARY

Mayo Foundation expenses

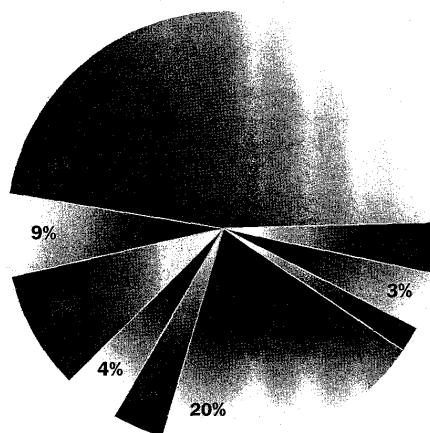
Salaries and benefits	59%
Facilities	10%
Supplies and services	28%
Other	3%

Total \$ 3,315,800,000



Mayo Foundation consolidated revenue for 1999

Mayo Clinic Rochester	45%
Mayo Clinic Scottsdale	9%
Mayo Clinic Jacksonville	9%
Research	4%
Mayo Collaborative Services	4%
Mayo Health System	20%
Contributions	1%
Investments	3%
Other	5%



Total 1999 revenues \$ 3,318,400,000
Total 1998 revenues \$ 2,890,500,000

MAYO FOUNDATION

Mayo services and people	1999	1998
Measures of service		
Total clinic patients*	496,156	479,403
Diagnostic X-ray procedures	1,653,838	1,539,464
Laboratory tests	15,732,857	14,335,892
Surgical cases	114,650	108,054
Hospital admissions	110,745	103,412
Hospital days of patient care	550,486	520,235
The people of Mayo (average full-time equivalents)		
Staff physicians and medical scientists	2,230	2,095
Clinical and research associates and fellows	430	366
Residents and students	1,625	1,572
Administrative and allied health personnel	31,607	28,496
Total	35,892	32,529

*This line includes Rochester, Jacksonville and Scottsdale clinics only.

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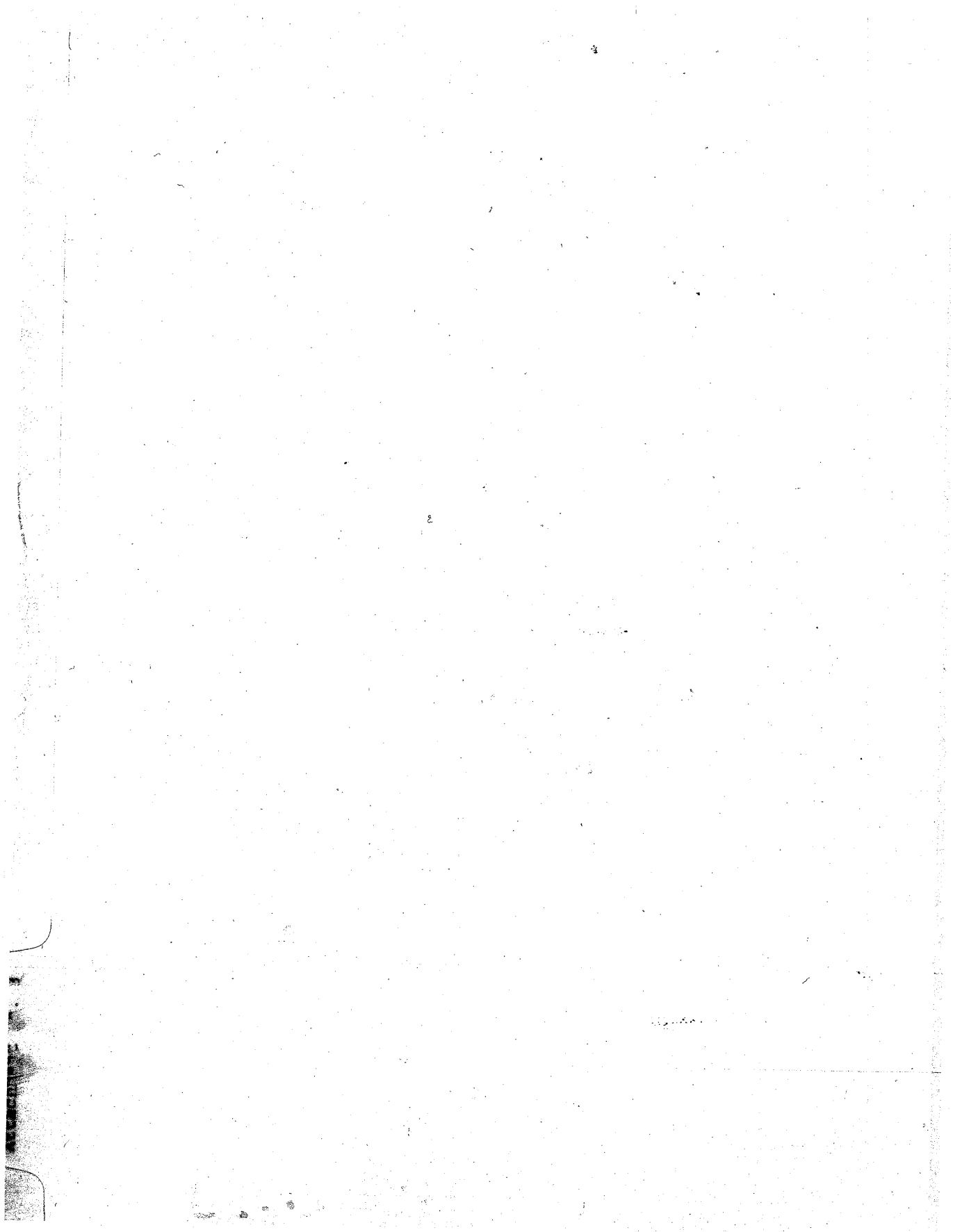
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1999

Mayo Clinic Facts



*Mayo Foundation
Mayo Clinic Rochester
Mayo Clinic Jacksonville
Mayo Clinic Scottsdale
Mayo Health System
1999 Mayo Highlights
History
Questions & Answers*

Mayo Foundation Facts



Mayo Clinic Rochester



Mayo Clinic Jacksonville



Mayo Clinic Scottsdale

Mayo Foundation is a charitable, not-for-profit organization based in Rochester, Minn. Mayo's mission is to provide the best care to every patient every day through integrated clinical practice, education and research.

The foundation is governed by a 30-member Board of Trustees comprised of 16 public members and 14 Mayo physicians and administrators.

The principal entities of Mayo Foundation include:

- Mayo Clinic Rochester
A 1,260-physician group practice
- Mayo Clinic Jacksonville
A 229-physician group practice
- Mayo Clinic Scottsdale
A 241-physician group practice
- Saint Marys Hospital, Rochester
1,157 licensed beds
- Rochester Methodist Hospital
794 licensed beds
- St. Luke's Hospital, Jacksonville
272 licensed beds
- Mayo Clinic Hospital, Scottsdale
178 licensed beds
- Charter House, Rochester
A 245-unit retirement community
- Mayo Health System
A network of clinics and hospitals in 60 communities in southern Minnesota, northern Iowa, and western Wisconsin. Includes 615 physicians, 9,050 allied health staff and 13 hospitals with almost 900 beds.

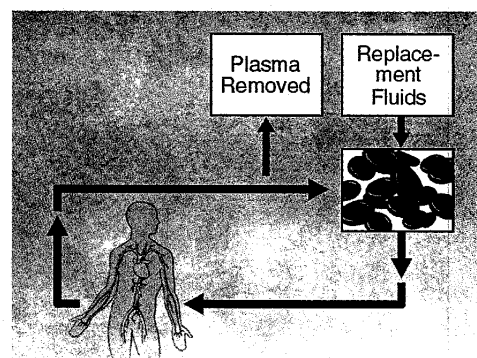
Personnel

Staff physicians & scientists	2,442
Residents, fellows, predoctoral students	1,800
Students	574
Allied health staff	36,449
Total	41,265

Patient Care

Unique patients [†]	496,156
Diagnostic X-ray procedures	1,653,838
Laboratory tests	15,992,808
Surgical cases	114,650
Hospital admissions	110,745
Hospital days of patient care	550,486

[†] Rochester, Jacksonville and Scottsdale only



A plasma exchange treatment produced dramatic results for some patients with multiple sclerosis.

* Statistics as of December 31, 1999

† Individuals counted once annually, not by visits



Students earn degrees from five Mayo schools.



Most Mayo Clinic medical staff participate in some research activity.

Medical Education

Mayo Graduate School of Medicine

One of the world's largest graduate education centers, training physicians in more than 100 specialties and subspecialties.

Residents and clinical fellows	935
Living alumni	14,331

Mayo Medical School

Small and highly competitive with 3,300 applications for 42 spots.

Medical students	187
Medical student clerks from other schools	352

Mayo Graduate School

Offers Ph.D. degrees in seven different areas. All programs are ranked in the top one-third of Ph.D. programs in a survey by the National Research Council.

Predoctoral students	145
----------------------	-----

Mayo School of Health-Related Sciences

Trains students in 26 allied health programs.

Students	387
----------	-----

Continuing Medical Education

Courses for physicians, nurses and other medical professionals.

Courses	159
Attendees	25,829

Funding Sources (in millions)

Extramural funding	\$30.3
Mayo funds	\$88.0
Total funding	\$118.4

Medical Research

Biomedical research at Mayo includes strong programs in basic and clinical research. Most Mayo medical staff participate in some research activity.

Research Personnel

Mayo physicians and medical scientists	207
Temporary professionals	414
Allied health personnel	1,360
Total personnel	1,981

Protocols approved by Institutional Review Board	2,151
Active protocols	5,500
Grants and contracts (average)	2,035

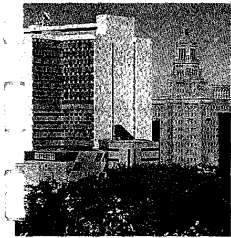
Research Funding Sources (in millions)

Mayo funds	\$113.6
Extramural funds	\$126.9
National Institutes of Health	\$ 73.3
Other federal sources	\$ 12.9
Commercial sources	\$ 25.6
Other	\$ 15.1
Total	\$240.5

Foundation Financials

Patient care revenue	\$2.75 billion
Net from patient care	\$71.1 million
Total assets	\$4.89 billion
Contributions, private grants and endowments from 51,386 donors	\$104.1 million

Mayo Clinic Rochester Facts



Mayo Clinic Rochester



Saint Marys Hospital



Rochester Methodist Hospital

Mayo Clinic, Saint Marys Hospital and Rochester Methodist Hospital together form an integrated medical center in Rochester, offering patients virtually every medical expertise, treatment and diagnostic tool. Patient care programs are supported by extensive programs in medical education and research.

Mayo Clinic

Unique patients	299,662*
Outpatient visits	1.15 million
Staff physicians & scientists	1,384
Residents, fellows, predoctoral students	1,548
Allied health staff (clinic & hospital)	20,444
Total	23,376

Saint Marys Hospital

Licensed beds available	1,157
Admissions	37,953
Average length of stay (days)	6.2
Operating rooms	53
Surgical cases	27,674

Rochester Methodist Hospital

Licensed beds available	794
Admissions	16,109
Average length of stay (days)	4.7
Operating rooms	36
Surgical cases	19,588

- Approximately 80 percent of the patients who come to Mayo are treated as outpatients; 20 percent are hospitalized
- Half of Mayo Clinic patients come from the state of Minnesota, 85 percent from the Upper Midwest, a little more than two percent from outside the United States.

- About one-third of Mayo's patients are on Medicare.
- The five leading sources of funds for research at Mayo Clinic in 1999 were commercial enterprises; National Cancer Institute; National Heart, Lung and Blood Institute; National Institute of Diabetes and Digestive and Kidney Diseases; Department of Defense.
- Mayo Clinic occupies about 11 million square feet — about 2½ times the size of the Mall of America.

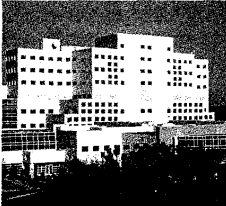
A Typical Day at Mayo Clinic

New patients (outpatients) arriving	1,003
Admissions to the hospital	148
Surgical procedures	185
Lab tests	28,809
Blood tests	12,804
Radiology procedures	3,358
CT scans	368
Chest X-rays	796
MRIs	150
Electrocardiograms	588
Units of blood and blood components used	247

* Statistics as of December 31, 1999

† Includes Charter House (retirement center)

Mayo Clinic Jacksonville Facts



Mayo Clinic Jacksonville



St. Luke's Hospital

Mayo Clinic Jacksonville provides medical diagnosis, treatment and surgery, using a team of specialists working together. Opened in 1986, the Jacksonville facility was the first extension of Mayo Clinic beyond Rochester, Minn. Mayo's patient-care activities are strengthened by programs in medical education and research. Patients who need hospitalization are admitted to nearby St. Luke's Hospital, a 289-bed hospital which became part of Mayo Foundation in 1987.

Personnel

Staff physicians & scientists	253
Residents, fellows, predoctoral students	145
Allied health staff (clinic & hospital)	3,477
Total	3,875

All Mayo Clinic staff members are salaried. There is no bonus or incentive form of compensation.

Patients

- There have been more than 420,000 patient registrations since the clinic opened in 1986.
- About 50 percent of patients come from Jacksonville and northeast Florida; 26 percent from the rest of Florida; 21 percent from the other 49 states; and three percent from other countries.
- It's not necessary to be referred to Mayo Clinic Jacksonville by a physician.

Special Services

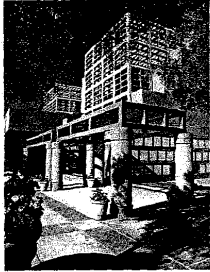
- The Mayo Clinic Executive Health Program is geared to the schedules of busy business people, offering a comprehensive physical examination in one day. A resort package combines a Mayo examination with golf, tennis or spa and fitness programs.

- The six obstetrician/gynecologists of Women's Physicians of Jacksonville joined the Mayo staff in March 1998. They see patients at their office near St. Luke's Hospital.
- Mayo Primary Care Centers provide comprehensive ongoing care, with quick access and extended hours. The centers are located at Southpoint and the Beaches in Jacksonville and St. Augustine, Fla., and Kingsland, Ga.

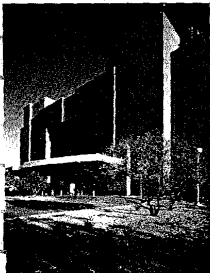
Facilities

- The clinic's main building, the eight-story Davis Building, has almost tripled in size since opening and now includes 427,000 square feet.
- The Outpatient Surgery and Radiation Oncology centers each include about 25,000 square feet. The two single-story buildings are connected to the Davis Building by an enclosed walkway.
- The four-story Birdsall Medical Research Building includes about 85,000 square feet. It has ten laboratories and a video conference center.
- The Inn at Mayo Clinic, a 78-suite hotel, opened in April 1998 on the Mayo campus. The three-story hotel is connected to the Davis Building by an enclosed walkway.
- A 146-room Courtyard by Marriott is also part of the Mayo Clinic campus.

Mayo Clinic Scottsdale Facts



Mayo Clinic Scottsdale



Mayo Clinic Hospital

Mayo Clinic Scottsdale is a not-for-profit multi-specialty outpatient clinic. We use a team approach to healthcare in which physicians combine their skills for the benefit of each patient. Our physicians apply their expertise to the prevention of disease, maintenance of overall wellness, and treatment of the most complicated medical and surgical problems. Mayo Clinic Scottsdale is part of an integrated, multi-campus system that also includes Mayo Clinic Hospital and seven primary care centers throughout the Valley.

Personnel

Staff physicians & scientists	255
Residents, fellows, predoctoral students	107
Allied health staff (clinic & hospital)	3,116
Total	3,478

Patients

- Since opening in June 1987, Mayo Clinic Scottsdale has provided medical care for more than 446,000 patients from 50 states and 80 countries. Half of our patients reside in the Phoenix metropolitan area, one-quarter are from elsewhere in Arizona and the remaining quarter are from other states and countries.

Research and Education

- In 1993, Mayo Clinic Scottsdale opened the Samuel C. Johnson Medical Research Building, where medical scientists are engaged in some of the most promising branches of medical research, such as molecular genetics, cell and molecular biology.
- Mayo Clinic Scottsdale is committed to educating the next generation of physicians. Each year, more than 100 residents, fellows and medical student clerks complete educational assignments at Mayo Clinic Scottsdale.

Facilities

- The five-story outpatient clinic contains 240 exam rooms, an outpatient surgery center equipped for general anesthesia, a full-service laboratory, a pharmacy, a patient education library, an endoscopy suite, a 188-seat auditorium for patient and physician education programs, and a multi-level parking garage.
- A basic science research laboratory, the Samuel C. Johnson Medical Research Building, is located on the campus.
- A concourse level offers amenities and services to patients, such as a gift shop and a lounge area with televisions, telephones and vending machines.
- A 124-room hotel, Courtyard by Marriott, is located on the Clinic campus.
- Mayo Clinic Hospital is located at 56th Street and Mayo Boulevard (north of Bell Road) in northeast Phoenix. Mayo Clinic Scottsdale patients who require inpatient hospitalization are admitted to Mayo Clinic Hospital and are cared for by Mayo Clinic Scottsdale physicians. The five-story facility has 178 licensed beds and full emergency room/urgent care services.

Mayo Health System



Quality healthcare close to home.

Mayo Health System is a family of clinics, hospitals and other healthcare facilities serving 60 communities in Minnesota, Iowa and Wisconsin. It links the expertise of Mayo Clinic with healthcare providers in local communities to offer patients a full spectrum of healthcare options. Patients receive quality healthcare at their local clinic or hospital and when needed can receive specialty care at Mayo Clinic.

By working together, sharing resources and knowledge and implementing new programs, service and technology, Mayo Health System meets the highest standards for medical care and health improvement.

For people in Minnesota, Iowa and Wisconsin, Mayo Health System means quality healthcare close to home.

Locations

13 organizations providing healthcare in 60 communities in Minnesota, Iowa and Wisconsin

- Albert Lea Medical Center – Albert Lea, MN
- Austin Medical Center – Austin, MN
- Cannon Valley Clinic – Faribault, MN
- Decorah Clinic – Decorah, IA
- Fairmont Clinic – Fairmont, MN
- Franciscan Skemp Healthcare – La Crosse, WI
- Immanuel St. Joseph's – Mankato, MN
- Lake City Medical Center – Lake City, MN
- Luther Midelfort – Eau Claire, WI
- New Hampton Clinic – New Hampton, IA
- Owatonna Clinic – Owatonna, MN
- Red Cedar Medical Center – Menomonie, WI
- Wabasha Clinic – Wabasha, MN

Physicians

- 615 physicians are part of Mayo Health System

Employees

- 9,050 allied health staff (clinic & hospital) are part of Mayo Health System

Hospitals

- 13 owned hospitals and three hospital management contracts
- 866 beds total

Nursing homes

- 7 owned nursing homes

Patient visits

- More than 1.9 million patient visits were made to Mayo Health System clinics and hospitals

Visiting specialists

- More than 100 Mayo Clinic physicians from 25 different specialties regularly see patients at Mayo Health System sites



1999 Mayo Highlights



Image of metastatic lung cancer from Mayo's new PET scanner

Patient Care

The National Cancer Institute (NCI) awarded the Mayo Clinic Cancer Center "comprehensive" status, the highest possible designation for a cancer center. NCI also awarded the center \$14.8 million over the next five years through a Cancer Center Support Grant.

Surgeons performed the 1000th liver transplant at Mayo Clinic Rochester.

Lake City Medical Center - Part of Mayo Health System - opened a new 18-bed hospital in Lake City Minn.

Albert Lea Medical Center - Mayo Health System and Mayo Clinic Rochester opened a new oncology center in Albert Lea, Minn., staffed by Mayo Clinic radiation and medical oncologists.

Mayo Clinic Scottsdale is one of two centers nationwide to use a high-fat, low-protein diet called the ketogenic diet for treatment of intractable seizures in adults.

Mayo Clinic Hospital in Phoenix admitted more than 8,000 patients and

performed more than 5,100 surgeries during its first year of operation.

Mayo Clinic Scottsdale surgeons completed their first liver and kidney transplants at Mayo Clinic Hospital.

Mayo Clinic Rochester added a Positron Emission Tomography (PET) scanner. The new scanner enhances Mayo's capabilities of identifying certain neurological and cardiac abnormalities and a wide variety of cancers.

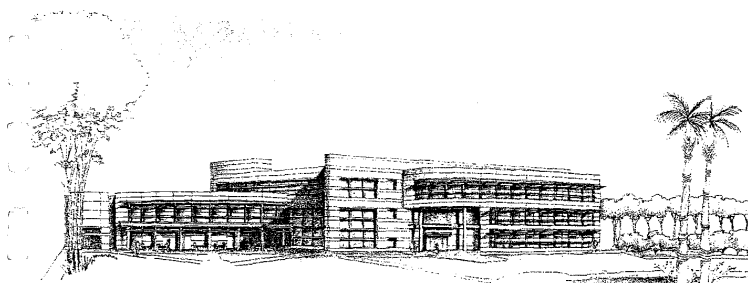
Vertebroplasty treatment was introduced to relieve pain in patients with compression fractures of the vertebrae.

Research

A Mayo Clinic study found that prophylactic mastectomy, surgery that removes the breasts as a preventive measure before the appearance of cancer, reduces the risk of breast cancer by approximately 90 percent for women at moderate to high risk for the disease.

Mayo Clinic Jacksonville was awarded a \$5 million grant from the National Institute of Aging for research on the role of the protein Tau in the development of Alzheimer's disease and other dementias.

Mayo Clinic Rochester reported the results of a new treatment option — plasma exchange — that was effective in more than 40 percent of patients with severe attacks of multiple sclerosis and related diseases that cause inflammation and myelin destruction in the brain and spinal cord.



Mayo Clinic Jacksonville began construction on the Cannaday Building, a three-story center to house women's services and primary care.



Mayo Foundation
reaccredited as a degree-
granting institution.



1,000th liver transplant
performed in Rochester.



Dr. Denis Cortese named
chair of Mayo Clinic
Jacksonville and St.
Luke's Hospital boards.

A Mayo Clinic Rochester study identified a group of patients who have forgetfulness beyond what one would expect for their age. This distinction, known as mild cognitive impairment (MCI), allows physicians to identify patients who appear to be at greater risk for developing Alzheimer's disease.

Mayo Clinic Jacksonville scientists showed that a specially created molecule injected into the abdomen of a rat can cross the nearly impassable blood-brain barrier and can stop the chemical reaction in the brain that the molecule was designed to impede.

A new Mayo Clinic Rochester study of fen-phen found that heart valve disease may improve after patients stop taking the drugs.

A team of Mayo Clinic Scottsdale researchers reported the cloning of the virus that causes Hepatitis C.

Mayo Clinic Rochester researchers identified that fidgeting — or “non-exercise activity thermogenesis” — is the reason that some people don't gain weight when they overeat.

Education

Mayo Foundation was awarded the maximum of ten years of accreditation as a degree-granting institution by the North Central Association of Colleges and Schools, Commission on Institutions of Higher Education.

The Mayo School of Continuing Medical Education received an exemplary status, six-year accreditation from the Accreditation Council of Continuing Medical Education.

The prestigious Howard Hughes Medical Institute awarded Mayo Clinic a \$1.6 million grant to support biomedical research.

Mayo Clinic Jacksonville now offers 27 residency and fellowship programs.

The number of residents, fellows and students studying at Mayo Clinic Scottsdale exceeded 100 for the first time.

A multi-specialty Procedural Skills Center is being developed by Mayo Graduate School of Medicine and will be located in the new laboratory services building in Rochester.

“Cardiology: Today and Tomorrow,” Mayo Clinic's live, interactive video satellite program, received the Award of the Minister of Foreign Affairs for excellence in medical information using technology and media by the International Forum for Educational Media and Distance Learning in Health.

Other

Denis Cortese, M.D., was named chair of the Board of Governors at Mayo Clinic Jacksonville and chair of the Board of Directors at St. Luke's Hospital. He succeeded Leo Black, M.D., who had led both organizations since 1990.

Mayo Foundation announced that it will create a new interactive health education Internet portal for the general public in 2000. This new portal will escalate Mayo's ability to satisfy a growing public demand for interactive educational resources.

A Mayo Clinic emergency helicopter pilot was named Pilot of the Year for his success in aiding a pilot in distress.

History



Dr. Charlie Mayo
operating at Saint Marys
1913.

Mayo Clinic evolved gradually from the frontier practice of Dr. William Worrall Mayo and his two sons, William J. and Charles H. Mayo. The elder Dr. Mayo emigrated from his native England to the United States in 1846. He became a doctor in 1850. In 1863 he was appointed a Civil War examining surgeon for the Union enrollment board, first Minnesota district. In 1864, the Mayos moved to Rochester where the enrollment board was headquartered.

Dr. Mayo's two sons began their medical training early, first by observing, and later by assisting their father on patient visits and with autopsies. Dr. Will said, "We came along in medicine like farm boys do on a farm," learning as they went. After graduating from medical school – Dr. Will from the University of Michigan Medical School in 1883, and Dr. Charlie from Chicago Medical College of Northwestern University in 1888 – both sons returned to Rochester and joined their father's practice.

In 1883, a tornado swept through Rochester leaving in its wake many deaths and injuries. Temporary hospital quarters were hurriedly improvised in offices and hotels. Nuns from the Sisters of St. Francis, a teaching order, were recruited as nurses. The experience inspired Mother Alfred Moes to request that the Drs. Mayo join with them to build the first general hospital in southeastern Minnesota. The 27-bed Saint Marys Hospital opened in 1889 as a result of this first partnership.

The Beginning of Group Practice

Pressed by the demands of their busy surgical practice and the exploding growth of medical knowledge, the Mayo brothers invited others to join their practice. Drs. Augustus Stinchfield (1892), Christopher Graham (1895), Melvin Millet (1898) and Henry Plummer (1901) added diagnostic skills. Dr. Louis Wilson (1905) came to develop the laboratories; Maud Mellish (1907) to develop editorial services for the staff; and local banker Harry J. Harwick (1908) to improve business procedures.

The group was the beginning of a new way to practice medicine. "It has become necessary to develop medicine as a cooperative science; the clinician, the specialist, and the laboratory workers uniting for the good of the patient," explained Dr. Will. "Individualism in medicine can no longer exist."



Dr. William Worrall Mayo, 1904.



Dr. Henry Plummer, who joined the Mayos in 1901, was instrumental in designing systems to realize the Mayos' concept of group practice — a common medical record; lifts and conveyors for moving records and X-rays; and one of the world's first telephone paging systems.

Group practice was also a natural expression of the Mayo brothers personalities. As Harry Harwick, who worked alongside them for 31 years, wrote: "The first and perhaps greatest lesson I learned from the Mayos was that of teamwork. For 'my brother and I' was no mere convenient term of reference, but rather the expression of a basic, indivisible philosophy of life."

Architect of the Mayo Practice

Dr. Will Mayo claimed that the best day's work he ever did for the clinic was the day he hired Dr. Henry Plummer. Indeed, Dr. Plummer's contributions to the development of Mayo Clinic were second only to the Mayo brothers themselves. In 1907, Dr. Plummer introduced the dossier medical records system that facilitated sharing of information. All of a patient's data, from both clinic visits and hospital stays, was entered into a single file, which traveled with the patient and was stored in a central repository. He also devised a diagnostic index to facilitate access to these records for research.

By 1912, rapidly accelerating growth resulted in a desperate need for more space. The Mayos decided to construct a new building, and they left it to Dr. Plummer to design it. He took a few weeks away from work and returned with an armful of notebooks in which he had recorded detailed plans for an integrated group practice of medicine.

All clinical medicine departments, laboratories, workshops, editorial services, and the business office were brought together under one roof. Each floor was connected with the main file

desk by a constantly moving conveyor belt so that patient files could be accessed within minutes. Dr. Plummer also invented a new signaling system for monitoring activity in the exam rooms and a telegraph ticker that assigned specific calls to each physician. When told by telephone company staff that his idea of a system that would enable the doctors to talk directly to each other, to the operator or to an outside person was impossible, he asked to speak to the engineer. Shortly afterwards the first large intercommunicating telephone system in the United States was installed.

With the completion of the 1914 building on the site of the current Harold W. Siebens Building, the Mayos' practice was officially called Mayo Clinic; a name used by visiting physicians and patients long before it became official. The number of registered patients had soared to 30,000.

Growth of Specialties

As their practice grew along with their reputation, the group refined their new system of healthcare. One of the fruits of this new form of cooperative



The 1914 building, the first building built for an integrated group medical practice.



"The best interest of the patient is the only interest to be considered."

Dr. William J. Mayo



"If we excel in anything, it is our capacity for translating idealism into action."

Dr. Charles H. Mayo

medicine, with its division of labor, was the organizing of some of the nation's first medical specialties: orthopedics in 1912, neurology in 1913, thoracic surgery in 1915, dermatology in 1916, pediatrics in 1917, neurologic surgery and proctology in 1919, and so on.

In addition to coordinating specialists to enhance patient care, the Mayos sought to integrate research and education with practice. In 1915, the Mayo Graduate School of Medicine opened with an endowment from the Mayo brothers. Their program became one of the first in the world to train medical specialists. Today, more than 13,000 alumni practice throughout the United States and around the world.

A Gift to the People

In 1919, the Mayo brothers dissolved their partnership and turned over the Clinic's name and assets, including the bulk of their life savings, to a private, not-for-profit, charitable organization now known as Mayo Foundation. "We want the money to go back to the people, from whom it came, and we think we can best give it back to them through medical education," said Dr. Will Mayo.

From this point on the Mayos, their partners and all future Mayo Clinic physicians would receive a salary and would not profit personally from the proceeds of the practice. All proceeds beyond operating expenses were contributed to education, research and patient care. The brothers established a board of governors and a committee system to provide effective oversight of many aspects of Mayo life, thereby reinforcing the cooperative spirit of the founders.

One day in 1928, Dr. Will announced unceremoniously to his secretary that he had just completed his last operation. He was 67 years old. Dr. Charlie's retirement came a year and a half later. The brothers continued to serve the Clinic as surgical advisors and on the Board of Governors until 1932.

Dr. Charlie died on May 26, 1939. His loss was followed, just two months later, by Dr. Will's death. Their dear friend and long-term associate, Sister Mary Joseph Dempsey, the pioneer superintendent of Saint Marys Hospital, died in March of the same year. Nineteen-thirty-nine was indeed a somber year for the Clinic. But it is a tribute to the Mayo brothers' foresight that the organization continued to thrive in the absence of its founders.

More than five million people have been treated at Mayo Clinic since its frontier founding. Today it encompasses three clinics and four hospitals in three states, employing more than 25,000 physicians, scientists, nurses and allied health workers. Through growth and change, Mayo Clinic remains committed to its guiding principle, as articulated by Dr. William J. Mayo: "The best interest of the patient is the only interest to be considered."

Mayo Historical Highlights



The Sisters of St. Francis were pioneers in nursing and hospital administration at Saint Marys Hospital.



Charles Lindbergh worked with Mayo researchers in 1942 to develop anti-blackout technology for pilots.

1864 – Dr. William Worrall Mayo moves to Rochester to examine new recruits for the Union Army.

1883 and 1888 – Dr. Mayo's two sons, William J. and Charles H., join him in practice after they finish medical school.

1883 – A tornado strikes Rochester. Mother Alfred Moes, founder of the Sisters of St. Francis, proposes to build and staff a hospital if Dr. W.W. Mayo and sons will provide medical care. Saint Marys Hospital opens in 1889 with 27 beds.

1892 – First partner added to Mayo family practice. More physicians are invited to join, thus beginning the concept of medical teamwork. The team approach naturally leads to a division of labor, specialists in different fields working together.

1905 – Dr. Louis Wilson develops a rapid way to diagnose surgical specimens (quick-frozen tissue sections stained with methylene blue), which allows Mayo surgeons to explore, diagnose, and repair all in one operation.

1907 – Patient registration number one given out. Five thousand patients register at "the Mayo's clinic," as it has come to be known.

1914 – Mayo isolates thyroxin, the principal active component of the thyroid gland. This is only the second time that a pure hormone has been isolated.

1915 – Doctors come from all over the world to observe and learn, leading to the organization of one of the world's first formal graduate training programs for physicians, the Mayo Graduate School of Medicine.

1919 – The Mayos turn over the assets of the Mayo Clinic to the nonprofit Mayo Properties Association, the forerunner of Mayo Foundation.

1920 – Mayo develops a system for grading cancer on a numerical basis which is adopted worldwide and is still used today.

1925 – Dr. William H. Goeckerman reports on the use of tar and ultraviolet light to successfully treat psoriasis. This is a therapeutic breakthrough that remains a highly effective treatment for psoriasis.

1926 – *Mayo Clinic Proceedings* begins publication. Today it has one of the largest circulations of any general medical journal.

1930 – Dr. James Learmonth performs first carpal tunnel release operation.

1930s – Mayo scientists pioneer methods for measuring motility of the esophagus and adapt them for clinical testing now used worldwide.

1934 – Edward C. Kendall, Ph.D., isolates cortisone, a hormone from the suprarenal cortex that will later be used to treat rheumatoid arthritis with dramatic results.

1939 – Drs. William and Charles Mayo die within a few months of each other.

1944 – First therapeutic application of streptomycin to treat tuberculosis. The patient is a 21-year-old woman in the last stages of pulmonary tuberculosis and she is cured. Until then, the scientific community was convinced that nothing would ever kill tubercle bacilli in humans.

1947 – Discovery of Factor VII, a blood-clotting component.



Nobel Prize winners
Edward Kendall and
Philip Hench.



Organ transplantation
began at Mayo in 1963.

1950 – Drs. Edward C. Kendall and Philip S. Hench are awarded the Nobel Prize for isolation and first clinical use of cortisone. First human diagnostic cardiac catheterization, resulting from improvements in instrumentation that provides continuous measurements of oxygen saturation and pressure recordings.

1955 – Mayo is among the first to perform successful open heart surgery to repair congenital heart abnormalities after refining the Gibbon heart-lung bypass machine (thereafter known as the Mayo-Gibbon heart lung bypass machine).

1965 – Computer monitoring of patients introduced in Cardiac Care Unit at Saint Marys Hospital.

1966 – Dr. Leonard Kurland introduces the Rochester Epidemiology Project, a medical records-linkage system that has made Olmsted County one of the few places in the world where the occurrence and natural history of diseases can be accurately described. The project has generated more than 1,000 publications on long-term incidence, prevalence, and mortality rates for many diseases.

1969 – First FDA-approved total hip replacement in the United States, heralding the advent of joint replacement.

1972 – Mayo Medical School opens.

1973 – Mayo introduces the first CT scanner in North America.

1976 – The North Central Cancer Treatment Group is created as an outreach project of Mayo Cancer Center, to bring promising cancer treatments to community clinics.

1980 – Mayo researchers are among the first to propose intensive insulin therapy to reduce the complications of diabetes.

1982 – Mayo study debunks the value of laetrile in the treatment of cancer.

1986 – Mayo Clinic Rochester, Saint Marys Hospital and Rochester Methodist Hospital integrate.

1986 – Mayo expands outside Minnesota for the first time with the opening of Mayo Clinic Jacksonville.

1987 – Mayo Clinic Scottsdale opens and St. Luke's Hospital, Jacksonville, becomes part of Mayo. Mayo Clinic Rochester goes smoke-free, one of the first medical centers in the country to do so.

1990 – Mayo researchers help identify source of illness affecting people taking health supplement L-tryptophan.

1992 – Mayo begins to form a regional network of clinics and hospitals. Decorah (Iowa) Medical Associates is the first existing practice acquired by Mayo.

1994 – Mayo study finds no link between breast implants and connective tissue disease.

1996 – Mayo Eugenio Litta Children's Hospital opens, part of Saint Marys Hospital.

1998 – Mayo Clinic Hospital opens in Scottsdale, Ariz.

Questions and Answers



Teamwork is a hallmark of an examination at Mayo Clinic.

Why do patients come to Mayo?

Help with the diagnosis and treatment of a difficult medical problem is the main reason. Visits for a general medical examination (the "Mayo check-up") are much less common than in the past. People choose Mayo because of our expertise, reputation for thoroughness and our team practice, which lets people get all the opinions, tests and treatments they need in one place, in a coordinated way.

How soon are appointments available?

Appointment availability depends on the nature and urgency of the problem and the ability of Mayo to help, as determined by a Mayo physician. Priority is given on the basis of medical need.

What is involved in a Mayo "checkup"?

A thorough examination is the first step in most patients' visits to Mayo. In most cases, it is done as a part of the investigation of a specific medical problem. The patient's primary doctor will start by fully reviewing the patient's medical situation. The doctor will then order whatever tests or consultations with other specialists that he or she feels necessary, which are scheduled in a coordinated way. After all testing has been completed, the primary doctor will go over the results with the patient and make final recommendations. If you require hospitalization, you will be admitted to one of Mayo Clinic's hospitals.

How much time will a medical evaluation require? The time required for a medical evaluation depends on each person's medical need. Medical evaluations usually can be completed within three to six working days; however, additional testing or consultations may require more time.

In some instances, it may require a return visit. Mayo Clinic is not open on weekends or holidays.

Does Mayo specialize in certain areas?

Mayo specializes in virtually everything. Mayo's strength is its comprehensiveness, its ability to provide "one-stop shopping" for the diagnosis and treatment of virtually any medical problem. Mayo's expertise ranges over more than 100 medical and surgical specialties and subspecialties.

If I'm a member of a managed care plan, can I still get access to Mayo?

Yes. Mayo Clinic provides services for patients from many HMOs, PPOs and other managed care plans – and this number continues to grow. These plans have limitations or requirements for receiving care from providers outside of their network, so you need to check with your insurance company representative or your doctor prior to seeking care at Mayo.

Do the Mayos still own Mayo Clinic?

In 1919, the Mayo brothers dissolved their partnership and turned over the clinic's name and assets, including the bulk of their life savings, to a private, not-for-profit, charitable foundation. They dictated that any earnings from the practice, beyond those needed to operate and perpetuate the clinic, should be used for medical education and research. Such has been the case ever since. All Mayo staff members, including doctors, are paid a salary and there is no profit-sharing.

1 OF 1000000000

Austin Medical Center

Mayo Health System

March 2, 2001

Office of the Secretary
Case Control Unit
Finance Docket No. 33407
Surface Transportation Board
1925 K Street, N.W.
Washington, DC 20423-001

Attention: Victoria J. Rutson
Environmental Project Director
Environmental Filing

Re: Draft Environmental Impact Statement
Finance Docket No. 33407
Dakota, Minnesota & Eastern Railroad Corporation

Dear Ms. Rutson:

I am Dr. Tim Johnson and I serve as the President of Austin Medical Center (AMC). I am authorized to make this statement on behalf of AMC and in the interest of the welfare of the patients we serve and our staff.

AMC is located in Austin, Minnesota not far from I&M Rail Link tracks that run through the midst of our community. AMC is an integral part of the Mayo Health System family of clinics, hospitals and other healthcare facilities serving Minnesota, Iowa and Wisconsin. The system links the expertise of Mayo Clinic with healthcare providers in local communities to offer patients a full spectrum of healthcare options. Patients receive high quality healthcare at our facility and, when needed, can receive specialty care at Mayo Clinic in Rochester.

AMC is a 99-bed facility with 820 physicians and support staff. We have approximately 255,000 patient visits per year. Our commitment is to provide the best possible health care for our patients and constructive support for their families.

We at AMC have been aware of the Dakota, Minnesota and Eastern Railroad (DM&E) construction project and the fact that it has serious implications for communities along DM&E's existing tracks. However, until very recently, we were not aware that the proposed project could well have substantial ramifications for Austin and AMC.

1000 First Drive N.W., Austin, MN 55912

Phone: 507-433-7351 Fax: 507-433-4429

• St. Olaf Hospital
• Adams Clinic

• Austin Clinic
• LeRoy Clinic

• Behavioral Health Services
• Blooming Prairie Clinic

• Austin Eye Clinic
• Grand Meadow Clinic

003588 REV. 2/99

Ms. Victoria J. Rutson
Page two
March 2, 2001

We have learned that some of the anticipated increase in rail traffic over the DM&E could well be routed to its ultimate destination through Austin over the I&M Rail Link via a Owatonna connection which is being sought by DM&E.

Although the Draft Environmental Impact Statement (DEIS) addressed environmental issues associated with such a connection insofar as Owatonna is concerned¹, we can find no assessment as to the potential increase of traffic that would be routed through Austin let alone the environmental ramifications of such a change on AMC and our community. It is our understanding that CEQ regulations require that direct effects and reasonably foreseeable indirect effects of a proposed action must be evaluated and that affected parties must be afforded an opportunity to comment on preliminary findings before a final environmental impact statement is prepared.² In the absence of an assessment of potential impacts of a routing through Austin, we clearly have not been afforded a meaningful opportunity to address legitimate concerns of AMC and this community.

AMC is very much concerned both with the welfare of its patients and employees and with the overall safety of the community of Austin. Based on recent statement by DM&E's president, it appears that Austin could very well be affected with environmental impacts as a result of the proposed DM&E expansion.

AMC respectfully insists that the potential effects on Austin must be addressed and evaluated by SEA and that preliminary findings should properly be made available for public comments before a final environmental impact statement with appropriate recommendations is prepared.

Respectfully submitted,



Timothy J. Johnson, M.D.
President
Austin Medical Center

¹ DEIS 3.4-1 -30.

² 40 C.F.R. § 1502.16 and 1508.8

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February 13, 2001

2004 Summit Drive, NE
Rochester, MN 55906

Office of the Secretary
Case Control Unit
STB Finance Docket No. 33407
Surface Transportation Board
1925 K Street, NW
Washington, DC 20423-0001

To Whom It May Concern:

I am writing in response to the Environmental Impact Statement (EIS) issued by the Surface Transportation Board earlier this year regarding the proposed expansion of the DM&E railroad. I am particularly concerned with the section of that statement that describes the impact of the proposal on southeastern Minnesota, including Rochester.

I am a cardiologist with particular expertise in the care of heart attacks. I hold major positions in both the American Heart Association and the American College of Cardiology, the two major national professional organizations in cardiology.

I believe that the Environmental Impact Statement has two major deficiencies:

1. **The EIS does not give adequate attention to the impact of the DM&E proposal, particularly option R-2 for Rochester, on emergency medical care.** As indicated on page G-10 in Appendix G, the critical parameter to assess the impact on emergency vehicles is the "total daily blocked crossing time" for intersections. Despite the fact that this parameter and its importance are described in Appendix G, it is barely mentioned elsewhere in the document. For example, it does not appear on any of the following tables from Appendix G:

Table 3-MN-G33
Table 3-MN-G34
Table 3-MN-G35
Table 3-MN-G36
Table 3-MN-G37
Table 3-MN-G38

The total blocked crossing time is only listed in Table 5.1-6. In that table, it is only computed for shorter trains and is not compared to the current situation. On the basis of the data provided in the tables listed above, the daily blocked crossing time can be computed for the current situation, as well as for the R-2 option for 100 MNT (37 trains per day). These calculations are as follows:

current (from Table 3-MN-G37, 12×4.1) = 49.2 minutes/day.

100 MNT, length 6400 feet (from Table 3-MN-G37, 37×2.1) = 77.7 minutes/day, **a 58% increase**

100 MNT, length 7400 feet (from table 3-MN-G38, 37×2.4) = 88.8 minutes/day, **an 80% increase**

These calculations are very sensitive to the assumptions used in Tables 3-MN-G33 to G38. In particular, those tables assume that there are 12 trains currently, which there are not. They also assume that the constant for gate crossing (page G-2) is 30 seconds. This assumption implies that the total time that the intersection is blocked while the warning lights come on, the gates come down, and then the gates go up is only 30 seconds. This does not pass the "common sense" test; it would appear to be an underestimate. I have personally timed this at 2 different intersections, for which it measured >40 seconds; if 40 seconds was used in the above calculation, total daily blocked crossing time would increase under the R-2 option by an additional $(37-12)/6$, or 4.2 minutes. If more realistic, i.e., lower, estimates were also used for the current number of trains, the total daily blocked crossing time will probably increase by at least 100%. In other words, **the impact of option R-2 will be to double the current delays of emergency vehicles.**

Such delays will have a very adverse public health impact, not just on ambulances, but also on the ability of emergency medical personnel to reach the hospital. Rochester is clearly the largest city along the proposed expansion route with the largest hospital and the largest number of ambulances. However, these obvious facts ignore crucial, **unique** aspects of Rochester which are never mentioned in the report and constitute its second major deficiency.

2. **Rochester has a unique emergency cardiac care system which is among the very best in the world.** Its quality and uniqueness is based on two **new, high technology** developments in emergency cardiac care which are of proven scientific benefit and were never anticipated or imagined when railroads were first built. These are as follows:

- a. **Automatic external defibrillators.** The city of Rochester has pioneered the use of automatic external defibrillators. Approximately 225,000 Americans die each year from sudden cardiac arrest. The survival rate for cardiac arrest victims in major cities is as low as two percent. The average national survival rate is about five percent. The survival in the city of Rochester of such patients is between 40-50 percent, **eight-ten-fold higher** than the national average.¹ This reflects the use of automatic external defibrillators (AEDs) by all police officers, firemen, and ambulance personnel. Whomever gets to the victim first uses an AED to administer a life-saving electric shock. **Time is critical.** In the Rochester experience (which is summarized not only in the medical literature but on the Rochester Police Department web page; <http://www.ci.rochester.mn.us/police/defibl.htm>), the average time to first shock in those patients who survive is 5.8 minutes; the average time to shock in those patients who die is 6.4 minutes. **This is only a 36-second difference.**¹

The value of AEDs is now widely recognized. Former president Bill Clinton devoted his weekly radio address on May 20, 2000, to these devices. As he said in closing, "It is now our

responsibility to bring this technology, this modern miracle, to every community in America.”² Congress subsequently passed the “Cardiac Arrest Survival Act,” which President Clinton signed into law on November 13, 2000. This mandates that the administration develop a plan to increase AEDs in buildings owned or leased by the federal government. A companion bill, the Rural Access to Emergency Devices Act, authorizes \$25 million in federal funds to help rural communities add AEDs to their emergency response system. Consider this simple paradox—Congress is trying to install these devices in rural communities to save lives, while the EIS for the DM&E railroad proposal does not even mention these devices or the adverse impact that this proposal will have on the use of these devices in Rochester.

Automatic external defibrillators are now in use on American Airlines, and in most large casinos in the states of Nevada and Mississippi. Recent reports in the *New England Journal of Medicine* demonstrate their effectiveness in saving lives in these locations.^{3,4} In September 2000, the FAA mandated that all major airlines must install these devices on their planes within the next 12 months. The critical importance of speed in the use of AEDs is clear. In the study involving casinos, the survival rate was 74 percent for those who had their first shock within three minutes, and only 49 percent for those who received their shock after three minutes.⁴ In an accompanying editorial in the *New England Journal of Medicine*, Rosemarie Robertson, the President of the American Heart Association, said “It has now been demonstrated that increasing the number of automated external defibrillators in a community by equipping police with the devices and training officers to use them can reduce the time for defibrillation and increase survival rates...Police officers were as effective as emergency-medical services personnel in delivering this essential initial therapy, and shortening the time to defibrillation by as little as one minute improves the rate of survival to hospital discharge.”⁵ The reference cited from the medical literature in support of this quotation is a research report from Rochester, Minnesota.

In summary, Rochester has pioneered the use of AEDs. It is a model for the rest of the country. No other city along the proposed DM&E route currently has AEDs. The DM&E railroad proposal will increase the time to first defibrillation whenever a train “gets in the way” of a police car, fire truck, or ambulance who would have gotten to a cardiac arrest victim first. An increase of 36 seconds, which is likely on the basis of the “total daily blocked crossing time” calculations, will cost a human life.

- b. **Mayo Clinic has been a national and international leader in the use of primary percutaneous transluminal coronary angioplasty (PTCA—the balloon procedure) in the treatment of heart attack.** Saint Marys Hospital in Rochester is the only hospital along the proposed DM&E route that provides this service. This service improves the care of patients from throughout southeastern Minnesota, not just from the city of Rochester, who are sent on an emergent basis to the hospital. PTCA is better than thrombolytic therapy (the “clot buster” drug) in treating heart attacks. It saves more lives, and Mayo has contributed to the scientific literature that proves this.⁶ However, it is only available in about 20% of U.S. hospitals. It requires a team of four individuals, not just a physician, to get to the hospital as soon as possible. Time is once again critical. A delay of even a minute may make a difference. Multiple hospitals from around the world have published scientific articles describing their own experience with respect to the time delay from a patient’s arrival at the hospital to the performance of PTCA to reopen a

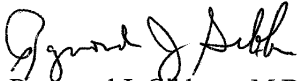
blocked artery that has caused the heart attack. **The time delays published by the Mayo Clinic from the Saint Marys Hospital experience are among the shortest in the world. They reflect the small size of the city of Rochester, an excellent hospital system, and the absence of traffic delays when the emergency response team of four individuals drives to the hospital. Optional R-2 of the DM&E proposal will worsen these response times, which are currently the envy of the rest of the world. Once again, this proposal will cost lives.**

In summary, the EIS for the DM&E railroad proposal is deficient. It has not adequately addressed the impact of the DM&E railroad proposal on emergency care. It has failed to detail the adverse effect on "total daily blocked crossing time." It has failed to consider the two unique features of the city of Rochester detailed above, the use of AEDs to treat cardiac arrest and the use of PTCA to treat heart attacks. **The citizens of Rochester and southeastern Minnesota benefit from one of the best emergency cardiac care systems in the world. It is unmatched by any city along this route. The DM&E railroad proposal will have an adverse impact on this system. There is no doubt that it will cost human lives.** The only uncertainty is just how long it will take for a train to get in the way of a police car going to a cardiac arrest victim, or one of the emergency medical personnel responding to the hospital to perform PTCA on a heart attack victim.

Whoever makes the decision to approve Option R-2 for Rochester of the DM&R railroad proposal must accept responsibility for the lives that will definitely be lost. As a physician who practices in Rochester, who participates in this emergency system, and who has spent more than 10 years of his life on research trying to improve the care of heart attack victims, I would not want that responsibility. I have taken the time to detail my criticism of the EIS to make certain that the decision-making process adequately considers the adverse impact of the DM&E proposal on the preservation of human life.

Thank you for your review of this letter.

Sincerely yours,

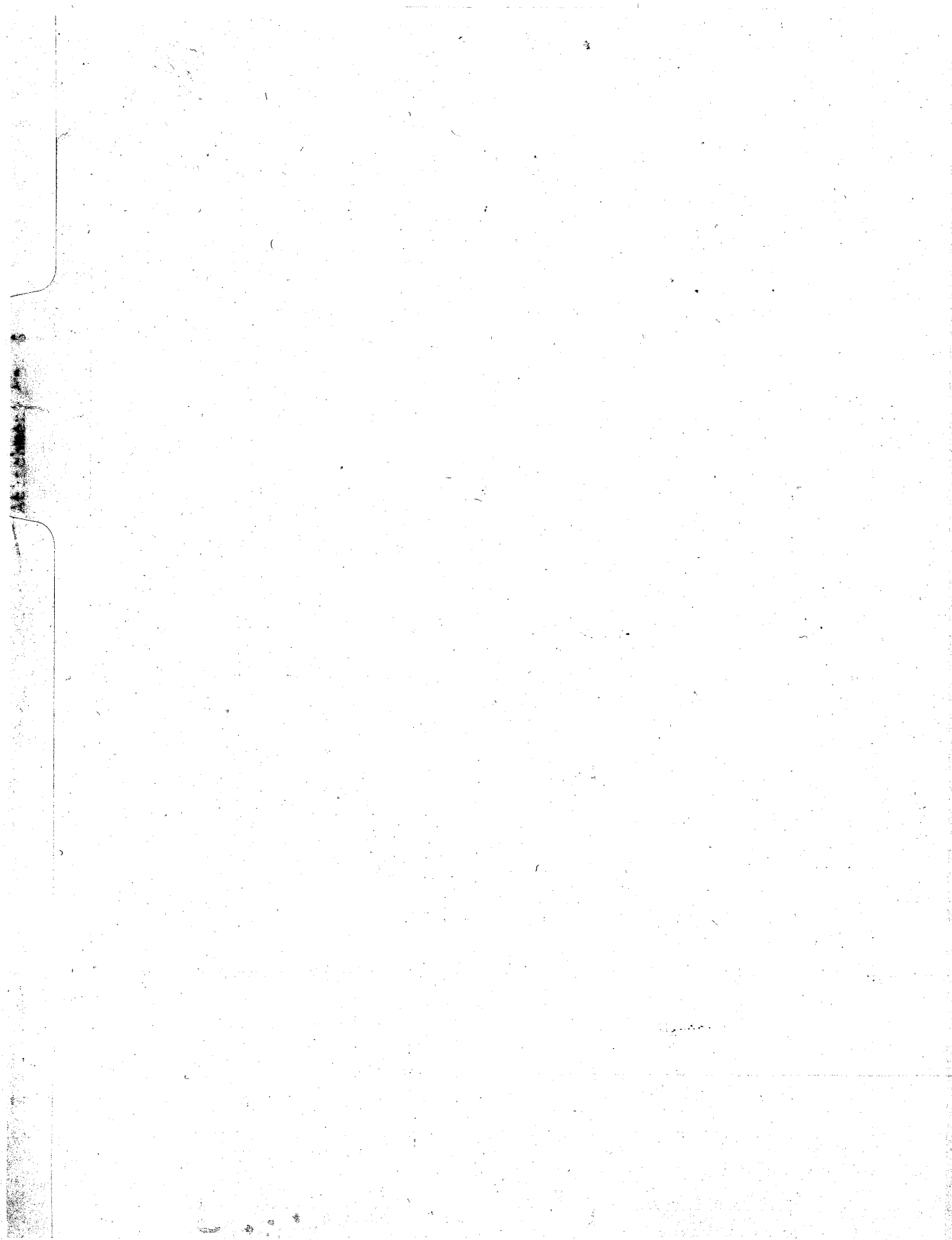

Raymond J. Gibbons, M.D.

RJG:sps

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High Discharge Survival Rate After Out-of-Hospital Ventricular Fibrillation With Rapid Defibrillation by Police and Paramedics [Emergency Medical Services/Original Contribution]

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Abstract

Study objective: To assess outcome in patients with ventricular fibrillation (VF) treated by defibrillator-equipped police and emergency medical technician-paramedics in an advanced life support (ALS) emergency medical services (EMS) system.

Methods: We carried out a retrospective observational outcome study of all consecutive adult patients with atraumatic cardiac arrest treated from November 1990 through July 1995. The study was carried out in a city with a population of 76,865 in an area of 32.6 square miles. Central 911 dispatched police and an ALS ambulance simultaneously. Accurate intervals were obtained with the synchronization of all defibrillator clocks with the 911 dispatch clock. The personnel who arrived first delivered the initial shock. After shocks delivered by police, paramedics provided additional treatment if needed. Main outcome measures were time elapsed before delivery of the first shock, restoration of spontaneous circulation (ROSC), and survival to discharge home.

Results: Of 84 patients, 31 (37%) were first shocked by police. Thirteen of the 31 demonstrated ROSC, without need for ALS treatment. All 13 survived to discharge. The other 18 patients required ALS; 5 (27.7%) survived. Among the 53 patients first shocked by paramedics, 15 had ROSC after shocks only, and 14 survived. The other 38 needed ALS treatment; 9 survived. Call-to-shock time for all patients was less in the police group than in the paramedic group (5.6 versus 6.3 minutes, $P=.038$). For all patients, call-to-shock time was less in those with ROSC after shocks only than in those who needed ALS (5.4 versus 6.3 minutes, $P=.011$). Survival to discharge was 49% (41 of 84), with 18 of 31 (58%) in the police group and 23 of 53 (43%) in the paramedic group. Call-to-shock time for survivors was 5.8 minutes; it was 6.4 minutes for the nonsurvivors ($P=.020$). Neither ROSC nor discharge survival was significantly different between

police- and paramedic-shocked patients. ROSC after initial shock and call-to-shock time were major determinants of survival, whether the first shocks were administered by police or by paramedics. With ROSC after shocks only, 27 of 28 (96%) survived, whereas 14 of 56 (25%) needing ALS survived ($P<.001$).

Conclusion: A high discharge-to-home survival rate was obtained with early defibrillation by both police and paramedics. When shocks resulted in ROSC, the overwhelming majority of patients survived (96%). Even brief time decreases (eg, 1 minute) in call-to-shock time increase the likelihood of ROSC from shocks only, with a consequent decrease in the need for ALS intervention. Short call-to-shock time and ROSC response to shocks only are major determinants of a high rate of survival after VF.

INTRODUCTION¹

Rapid defibrillation after out-of-hospital cardiac arrest (OHCA) caused by ventricular fibrillation (VF) is the single most important determinant of outcome.^{1,2} Other variables such as witnessed arrest, rapid access to emergency medical services (EMS), prompt bystander CPR, and initial VF maximum amplitude have been shown to improve survival.³⁻¹⁰ However, the interval between collapse and delivery of defibrillatory shocks is the most critical variable influencing outcome.¹ Incorporation of early defibrillation into EMS systems has been followed by demonstrable benefit in most settings¹¹⁻¹⁶, although this has not always been observed.¹⁷⁻¹⁹ Also, in large metropolitan areas survival from OHCA has been shown to be very low.^{20,21} In one city, survival in patients with an initial rhythm of VF was 3%²⁰; in another, survival of bystander-witnessed VF arrest was 5.3%.²¹ For rapid defibrillation to be provided in such settings, substantial changes in EMS systems, or the innovative institution of alternative methods for making early defibrillation more accessible, will have to be carried out. In 1994 we reported our first 2 years of experience with the addition of early defibrillation provided by city police to an existing advanced life-support (ALS) EMS system.²² In that study we emphasized acquisition of accurate times for the calculation of intervals likely to be critical determinants of patient outcome after VF OHCA. Our findings also indicated that short critical intervals, most importantly call-to-shock time, might account for the relatively high survival rate (47.7%) we noted during that study of time intervals. We now report our experience with an additional 33 months of ongoing observation of outcome from VF OHCA in this EMS system in which both defibrillator-equipped police officers and ALS emergency medical technician-paramedics (EMT-Ps; referred to in this article as paramedics) respond to all in-city OHCA events.

MATERIALS AND METHODS²³

The city of Rochester, Minnesota (1993 population, 76,865; area, 32.6 square miles), is served by a private ambulance service (Gold Cross Ambulance Service, Incorporated). Patient care personnel are nationally registered EMT-Ps. Rochester Police Department police officers are trained as first responders in accord with the US Department of Transportation First Responder Training Program.²³ All officers are trained to operate automated external defibrillators (AEDs) with the American Heart Association Early Defibrillation Training Program as the format, with modifications to accommodate the versions of AED used.²⁴ At approximate 90-day intervals the officers undergo a brief skills-retention assessment.

In November 1990 the police defibrillation program was begun with four AEDs (First Medic 510 semiautomatic defibrillator; Physio-Control Corporation). In March 1993, four additional identical units were added, and in April 1995 four more AEDs were provided by the manufacturer for assessment purposes (VivaLink semiautomatic defibrillator; SurVivaLink Corporation). Thus for the first 27 months 4 AEDs were available, during the next 25 months 8 AEDs were in service, and for the final 5 months as many as 12 AEDs were in service at one time in police cars distributed throughout the city.

In Rochester, all 911 calls are received at a central law enforcement dispatch console. When a 911 medical emergency call is received at central dispatch, it is immediately transferred to an EMS dispatcher at the ambulance dispatch center by telephone hotline. While this call is being processed, central dispatch locates the nearest available police car for dispatch to the site of the emergency. Thus

dispatch of police and paramedics to medical emergency calls is nearly simultaneous. Ambulances are located at and dispatched from two ambulance stations. The first personnel to arrive at the scene began standard assessment procedures, connected an AED in pulseless and apneic patients, and delivered defibrillatory shocks if indicated. In the first 39 months of the study period, paramedics used AEDs (HeartStart 2000 semiautomatic defibrillator; Laerdal Medical Corporation). On a few occasions an AED was not available and a backup manual defibrillator was used (LifePak 5 cardiograph/recorder/DC defibrillator; Physio-Control Corporation). In the last 18 months of the study period, paramedics used an ALS version of AED (First Medic 710 semiautomatic defibrillator; Physio-Control Corporation). At weekly intervals, central and EMS dispatch clocks were synchronized with the universal time coordinate and all defibrillator clocks, police and paramedic, were synchronized to this time. Thus all times used to calculate intervals were derived from synchronized times taken from central and ambulance dispatch Dictaphone time recordings and defibrillator clocks. Defibrillator clock times were obtained from memory modules, PCMCIA memory cards, or, in the case of the VivaLink AED, from internal memory. Significant error has resulted from lack of time synchronization in an EMS system. ²⁵ Such error affects assessment of intrasystem performance and raises questions about the validity of time-dependent cardiac arrest clinical research. ²⁵ All adult patients found in atraumatic VF cardiac arrest in the city were included in the data analysis. No change in patient treatment protocol was involved, and the methods and procedures used qualified for institutional review board approval. Confirmation of a cardiac origin as the cause of the arrest was obtained from in-hospital follow-up and review of all diagnostic studies or from findings at autopsy.

Patients were categorized as demonstrating ROSC if initial shocks restored a spontaneous circulation, with or without 1 minute or less of CPR, after initial shocks. No epinephrine or other vasoactive drug was needed in any of these patients. In accord with our current standard cardiac care protocol, ROSC patients received high-flow oxygen with a nonrebreather mask, IV line placement, and prophylactic lidocaine before or during transport. Patients classified as needing ALS required additional interventions, including epinephrine in all instances, and endotracheal intubation, in accordance with American Heart Association Advanced Cardiac Life Support guidelines incorporated into our ALS protocols.

All patients with ROSC at the scene were transported to a single receiving hospital. The target outcome was defined as survival to discharge home, with a functional status not requiring assistance for daily living. Any patient with neurologic impairment necessitating discharge to a nursing home for prolonged or permanent care was considered a nonsurvivor.

Interval comparisons between various subgroups were examined univariately with the two-sided Wilcoxon ranksum test. Discrete variables were examined univariately with the two-sided [chi]² test. The main study endpoints were time to shock, ROSC, and survival to discharge. ²⁶ Potential predictors were age, sex, bystander CPR, witnessed event, and paramedics as first responders. We used linear and logistic regression analyses to determine which variables were most strongly associated with the endpoints, using a stepwise selection process. ^{27,28} We considered *P* values less than .05 significant.

RESULTS²¹

During the 57-month study period, 84 OHCA patients presented with VF as the initial rhythm. Seventy-four patients in non-VF arrest (40 in asystole and 34 in pulseless electrical activity) were encountered but were excluded from this analysis for obvious reasons. All arrests included in the study occurred before the arrival of police or paramedics. None of the 74 survived. No patients were excluded because of insufficient, inaccurate, or unavailable data.

Thirty-one patients were first shocked by police. Because of the numbers of AEDs after the first 2 years, the first police car to arrive at a cardiac arrest scene carried an AED in 90% of cases. Of the 31 patients, 13 (42%) had ROSC from shocks only. All 13 survived. The other 18 patients (58%) required ALS treatment by paramedics. Five of the 18 (28%) survived. Among 53 patients first

shocked by paramedics, 15 (28%) had ROSC with shocks only; 14 survived. The one nonsurvivor in this group made a complete neurologic recovery, but recurrent intractable VF developed 2 days after admission. The other 38 patients in the paramedic group (72%) required ALS treatment, with 9 survivors (24%). Three patients classed as nonsurvivors sustained neurologic impairment necessitating discharge to a nursing home for permanent or prolonged care.

Patient and arrest data for all patients are presented in Table 1. We detected no statistically significant differences between the police- and paramedic-treated groups among the variables in Table 1. Table 2 depicts association of categoric factors with discharge survival. Among these factors, only initial response to shock—whether ROSC or need for ALS—was significant. Bystander CPR did not increase discharge survival, and survival was not significantly higher among patients with witnessed arrests. When police and paramedic patient groups were analyzed individually, neither bystander CPR nor witnessed arrest significantly increased survival.

Variable	All (N=84)	Police-Treated (n=31)	Paramedic-Treated (n=53)	Relative Risk of Police-Treated	95% CI for Relative Risk	P
Median age (range) (years)	35 (29-51)	35 (27-51)	34 (35-57)	1.0	1.1-1.1	.877
No. male (%)	35 (77)	25 (81)	47 (75)	1.4	0.4-4.1	.584
No. of witnessed arrests (%)	19 (22)	26 (84)	42 (81)	1.2	0.3-3.5	.322
No. given bystander CPR (%)	38 (45)	16 (52)	22 (38)	1.8	0.4-7.7	.215
No. with ROSC (%)	28 (33)	13 (42)	15 (28)	2.8	0.4-1.2	.251
No. of survivors (%)	37 (54)	18 (58)	23 (43)	1.8	0.4-4.4	.154

*Relative risk values are rounded.

Table 1. Patient and arrest data.

Variable	Provider of Care	No. of Patients	No. of Survivors (%)	Relative Risk of Surviving	95% CI of Relative Risk	P
Initial shocks	Police	31	18 (58)	1.0	0.4-1.1	.184
	Paramedics	53	23 (43)			
Sex	Male	66	30 (45)	1.4	0.4-4.1	.506
	Female	18	8 (44)			
Witnessed arrest	Unwitnessed	16	4 (25)	2	0.1-1.1	.066
	Witnessed	68	33 (49)			
Bystander CPR	No CPR	46	23 (50)	1.6	0.4-2.2	.050
	CPR	38	14 (37)			
Response to shock	ROSC	28	27 (96)	81.0	10.1-652.0	<.001
	ALS	56	14 (25)			

Table 2. Association of categoric factors with discharge survival.

Call-to-shock times for all patients are shown in Table 3. This interval was significantly shorter in patients in whom spontaneous circulation was restored by the initial shock than in patients who needed ALS intervention to regain spontaneous circulation. Likewise, call-to-shock time was significantly shorter in the survivors than in the nonsurvivors.

Patient Group	Median Time (Range) (Minutes)	P
All	6 (2.0-12.1)	
ROSC	5.4 (2.0-7.9)	.011
ALS	6.3 (2.8-12.1)	
Survivors	5.8 (2.0-8.2)	.020
Nonsurvivors	6.4 (2.8-12.1)	

Table 3. Call-to-shock times for all patients.

Table 4 depicts call-to-shock times in the police and the paramedic groups. For all patients this interval was shorter in the police-defibrillated group. In the police group, call-to-shock time was significantly shorter in patients with ROSC after shock than in those who required ALS. This time difference was not significantly different between ROSC and ALS patients treated first by

paramedics. The time spread was wider in both ROSC and ALS patients first treated by paramedics.

Patient Group	Police-Treated	Paramedic-Treated	P
All	5.6 (3.5-8.2)	6.3 (2.0-12.1)	.038
ROSC	5.0 (3.5-7.8)	6.0 (2.0-7.9)	.140
ALS	6.1 (3.5-8.2)*	6.4 (2.8-12.1) [†]	.317
Survivors	5.3 (3.5-7.8)	6.0 (2.0-8.2)	.156
Nonsurvivors	6.0 (3.5-8.2) [‡]	6.7 (2.8-12.1) [§]	.302

*P=.024 between police-treated ROSC and ALS groups.
[†]P=.213 between paramedic-treated ROSC and ALS groups.
[‡]P=.123 between police-treated survivors and nonsurvivors.
[§]P=.146 between paramedic survivors and nonsurvivors.

Table 4. Call-to-shock times in police and paramedic groups (median [range]).

We performed logistic regression to determine which variables were most strongly associated with the endpoints of survival to discharge and ROSC from shocks only. After ROSC from shocks only was added to the logistic model, no other variable predicted who would survive to discharge. After addition of time to shock, no other variable predicted who would have ROSC from shocks only. The major determinants of outcome were call-to-shock time and ROSC from shocks only, regardless of who delivered the shocks.

DISCUSSION²¹

Our observations extend and affirm the conclusions of our earlier preliminary study.²² In that study, as in this one, we chose to use the call-to-shock interval rather than the collapse-to-shock interval because the latter is almost always, at best, an estimate. We prefer to use an interval that is precise and quantitative and can be correlated with outcome. The call-to-shock interval also can be used for accurate intersystem data comparisons, provided all EMS system clocks are synchronized at regular intervals. In our earlier evaluation of a police defibrillation program our primary objective was accurate measurement of critical time intervals considered important for improved survival from VF OHCA.²² As part of that study of intervals we noted a relatively high survival rate after VF OHCA (21 of 44 patients [47.7%]). The objective of this study was to assess patient outcome over a much longer period, thereby including more patients. We continued to acquire accurate synchronized times for calculation of call-to-shock intervals as we had done earlier. Our results confirm that early defibrillation not only increases survival from VF OHCA but increases the likelihood that initial shocks will result in ROSC, without need for costly and time-consuming onscene ALS care to restore stable circulation. Although we did not analyze other variables in this outcome study, it is probable that additional benefits are derived from early defibrillation with ROSC from shocks only (eg, shorter, less expensive hospitalizations).

In contrast to generally accepted and reported experience we could not confirm a significant impact of bystander CPR or of witnessed arrest on discharge survival. This lack of confirmation does not diminish the important role these variables may contribute to survival in many settings.^{3,29} With regard to witnessed arrest, it is possible that in our study the smaller number of patients in the unwitnessed-arrest group (15 of 84) limited the statistical power to detect a significant difference. Swor and associates^{30,31} observed that patients who received bystander CPR were more often found in VF and had a higher discharge survival rate. Although their data included response times, accurate call-to-shock times were not available. In our system the very short time from call to shock may negate a demonstrable benefit of bystander CPR. A similar observation has been reported in patients with VF OHCA in an EMS system with apparently short response times.³² With regard to

unwitnessed arrests it can be assumed that some of these patients, if still in VF when found, may in fact have had a short "down time" and therefore might still be candidates for successful defibrillation and discharge survival. These observations further support the critical role rapid defibrillation assumes as a determinant of outcome from VF OHCA.

As noted above, the call-to-shock time in the police-defibrillated patients was shorter than in the patients first treated by paramedics. Likewise, in the police-defibrillated group the time to shock was shorter for ROSC patients than for those who required ALS treatment after initial shocks. In the paramedic group this time difference was not significant. A greater spread of data in both the ROSC and ALS patients in the paramedic group, compared with those in the police group, is evident. These findings are consistent with shorter and less variable call-to-shock times made possible by citywide distribution and mobile rapid availability of police defibrillators. Extension of these observations to other means of providing short call-to-shock times appears to be substantiated by these findings. Our data lend credence to movement toward widespread implementation of rapid defibrillation by means of placement of AEDs in a variety of nontraditional settings that would make short call-to-shock times possible. 33 The documented expectations from short call-to-shock times are high survival rates from VF and ROSC from shocks only, without need in the ROSC patients for time-consuming and costly on-scene ALS interventions.

Our experience with a combined police/paramedic rapid-defibrillation EMS system confirms that short call-to-shock times are accompanied by frequent ROSC from shocks only and by a relatively high discharge survival rate. The critical determinant of these outcomes is the rapidity with which initial shocks are delivered rather than who provides those shocks. The additional benefit of ALS care by paramedics is for patients who do not achieve ROSC from shocks only, among whom a smaller, although significant, number of patients survive. In this system, rapid defibrillation is achieved by the combination of widespread citywide availability of defibrillators in mobile police cars along with paramedic-provided defibrillation and back-up ALS care. Extrapolation of these observations to other EMS systems and to alternative modes of delivery of rapid defibrillation, including implementation of study of the American Heart Association Public Access Defibrillation proposal, is both rational and timely.

The authors are grateful to Kimberly Sankey for assistance in preparation of the manuscript; to Elizabeth Atkinson, Section of Biostatistics, Mayo Clinic; to the City of Rochester Police Department; to Gold Cross Ambulance Service personnel; and to law enforcement and Gold Cross dispatch staff for their commitment to synchronization of times.

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THE UNIVERSITY OF CHICAGO

NEWS RELEASE



Governor Bob Taft

TAFT ANNOUNCES RAIL GRADE SEPARATION PROJECTS 10-Year ODOT Program Will Provide \$200 Million to Local Communities

TOLEDO (Feb. 8, 2001) — Governor Bob Taft today unveiled a \$200 million program to provide railroad grade separations to communities most affected by increased train traffic.

Taft and Ohio Department of Transportation (ODOT) Director Gordon Proctor announced that 31 projects have been selected for funding or further study through ODOT's Rail Grade Separation Program. The 10-year program will help communities that have seen increased train traffic as a result of recent rail company mergers.

"I am deeply concerned about the safety of our citizens who live, work and attend schools near these rail lines," Taft said. "With the completion of these projects we will not only address existing safety concerns, but increase traffic mobility and promote economic development in the affected communities."

As part of this initiative, each project was ranked and studied for funding by a subcommittee of ODOT's Transportation Review Advisory Council (TRAC). Projects that demonstrated the greatest need among several categories were given priority. The draft project list was divided into three tiers: Tier I — projects selected for funding this year; Tier II — projects identified for further development; and Tier III — projects that did not meet all of the program criteria and are not identified for further development.

Projects to receive funding this year include:

- Lucas Co. — Construct an overpass at Seaman Rd. and relocate Lallendorf Rd.;
- Hamilton Co. — Construct an underpass at SR 747 in conjunction with a widening project;
- Butler Co. — Construct an overpass at CR 115 in conjunction with a widening project; and
- Lake Co. — Construct two overpasses at Heisley Rd. in conjunction with a widening project.

The TRAC subcommittee received 74 applications for funding, totaling \$450 million. "While we could not possibly fund all of the projects, the committee is confident it has selected those which are in the most dire need of aid," Proctor said.

A schedule of feasibility studies for the 27 Tier II projects has been developed. These projects are expected to be considered for funding, following completion of the studies. Nearly 60 percent of funding for this initiative will be provided by ODOT. In some cases, railroad funds may be pooled with TRAC funds to provide a comprehensive community freight solution.

###

CONTACT: Brian Cunningham, ODOT Communications Director, at (614) 466-7170; or
Kevin Kellems, Governor's Press Secretary, at (614) 644-0957.

Railroad Grade Separation Program
Tier II - Projects identified for further Development

Draft List
February 8, 2001

Dist.	Project	Project Sponsor	Rail Carrier	Rough Project Cost	Description/Comments	Feasibility Study
2	Seneca - T.R. 43	Fostoria	CSXT	\$ 3.0	Alternate location to Town Street. TAG perform Feasibility study.	2001
1(2)	Hancock - T.R. 262	Fostoria	NS	\$ 3.0	Alternate location to Tiffin Street. TAG perform Feasibility Study	2001
2	Wood - Wales Road/Vickers Xing	Northwood	CSXT, NS	\$ 22.0	Rough cost is for Rail/Road separation & Wales Road Separation. Request \$5.0 million from ODOT.	2001
3	Huron - S.R. 269	Bellevue	NS	\$ 6.4	TAG to review existing Feasibility Study.	2001
3	Lorain - S.R. 83	North Ridgerville	NS	\$ 5.2	TAG to review existing Feasibility Study.	2001
3	Erie - U.S. 61 R. 101	Sandusky	NS	\$ 8.0	TAG to perform Feasibility study of proposed project.	2001
3	Lorain - S.R. 38	Wellington	CSXT	\$ 7.1	TAG to review preliminary study of proposed S.R. 38 relocation.	2001
3	Huron - S.R. 60	New London	CSXT	\$ 2.8	TAG to perform analysis of alternatives.	2001
3	Lorain - Elm Street	Grafton	CSXT	\$ 3.3	TAG to review existing Feasibility Study.	2001
4	Ashtabula - Parrish Road	Connecticut	CSXT, NS	\$ 6.5	TAG to perform Feasibility study of proposed project.	2001
6	Marion - S.R. 309	Marion	CSXT	\$ 5.4	TAG to perform Feasibility study of proposed project.	2001
12	Chubbuck - S.R. 252	Onsted Falls	CSXT	\$ 8.9	TAG to review existing Feasibility Study.	2001
2	Seneca - Jones Road	Fostoria	CSXT	\$ 4.5	TAG to review existing Feasibility Study.	2002
2	Lucas - Summit Street	Toledo	CSXT	\$ 10.0	TAG to review existing Feasibility Study after City completes Greenbelt Parkway analysis.	2002
2	Fulton - Hallid Avenue	Swanton	NS	\$ 7.0	TAG to perform Feasibility study of proposed project.	2002
2	Lucas - McCord Road	Lucas County	NS	\$ 9.1	TAG to review existing Feasibility Study. Applicant to provide 25% of funding.	2002
2	Wood - Oregon Road	Wood County	CSXT	\$ 6.0	TAG to perform Feasibility study of proposed project.	2002
3	Huron - U.S. 250	Greenwich Twp.	CSXT	??	TAG to perform Feasibility study of proposed project.	2002
4	Ashtabula - Austin Road	Geneva	CSXT	\$ 10.00	TAG to perform Feasibility study of proposed project.	2002
4	Summit - Highland Road	Macedonia	NS	\$ 5.2	TAG to review applicants analysis upon completion.	2002
6	Marion - Barks Road	Marion County	NS	\$ 3.8	TAG to perform Feasibility study of proposed project.	2002
1	Defiance - Hire Road	Defiance County	CSXT	??	TAG to perform Feasibility study of proposed project.	2003
3	Huron - S.R. 13	Greenwich Twp.	CSXT	??	TAG to perform Feasibility study of proposed project DOT # 518485H.	2003
4	Ashtabula - West Avenue	Ashtabula	NS	\$ 5.0	TAG to perform Feasibility study of proposed project.	2003
4	Summit - Snow Road	Hudson	NS	\$ 10.0	TAG to review existing Feasibility study.	2003
6	Delaware - Home Road	Delaware County	CSXT	\$ 3.4	TAG to perform Feasibility study of proposed project.	2003
8	Hamilton - Reading Road	Sturtevant	NS	??	TAG to perform Feasibility study of proposed project.	2003
Total				\$ 171.6		

Note: For projects of unknown cost, rough estimates of \$3 million and \$7 million were used for rural and urban locations respectively.



1980 W. Broad St. - Columbus, Ohio 43223
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February 16, 2001
Release

For Immediate

ODOT Director
Gordon Proctor,
Chairman

G. Kenner Bush

Charles H. Gerhardt III

James D. Greenefelder

Jerry Hruby

Donald E. Jakeway

A. W. Maier

Tom M. Studevant

Patrick J. Ungaro

Comment Period for Rail Projects Announced

Columbus – A subcommittee of the Transportation Review Advisory Council has announced that rail grade separation projects approved in draft form Thursday can be commented on until April 16.

Four members of the nine-member TRAC panel approved for funding four projects as part of Gov. Bob Taft's 10-year, \$200 million initiative to free Ohio communities from vehicle congestion caused by trains.

The public and public officials have 60 days to comment on the projects.

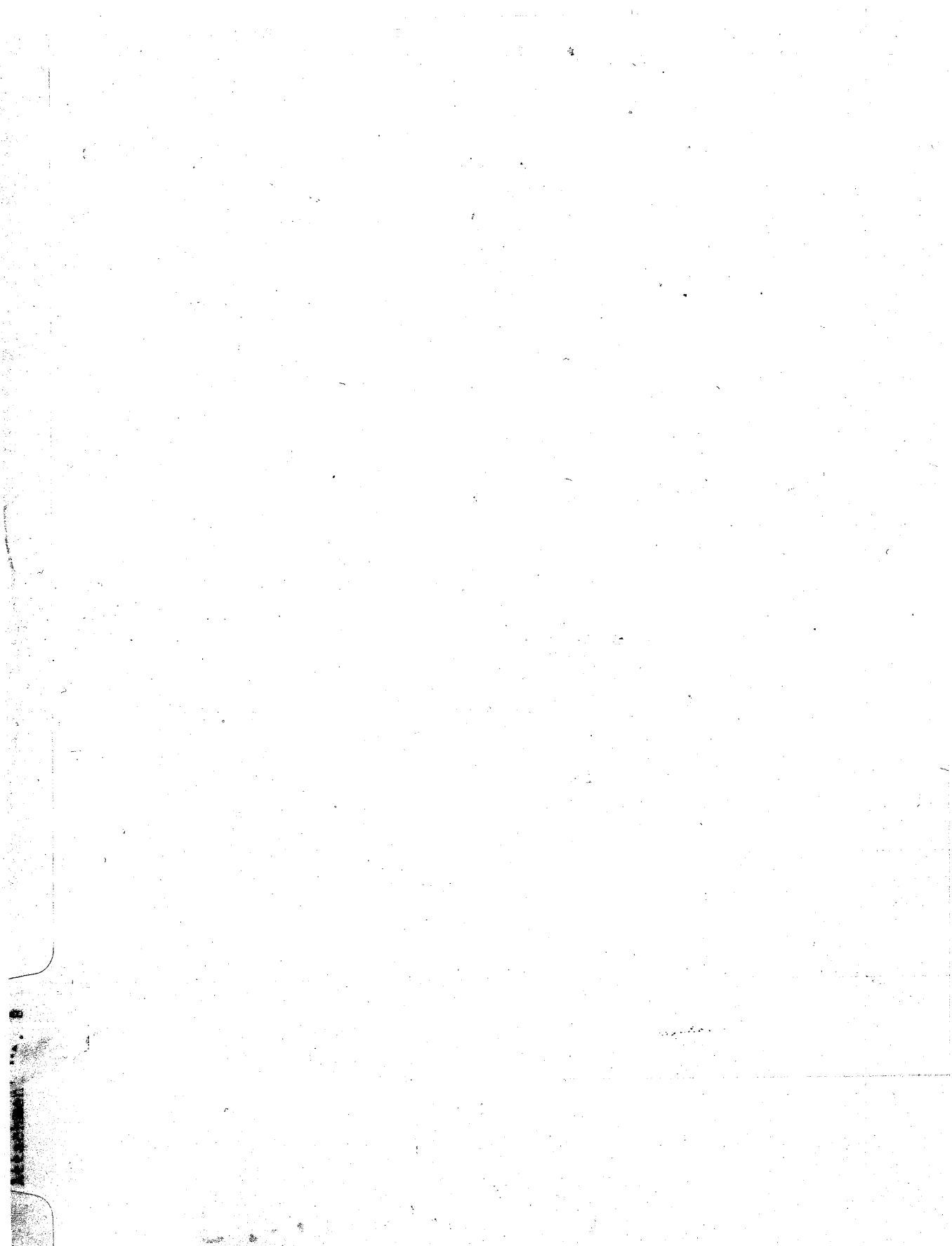
The projects, originally announced Feb. 8, and costing more than \$44 million, are in Lucas, Hamilton, Butler and Lake counties. Twenty-seven more projects are to get further development for possible construction later.

The TRAC subcommittee received 74 applications – worth \$450 million – for funding. Nearly 60 percent of the funds will be provided by ODOT, with communities, railroads and the Ohio Legislature as well as the federal government to contribute.

Comments can be made to Mike Ciotola, Rail Grade Separation Program Manager, at 1980 W. Broad St., Columbus, Ohio 43223 or mciotola@dot.state.oh.us

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Contact: Brian Cunningham, ODOT Communications Director, at (614) 466-7170.



BEFORE THE
SURFACE TRANSPORTATION BOARD
STB Ex Parte No. 582 (Sub-No. 1)
MAJOR RAIL CONSOLIDATION PROCEDURES

COMMENTS OF THE
MAYO FOUNDATION d/b/a MAYO CLINIC

INTRODUCTION

By decision served October 3, 2000 (October 3, Decision), the Board initiated this Notice of Proposed Rulemaking (NPRM) proceeding. If adopted, the proposed rules would represent the first major revision of the Board's Railroad Consolidation Rules, 49 C.F.R. Part 1180 et seq. since they were last changed as a result of the 1980 Staggers Rail Act amendments to the former Interstate Commerce Act. The NPRM sets November 17, 2000, as the deadline for initial comments by interested parties, with reply and rebuttal comments due December 18, 2000, and January 2001, respectively. The NPRM indicates that the Board will issue its revised final regulations by June 11, 2001.

The Mayo Foundation d/b/a Mayo Clinic ("Mayo Clinic") submits these initial comments in response to the Board's request.

BACKGROUND

Mayo Clinic concentrates all of its interests and resources on protection and advancement of human life by providing the best possible patient and family care at extensive facilities located in Rochester, MN and elsewhere throughout the country. Mayo Clinic's interest in this proceeding arises out of

its participation in the DM&E construction case.¹ The specific problem in that proceeding is that the Wyoming extension would dramatically change grain hauling regional carrier with modest traffic and frequency levels (presently 3 trains daily through Rochester) into an incessant round-the-clock presence expected to involve 37 trains per day through the heart of Rochester and in close proximity to Mayo Clinic facilities. The issues being addressed in these proceedings are very much the same as those that are facing Mayo Clinic and others in the DM&E proceeding.

A summary of Mayo Clinic's previously expressed concerns appears in Appendix T pages 347 and 348 of the Board's Decision initiating this proceeding served October 3, 2000 (October 3 Decision). As outlined in that summary Mayo Clinic is very much concerned that the STB must look much more closely at the emergency service and public safety ramifications of merger and construction proposals especially in light of the adverse experience of communities and public agencies in the wake of recent Conrail proceeding.² In addition Mayo Clinic urged the Board to expand the rulemaking proceeding to encompass railroad construction projects under 49 U.S.C. 10901 and to expand coverage of proposed rules in STB Ex Parte No. 574 concerning Development of Safety Integration Plans to include construction

¹ Finance Docket No. 33407 Dakota, Minnesota & Eastern Railroad Corporation Construction Into The Powder River.

² STB Finance Docket No. 33388 CSX CORPORATION AND CSX TRANSPORTATION, INC., NORFOLK SOUTHERN CORPORATION AND NORFOLK SOUTHERN RAILWAY COMPANY - CONTROL AND OPERATING LEASES/AGREEMENTS - CONRAIL INC. AND CONSOLIDATED CORPORATION.

proposals under 49 U.S.C. 10901.

Mayo Clinic believes that the Board's proposed rules would substantially raise the bar which merger applicants must clear to obtain merger approval but do not adequately address the concerns raised by communities and others which have been or will be adversely affected by merger (or construction) proposals. Mayo Clinic recognizes that the Board proposes to require applicants "to submit evidence about potentially blocked grade crossings as a result of merger related traffic increases."³ While this is a step in the right direction, Mayo Clinic submits that it falls far short of addressing the very serious concerns that have been raised by responsible public agencies and communities that are dealing with adverse safety and environmental impacts from recent railroad mergers.

Specifically, the U.S. Department of Transportation ("DOT") maintains that the UP/SP and CSX/NS/CR transactions have demonstrated that STB's current procedures do not address many of the adverse community and environmental impacts of a consolidation. Mayo Clinic submits that criticism holds equally true in construction cases. These concerns have been documented by previous submissions in the State of Ohio⁴ and adversely affected the city of Cleveland.⁵ As a result DOT has urged STB

³ Proposed § 1180.1 (f) (2).

⁴ October 3 Decision, Appendix H, p. 219-221.

⁵ October 3 Decision, Appendix H p. 225-227.

to consider new approaches and to explore options to address merger related environmental impacts including areas which significantly impact on communities even though they do not meet current threshold levels⁶. Mayo Clinic strongly concurs in DOT's assessment and urges STB to expand much needed changes to include construction proposals under 49 U.S.C. 10901.

It is also noted that Kansas Agencies have emphasized the importance that STB adopt regulations that will assure that significant weight will be given to local opinion and that conditions can be imposed to meet specific local concerns.⁷ Mayo Clinic strongly supports the need for affirmative steps in this proceeding to assure that vital community concerns are fully considered and adequately addressed with appropriate conditions.

Mayo Clinic also agrees with the serious reservations raised by the California Public Utilities Commission in regard to rail carriers with accident records above industry average or otherwise deemed unacceptable.⁸ Mayo Clinic urges STB to specify that approval of applications involving a carrier with an adverse safety record will be withheld unless the Board is satisfied on the basis of clear and convincing evidence that safety performance will be raised to fully acceptable levels. That same requirement should be extended to construction applications since safety is every bit as much a concern in such proceedings.

⁶ October 3, Decision, Appendix G p. 202.

⁷ October 3 Decision, Appendix H, p. 209.

⁸ October 3 Decision, Appendix H, p. 207.

Still another key community impact and environmental impact issue common to both rail merger and construction cases involves essential mitigation or avoidance issues and who should pay for these measures. In the case of DM&E construction it is the railroad and its customers (distant electric utility companies which stand to benefit materially from proposed extension of the railroad. Yet Mayo Clinic and its surrounding community are faced for paying a very high price for that project in the form of substantial impacts which will adversely affect Mayo Clinic and Rochester. Where applicant carrier(s) stand to benefit materially from a proposal that portends substantial burdens on communities, Mayo Clinic urges that the proposed regulations should provide the cost of mitigating avoiding such burdens is to be allocated accordingly.

CONCLUSION

Mayo Clinic and the high quality of health services it provides have grown to a state of considerable renown in no small measure because of the quality of life within the City of Rochester. The peaceful environment is conducive to treatment and healing that is vitally important to the thousands of patients and their families who rely on Mayo Clinic. The immediate threat to the quality of that environment in the form of the DM&E construction proposal necessitated Mayo Clinic's involvement in that proceeding and motivated its participation in the ten rulemaking proceeding.

Mayo Clinic urges the Board to pay heed to the voices of communities and public agencies which are grappling with serious problems as a result of environmental and safety problems associated with recent railroad mergers and consolidations lest the serious problems of the recent past be repeated.

Mayo Clinic urges the Board to commit sufficient resources and time to identify and provide for adequate mitigation or avoidance of public safety and environmental problems in the public interest.

Finally, Mayo Clinic renews its urgent requests (1) that the Board expand the scope of their rulemaking to encompass railroad construction proposals under 49 U.S.C. 10901 and, (2) that the Board reconsider and extend coverage of the proposed rules in STB Ex Parte No. 574 to include construction proposals in view of the overriding importance of public health and safety.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Keith G. O'Brien", is written over the typed name.

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Washington, DC 20036

Counsel for:
Mayo Foundation d/b/a
Mayo Clinic

CERTIFICATE OF SERVICE

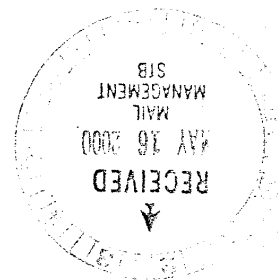
I hereby certify that I have on this the 17th day of
November, 2000, served a copy of the forgoing on all known
parties of record by first class U.S. Mail postage prepaid.

A handwritten signature in cursive script, appearing to read "Keith G. O'Brien", written over a horizontal line.

Keith G. O'Brien

Attachment

BEFORE THE
SURFACE TRANSPORTATION BOARD



STB EX PARTE NO. 582 (Sub-No. 1)
ADVANCE NOTICE OF PROPOSED RULEMAKING

Comments Of The Mayo Foundation
d/b/a/ Mayo Clinic

Keith G. O'Brien
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(202) 785-3700

DATED: May 16, 2000

BEFORE THE
SURFACE TRANSPORTATION BOARD

STB EX PARTE NO. 582 (Sub-No. 1)
ADVANCE NOTICE OF PROPOSED RULEMAKING

Comments Of Mayo Foundation
d/b/a/ Mayo Clinic

Pursuant to the Advance Notice of Proposed Rulemaking served on March 31, 2000, the Surface Transportation Board ("STB" or "Board") requested comments on ways in which to modify current merger regulations in order to promote and enhance competition and other public interest goals. Mayo Foundation, d/b/a Mayo Clinic ("Mayo Clinic"), appreciates this opportunity to present its views and specific concerns focusing on rail safety and other key public interest issues.

Mayo Foundation is a charitable, not-for-profit health care organization based in Rochester, MN. The Foundation's mission is to provide the best patient care through its integrated programs in clinical practice, education and research.

Mayo Clinic and all its affiliated entities are dedicated to the protection and advancement of human life.

In Rochester, MN Mayo Clinic and its affiliates Saint Marys Hospital and Rochester Methodist Hospital ("Mayo Rochester") together form an integrated medical center offering patients virtually every medical expertise, treatment and diagnostic service. Its patient care activities are supported by

extensive programs in medical education and research. Half of Mayo Rochester's patients come from Minnesota while the other half come from all 50 states and throughout the world. Approximately 80% of the patients who come to Mayo Rochester are treated as outpatients. On a typical day over 1,000 new outpatients arrive for treatment and there are about 150 new admissions to one of the Rochester hospitals. Mayo Rochester employs almost 1,400 highly skilled physicians and scientists who are supported by over 1,500 residents and over 20,000 dedicated allied health care personnel.

Mayo Foundation has affiliated subsidiaries in Jacksonville, FL and Scottsdale, AZ: Mayo Clinic Jacksonville, a 229 physician group practice; Mayo Clinic Scottsdale, a 241 physician group practice; St. Luke's Hospital, Jacksonville, with 272 licensed beds and Mayo Clinic Hospital, Scottsdale with 178 licensed beds. In addition, the Foundation is also affiliated with Charter House, a 245-unit retirement community located in Rochester, MN and Mayo Health System; a network of clinics and hospitals located in 60 communities in southern Minnesota, northern Iowa and western Wisconsin.

Mayo Rochester is the third largest employer in Minnesota and the largest employer in southern Minnesota. The majority of patients served at Mayo Rochester facilities come from outside the region - all 50 states and more than 100 countries around the world. In addition to the excellent medical

care available at Mayo Clinic facilities, these patients are attracted by the pleasant, clean, peaceful community of Rochester. A good measure of Mayo Clinic's growth and success is directly attributable to its patient and family friendly environment.

Until recently Mayo Clinic has not concerned itself with railroads and the STB. However, with the advent of the Dakota, Minnesota & Eastern Railroad (DM&E) construction project and the prospect of 37 coal trains per day rumbling through the center of Rochester, Mayo Clinic has found it necessary to learn a great deal about railroads and the authority of the Board. In particular, Mayo Clinic's interest has been focused on the public interest and safety issues that concern the Board in its decision-making capacity.

Mayo Clinic has noted the concerns raised by the State of Ohio in its February 29, 2000, statement to the Board in the predecessor to this proceeding. In that statement, Ohio advised that it has found it necessary to commit to a \$200 million program to build railroad/highway grade separations, almost all of which will be at taxpayer expense. The State emphasized that this program is an outgrowth of dramatic increases in rail traffic through Ohio communities as a direct result of the recent division of Conrail lines between CSX and Norfolk Southern.

Although some mitigation was granted to Ohio communities by the Board, the record indicates that no grade

separations were required within the State. In its February 29 statement, Ohio was frank in emphasizing that the mitigation provided by the Board was by no means enough to mitigate emergency service and other safety problems that have resulted from the division of Conrail lines. In this regard, news accounts have noted that increased rail traffic has resulted in children crawling under stopped trains; ambulances diverted as much as 21 miles as a result of blocked crossings and communities expressing concerns that they have been cut off from their fire stations. As a result of these problems, the State has received over 250 urgent requests for grade separations. However, the \$200 million program will be adequate to fund only 40 grade separations over a ten-year period.

Ohio entreated the Board to recognize that when it fails to mandate adequate environmental (and safety) mitigation, the burden of necessary action falls back on state and local tax payers.

Mayo Clinic joins with Ohio in urging the Board to look much more closely at emergency service and safety ramifications in rail merger and consolidation proceedings. Mere seconds of delay in emergency response to a heart attack or serious accident victim can mean the difference between life or death. Mayo Clinic maintains that no alleged economic benefit can outweigh the value of the life of a provider to his/her family or of a youngster just starting out on life's pathways.

As previously noted, Mayo Clinic's interest and resources are focused on public health and safety issues. Of necessity that interest extends to any external activity that could threaten the Clinic's ability to provide the highest possible quality of health care.

If approved, the DM&E construction project could well be the largest rail project in the United States in over 100 years. The result could be a dramatic increase from the current 3 to 4 slow moving trains to 37 fast moving, mile-long coal trains a day thundering directly through the middle of Rochester, Mayo's home community. The potential impact of the health and safety as a result of this significant increase in the number and speed of trains on its patients, employees and the entire community is why Mayo Clinic is actively participating in the DM&E proceeding.

Mayo Clinic has learned that the Board is responsible for promoting safe railroad transportation. The rail transportation policy that guides all of the Board's actions establishes that it is the policy of the United States Government "... to promote a safe and efficient rail transportation system ...[by allowing rail carriers] ...to operate transportation facilities and equipment without detriment to the public health and safety"...(emphasis supplied) [49 U.S.C. 10101(8)]. Mayo also notes that the statutory provisions governing rail consolidations and mergers (49 U.S.C. 11324) and authorization of

construction and operation of railroad lines (49 U.S.C. 10901) both provide that the Board may impose conditions in the public interest. In addition, environmental issues, including the impact on the human environment must be considered both in merger and construction proceedings.

In view of the broad scale implications of major rail construction projects such as the DM&E proposal, Mayo Clinic urges the Board to expand its review in this proceeding to encompass existing policies and regulations concerning railroad construction projects under 49 U.S.C. 10901. Mayo submits that such an expansion will not unduly broaden the scope of this inquiry and should serve to focus worthwhile attention on important public interest considerations that are affected by rail construction projects.

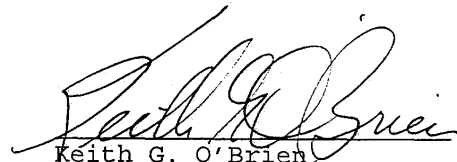
Mayo Clinic is aware that the STB has required rail carrier applicants to work with the Federal Railroad Administration ("FRA") to develop Safety Integration Plans (SIP's) to ensure that safe operations would be maintained during implementation of merger proposals. Mayo is also aware of the joint rule making proceeding in which FRA and STB have proposed regulations to provide a coordinated consideration of safety regulation issues in railroad merger cases (STB Ex Parte No. 574 and FRA Docket No. SIP-1). However, Mayo notes with considerable concern that the STB has not proposed to extend its regulations to include construction proposals although FRA deems such

coverage both necessary and appropriate.

Mayo Clinic respectfully urges the STB to reconsider coverage of its proposed rules in STB Ex Parte No. 574 to include construction proposals in view of the critical importance of public health and safety. Mayo submits that such coverage is consistent with the rail transportation policy and public interest directives of the controlling statute.

CERTIFICATE OF SERVICE

I hereby certify that I have served the forgoing on all known parties of record on the Service List on this the 16th day of May, 2000.

A handwritten signature in cursive script, appearing to read "Keith G. O'Brien", is written over a horizontal line.

Keith G. O'Brien
Counsel for:
The Mayo Foundation d/b/a
Mayo Clinic

ALPHABETICALLY

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DONALD E. CROSS (1923-1986)

January 11, 2001

Hon. Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

**RE: STB Docket No. EP 582 (Sub-No. 1),
Major rail consolidation procedures**

Dear Secretary Williams:

I am writing on behalf of Mayo Foundation d/b/a Mayo Clinic (Mayo) in connection with the above-captioned notice of proposed rulemaking proceeding (NPRM). By way of background, Mayo operates major health facilities at Rochester, MN, and other locations throughout the country.

Mayo originally filed initial comments in this proceeding on November 17, 2000, indicating concerns that increased rail traffic flows due to railroad construction cases (specifically the so-called Powder River extension of the Dakota, Minnesota & Eastern Railroad) and rail mergers could have on its Rochester facilities. In particular, Mayo voiced concerns about the emergency service and public safety ramifications of railroad merger and construction proposals. It stated that the STB's proposed rule does not adequately address the concerns raised by the US Department of Transportation, the State of Ohio and others who will be adversely affected by merger or construction proposals. See, Mayo's initial comments at 2-3. Mayo cannot stress these comments enough.

Mayo also supports the US Department of Agriculture (Reply Comments at p. 11) and the State of Ohio in urging expansion of the proposed merger rules to make provision for Board approval of railroad alliances and adequate remediation of impacts resulting from such alliances. As noted by the State of Ohio increased train traffic through a community resulting from a rail alliance has the same negative impacts as increased train traffic resulting from a merger. ORDC November 17 Comments at 16. Railroad

transactions which will result in more train traffic with attendant impacts on emergency service and public health raise vital public interest issues. Mayo urges the Board to take action that will ensure that these issues will be thoroughly considered and that remedial measures will be required whenever necessary in the interest of the public.

Mayo appreciates the opportunity to present its views on this important matter.

Sincerely yours,



Keith G. O'Brien
Counsel for:
Mayo Foundation

11-01-1961

Highway-Rail Grade Crossing Activation Failure Causes 1998-2000

Sand, Rust or Other Deposit on Rail	128 (Includes 48 malfunctions due to leaking grain car traversing Railroad's Tracks.)
Failure of Relay	228
Crosses, Grounds, Open Circuits	135
Apparatus Broken, Defective, or Out of Adjustment	126
Lightning/Power Surge	154
Vandalism	126
Errors in Connections or Adjustments	50
Design Error	12
Directional Lockout of Stick Circuit or Interlocking Relay	62
Power Failure (Commercial or Railroad)	420
Failure of Electronic Device	128
Interference	88
Other	129
Total	1,786

Source: Federal Railroad Administration

Byline — Dr. Hugh Smith

Entire region should be concerned about railroad proposal

Human safety issues go unanswered

For the past several months, Mayo Clinic has been studying the potential impact of the proposed DM&E railroad project. What we have learned causes serious concerns.

If approved, the DM&E high-speed coal train will be the largest rail project in the United States in 100 years. Rochester will be by far the largest city bisected by this high-speed surface rail project, and no city our size in the United States comes close to having the same number of patients in hospital beds affected by such a project.

This makes the magnitude of this project, and its negative impact on southern Minnesota, unique.

DM&E's failure to address the proposal's impact on the regional economy, and most importantly, on human life and care of the sick in the region, is profoundly disturbing.

The DM&E coal train proposal causes Mayo Clinic great concern because of its significant negative impact on the safety of our patients, our employees and the communities in which we work and live.

Threat to human life

More trains — especially 37 or more mile-long coal trains each day — will dramatically increase traffic delays in Rochester. These delays also will slow down emergency medical care teams responding to the scene or being mobilized at the hospital to provide life-saving emergency care. And with today's advanced medical treatment, delays of just a few seconds can threaten a life that could otherwise be saved.

In the case of cardiac arrest — when a person's heart stops beating — a 36-second delay in emergency care can mean the difference between life and death. In most cities the size of Rochester, a person's chance of surviving an out-of-hospital cardiac arrest is 2 percent. In Rochester, that same person's chance of surviving an out-of-hospital cardiac arrest is 49 percent.

That increased likelihood of survival is a direct result of the rapid response by emergency responders in the first few minutes following cardiac arrest. The proposed high-speed coal train would seriously impair this rapid response.

Emergency angioplasty (reopening a blocked coronary artery) significantly reduces the size and damage of heart attacks and improves survival. Heart attack victims in our region, whether from Owatonna, Stewartville, Rochester or any other community or rural area, who can benefit from this lifesaving care are rushed to Saint Marys Hospital in Rochester, the only hospital in the region that performs these emergency lifesaving procedures. If these patients arrive at night, on weekends or holidays, emergency medical teams must be called to the hospital to perform this vital procedure. The proposed high-speed coal trains would delay ambulances carrying the patient and delay the team of physicians, nurses and technicians on

their way to the hospital.

This creates a potential double jeopardy for patients — not only is it possible the patient will be delayed in getting to the hospital — but so might the emergency medical team that is required to perform the procedure. Any delays could seriously compromise the outcome for these patients.

Mayo Clinic heart specialists perform more than 200 "after-hours" emergency angioplasties every year — three to four life-saving procedures a week. It's not only conceivable, but very likely, that a member of the emergency team will be waiting at a railroad crossing while the patient is waiting in the operating room. Clearly, this is not acceptable.

There are currently 10 "at-grade" or traffic-stopping train crossings in the city of Rochester. Figuring 37, 100-car trains a day, traveling at 45-55 miles per hour — as proposed by DM&E — Rochester streets will be blocked for a total of two hours each day. When you compare the mere seconds necessary to save lives with the hours of expected traffic delays, the threat to human life becomes apparent.

In Moorhead, Minn., a city also bisected by high-speed rail, the hospitals must dispatch two ambulances in response to each 911 call — one following a direct route over the railroad tracks and the other a less direct route using an overpass. Unlike Moorhead, which has a hospital on each side of the tracks, all of Rochester's hospitals are located south of the rail line and most of our community's recent growth has been north of the tracks.

Although DM&E is willing to discuss some issues pertaining to the proposed project, it is most alarming that, to date, DM&E has refused to respond to the issues of human safety.

Toxic spills

Although this is billed as a high-speed coal train project, DM&E currently carries tankers filled with propane and anhydrous ammonia. If this

proposal is approved, there will be no restrictions on the nature or quantity of hazardous substances that DM&E can haul through the heart of Rochester at high speed. Furthermore, federal records indicate the DM&E has the worst safety record of any railroad its size in the nation. Many remember the July 1, 1992 train derailment near Duluth-Superior, which dumped nearly 22,000 gallons of volatile compounds, including benzene and toluene, and caused 50,000 residents to be evacuated. Or last year's derailment in Kasson that required nearly two-thirds of the town to be evacuated.

The thought of the same thing happening in Rochester is chilling. Mayo Clinic's two hospitals in Rochester are often full, with approximately 1,000 acutely ill patients, nearly 200 of them in intensive care.

Your first thought would be to evacuate the hospitals, but that would be impossible. There are simply not enough ambulances or hospital beds that could care for this many seriously ill or injured patients without significant risk to life. Such a catastrophe would leave our hospitals inaccessible to seriously ill or injured citizens in our region during this critical time.

Also, thousands of elderly live within several blocks of the rail line. Their rapid and safe

evacuation would be difficult, if not impossible. There also are schools, parks and businesses located in close proximity to the track.

Economic uncertainty

The DM&E proposal concerns Mayo Clinic because of our mission to protect human life. But that does not mean it's a narrow issue. Quite the contrary, Mayo Clinic is a major contributor to the economic health and vitality of the community, the region and the entire state of Minnesota.

In 1998, nearly 250,000 patients made more than 1.5 million visits to Mayo Clinic. The many patients who come to our region generate 1.6 billion healthcare dollars each year. Those same patients and their families contribute an additional \$180 million in revenue to other nonmedical businesses throughout the region.

With more than 22,000 employees, Mayo Clinic is the third largest employer in Minnesota and the largest employer in southern Minnesota. More than one out of four Mayo Clinic employees live in surrounding communities outside of Rochester.

The high-speed coal train proposal is a clear threat to Mayo Clinic's ability to meet its goal of providing our patients the highest quality healthcare every day. Our patients from near and far tell us that our pleasant, clean, peaceful community is a major reason they choose to come here for medical care. The majority of our patients come from outside our region — all 50 states and more than 100 countries around the world. Unlike Mayo Clinic, virtually all other similar-sized medical centers are located in large cities, and most of their patients come from their own metropolitan area. For Mayo Clinic, being in Rochester is both an advantage and disadvantage. We have the distinct advantage of being located in a small, friendly and attractive Upper Midwest community. However, with our size, we are dependent upon the majority of patients coming from outside the region. In a highly competitive healthcare arena, our continued success is driven in large part by patients from outside our region continuing to choose to come here for care.

The attractiveness of both Rochester and Mayo Clinic would be severely impaired by a high-speed coal train thundering through the heart of Rochester every 40 minutes. Even a small decline in patients and the people who come with them, due to noise, traffic congestion or decreased quality of life, would cost the community jobs and millions of dollars annually.

Right now Mayo Clinic has plans to expand and grow, adding more patient services and research facilities — further contributing to the quality of life and economic vitality of the region. This expansion will require new workers. Currently, Olmsted County has one of the lowest unemployment rates in the United States. But 37 or more high-speed coal trains racing through our community each day could make Rochester less attractive to those thinking of relocating here.

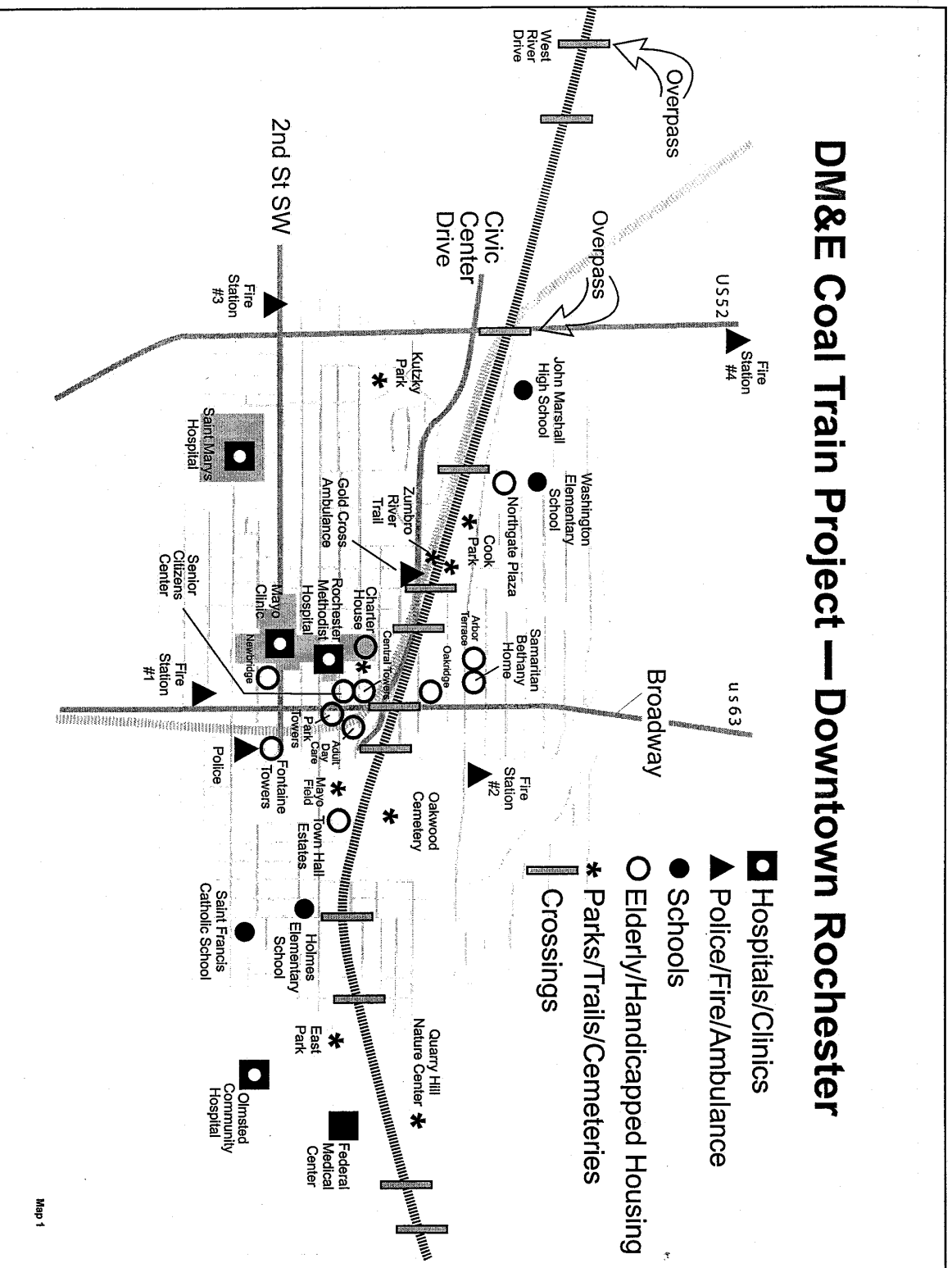
Take action

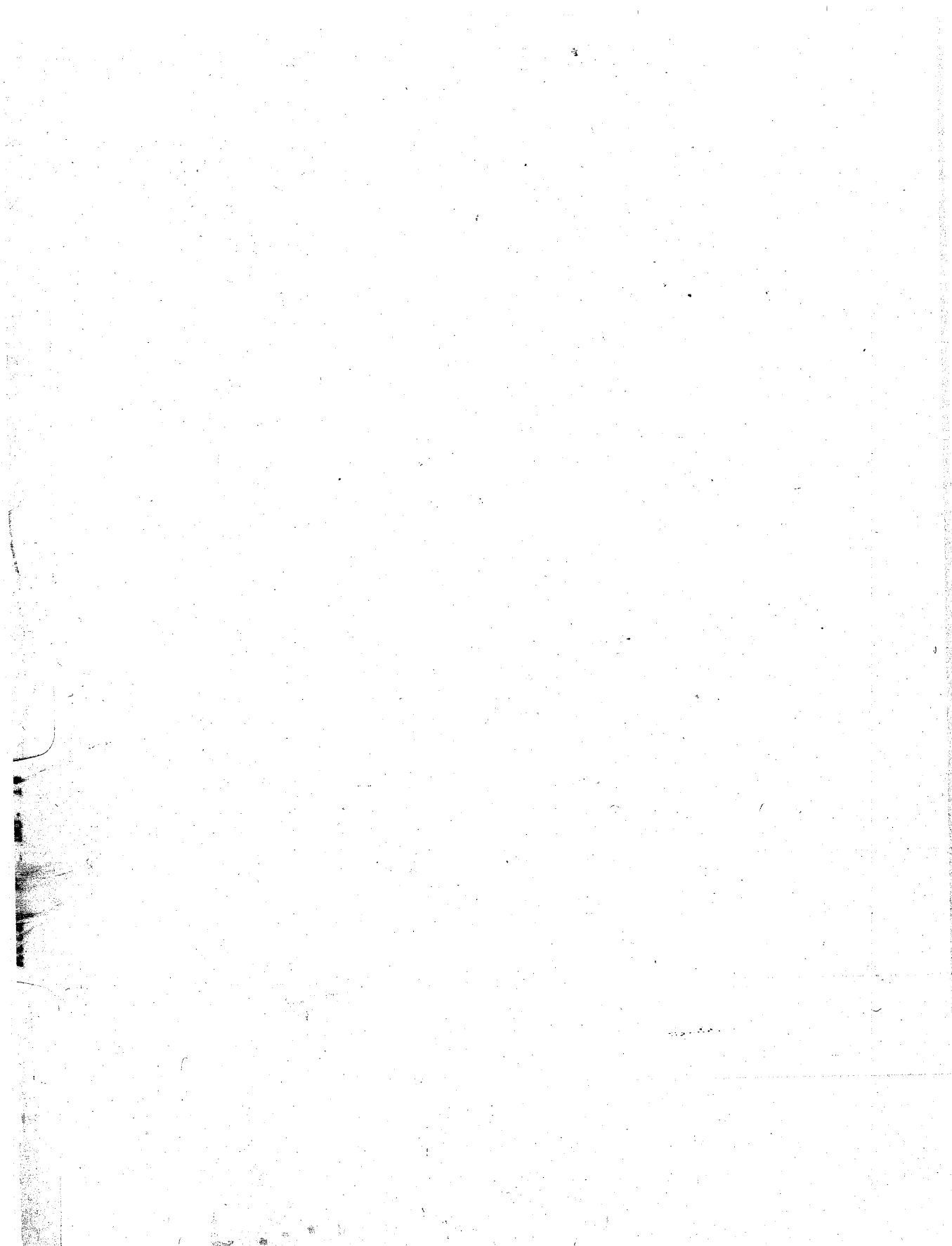
Mayo Clinic is opposed to the proposal to bring a high-speed coal train through the heart of Rochester approximately every 40 minutes each day. This proposal is unacceptable. We are asking the Surface Transportation Board (STB) to reject the proposal.

The decision to approve or reject the proposal rests with the STB. Due to significant concerns expressed by hundreds of citizens of Rochester and the region, the STB has decided once again to accept comments regarding the environmental impact of the proposal and possible alternatives. The deadline to send comments about the proposal is April 10.

Mayo Clinic believes any alternatives that would lessen the threat to human life must be considered. Mayo Clinic asks that you seriously consider and weigh the impact of this high-speed coal train proposal. If you share our concerns about the proposal, contact the STB or your federal elected officials. The STB has a history of supporting railroads. Each letter sent makes a difference. Your actions can help stop this railroad from drastically changing the community and region in which we work and live.

DM&E Coal Train Project — Downtown Rochester





Wis. Chemical Fire Forces Evacuation

Associated Press

OSHKOSH, Wis., Dec. 17—Hundreds of residents who were rushed from their homes when fire broke out in a chemical-carrying train car may not be allowed to return for several days because of dangerous fumes, authorities said today.

Hazardous-material teams continued to fight the fire this afternoon, more than 24 hours after it began. The car was loaded with 141,000 pounds of sodium hydrosulfite, a highly flammable chemical, fire officials said.

Firefighters contained the blaze to the boxcar but evacuated about 750 homes for fear the fumes could cause respiratory problems.

Residents were allowed into their homes briefly today to gather essential items, said Scott Snyder, an American Red Cross spokesman.

There were no reports of serious injuries.

Officials decided to let the fire burn itself out, said Jim Coats, a fire battalion chief. He said it likely would be two to four days before residents would be allowed to re-

turn home.

Authorities also cut off access to everything within two blocks of the train car, most of it industrial. An official from North Carolina-based Clariant Corp., which manufactures the chemical, is on the way to advise the teams.

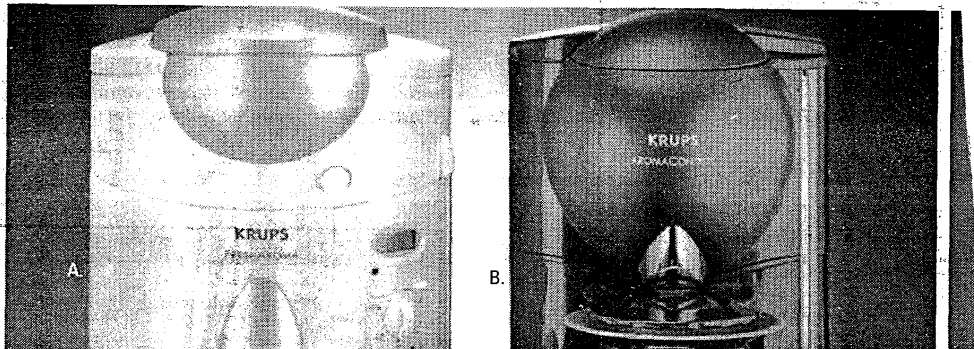
"They rapped on my door and said, 'Grab your coat and get out of here,'" said Viola Knack, 99, who was among the residents ordered to leave their homes immediately. She spent the night on a cot in a school.

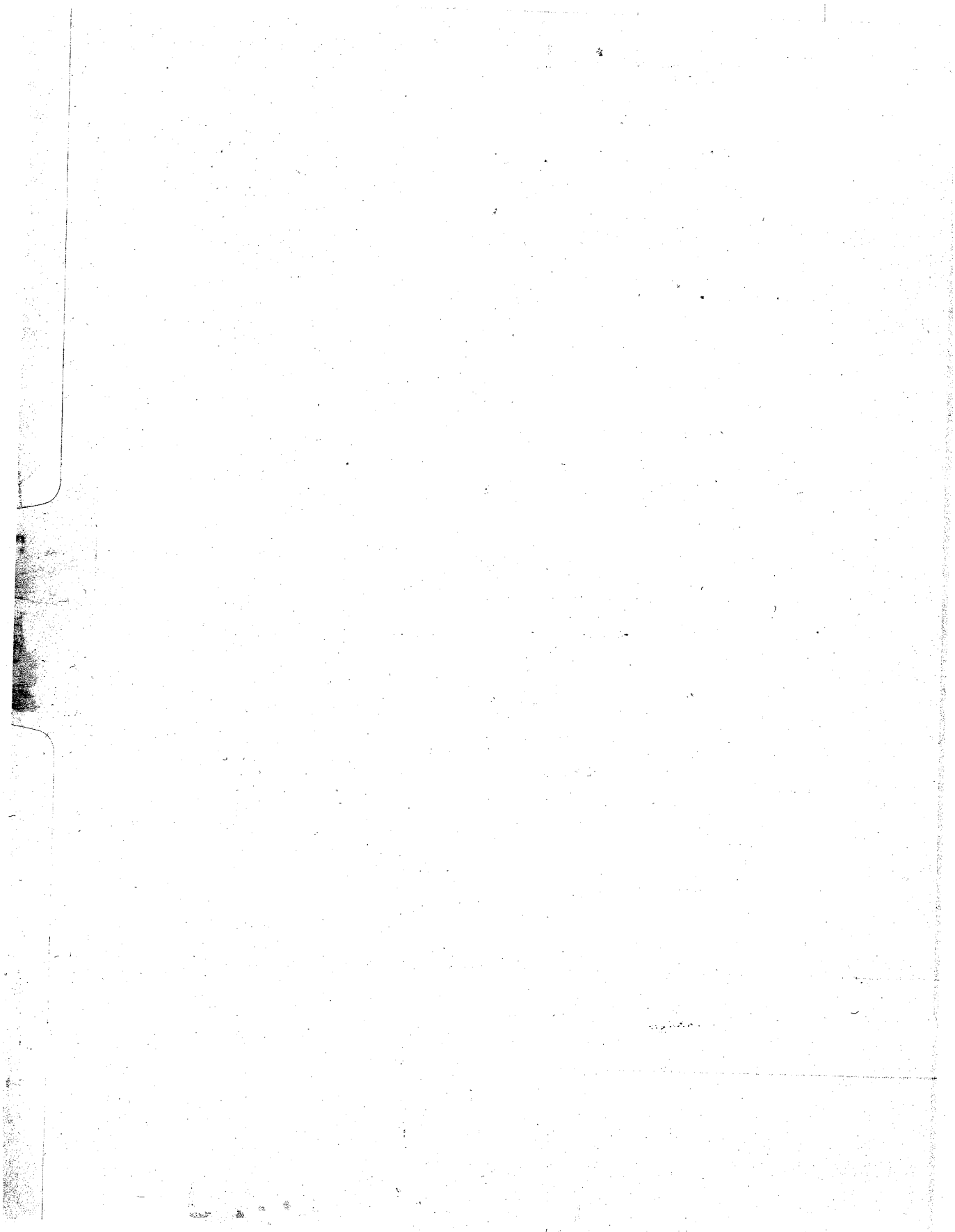
"I'm here without anything," she said. "Just what I got on."

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 Web page: www.mnmed.org/zvms/

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November 17, 2000

Office of the Secretary
 Case Control Unit
 Finance Docket No. 33407
 Surface Transportation Board
 1925 K Street, NW
 Washington, DC 20423-0001

**ENVIRONMENTAL
 DOCUMENT**

This is regarding STB Finance Docket #33407, Dakota Minnesota and Eastern Railroad Corporation construction into the Powder River basin.

Dear Ms. Rutson:

I am writing to you in my capacity as Chair of the Legislation Committee of the Zumbro Valley Medical Society on behalf of and with the endorsement of the Executive Committee of this society. Zumbro Valley Medical Society represents over 2,000 physicians practicing in the southeastern Minnesota counties of Olmsted, Dodge, Fillmore, and Houston. We wish to express our deep and continuing concerns regarding the environmental impact of the proposed expansion of the DM&E coal service through our community and specifically through Rochester, Minnesota. We have reviewed the draft environmental report of the Surface Transportation Board. We do not feel that the draft report adequately incorporates either our concerns as expressed in my previous letter of April 6, 1999, or that it adequately addresses the potential for mitigation of these impacts, which we believe in many cases will be impossible.

Our concerns each relate to the health of the community that we serve in Southeastern Minnesota. We believe that it is important that the STB recognize certain salient facts about Rochester, Minnesota, facts that significantly affect the environmental impact of the DM&E proposal in Rochester, in ways that might not apply in other communities. First, Rochester contains just 2% of the population of Minnesota, yet provides roughly 12% of the medical care in the state. Each day literally thousands of people travel to Rochester for vital medical services. Access to medical facilities is

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 Office of the Secretary**

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**Part of
 Public Record**

thus especially important in our community. Second, Rochester is in a primarily rural environment. The next closest, comparable medical facilities (where patients could be transferred in an emergency, for example) are 80 miles to the north, in the Twin Cities area. Third, all 4 hospitals in Rochester, including the only level 1 trauma center in southeastern Minnesota, are south of the DM&E tracks, and in close proximity to the tracks. One, the Federal Medical Center, actually abuts the tracks. Fourth, there is only one grade separation in central Rochester. Emergency vehicle access from the north is therefore compromised by any increase in rail traffic. We believe that these facts set Rochester apart as a unique regional and even national medical resource, and that this in turn requires unique attention to the medical implications of the DM&E proposal. Any increase in traffic on the DM&E line, especially in the volume and intensity proposed, would cause irreparable and irremediable harm to our community and the patients it serves. Our specific concerns are summarized below:

- 1) As noted above, the four medical centers in our community are all located in proximity to the DM&E line, and on the same side of the tracks. This poses several general issues with regard to the hospitals themselves.
 - A) Each of these hospitals contains delicate scientific equipment, including medical imaging equipment and monitoring equipment, which is sensitive to vibration. Heavy coal trains passing through the city at high rates of speed will generate unacceptable levels of noise and vibration. The estimated sound level of 70 decibels is equivalent to the noise impact under an airport landing path. These levels of noise and vibration would be produced more than once every hour, around the clock, disturbing our ability to use this sensitive equipment during these times. In a hospital environment, we cannot ask emergencies to wait until the train passes. Moreover, we believe that the around the clock disturbance of the high noise levels will have an adverse effect on our patients' ability to sleep. Patient sleep deprivation is historically a major problem in hospitals, and one that we have worked hard to alleviate here in Rochester through better hospital design. The DM&E expansion, and the added noise it entails, runs the risk of completely undoing our efforts, to the detriment of patient care. Unfortunately, we can see no mitigation for these problems.
 - B) The problems posed by evacuation of these hospitals should a toxic spill occur on the DM&E line. You have, we know, heard much testimony regarding the current poor safety record of the DM&E. Although it is possible that an upgrade of the tracks might improve the safety margin somewhat, this is more than counterbalanced by the negative impact of the marked increase in traffic and the nature of the cargos which the trains will be carrying or may carry. We are sure that you are aware of the recent derailment in Scottsbluff, on the Burlington Northern line, which required a fairly significant community

evacuation. Were such a derailment to occur in central Rochester, the results would be catastrophic. The hospitals could not be realistically evacuated. The nearest appropriate hospitals are all north of Rochester, i.e. on the other side of the DM&E tracks. Thus, hospital evacuation would not be physically possible, even if it were practical. The Federal Medical Center has even worse problems. We are sure that you are aware that they have a security perimeter, which requires sensitive motion sensors, none of which would be able to function properly in the presence of these high-speed trains. The DM&E line abuts the Federal Medical Center property. Furthermore, it would be additionally difficult to evacuate the Federal Medical Center in case of an emergency, because the next closest federal prison system medical center is hundreds of miles away. These evacuation problems alone, which are not amenable to mitigation, should rule out any consideration of expansion of the DM&E line in Rochester. Again, we would like to emphasize the unique nature of Rochester in this regard. We are aware of no other community in the United States in which there is a similar highly complex concentration of medical services, so far from other comparable facilities, and so close to a potential major high speed, high volume freight line. Again, we see no potential to mitigate these real and significant health care risks, other than to deny the service expansion through Rochester.

- C) Even without considering the possibility of a catastrophic accident, which of course is always a possibility with any rail line, the day to day operation of emergency vehicles must also be taken into consideration. There is only one grade separation in central Rochester. These mile plus long coal trains would block multiple intersections simultaneously for considerable periods of time during the day. Currently, DM&E traffic is two or three short trains per day; after the coal project is completed upwards of 30 mile-plus long trains per day will be traveling through our city. Even a few minutes of delay for an emergency vehicle can be fatal to the victims it transports. Again, this emergency vehicle access issue is not a problem which is amenable to mitigation other than major reconstruction of the entire central portion of Rochester, Minnesota, or the construction of additional hospital facilities north of the tracks. We hope you agree that neither option is realistic. We cannot ask emergencies to wait until the train passes. The medical community feels very strongly that for human health reasons, the environmental impact of traffic delays on emergency vehicle access to our hospitals must be seriously considered and the impact of any delays on human life be carefully weighed before approval is provided to DM&E for this project.

- 2) The physicians of southeastern Minnesota are also concerned about the general community health impact of this project. The trains themselves will create

considerable air pollution; the traffic obstructions, which are caused by the train traffic, will be sources of additional pollution. Finally, coal dust and other debris blown from the trains will worsen air quality further. Rochester, Minnesota is unique in that its central core is almost entirely dedicated to health care. Many people who come to Rochester have respiratory disease. This DM&E project will worsen the quality of the air environment and this is not a problem which we feel can be mitigated in any reasonable fashion. Furthermore, as the environmental impact statement indicated, Rochester is in an area of karst geology. Thus, our ground waters are at higher risk for contamination from any sort of toxic spill. We believe that this is another reason for DM&E to consider a different pathway for their coal train traffic, and again, we believe that this is another environmental problem that is not amenable to mitigation.

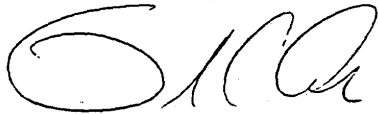
- 3) There is the issue of environmental justice. Many of our patients are members of minority, immigrant, or low-income communities. Most of these minority, immigrant, or low-income patients live within close proximity of the railroad line. Rochester has had a significant influx of immigrants from east Africa and southeastern Asia in the past decade. Many have special healthcare needs, that require regular attendance at our medical facilities. Tuberculosis is a particular and worrisome problem in this community. The disproportionate hazards posed by the rail line for minority and underprivileged community safety, air quality, noise pollution, and overall quality of life are all additional environmental factors, which should represent contraindications to the DM&E project. The use of outdated 1990 census information in the draft EIS to determine environmental justice impacts is especially inappropriate in Rochester, which in the past decade has been one of the fastest growing communities in Minnesota, with a significant portion of that growth coming from lower income, minority, and immigrant populations. We are confident that the 2000 census data will substantiate this, and provide further evidence of the environmental injustice that would result if the DM&E plans are approved.

For all of the above reasons, the medical community in southeastern Minnesota has been and remains opposed to the DM&E project. Moreover, both the Minnesota Medical Association and the American Medical Association have joined us in expressing concerns regarding the impact of railroads on hospital safety and reliable access to medical facilities by emergency vehicles. We are unaware of any medical testimony suggesting that these concerns are overstated. We strongly urge the Surface Transportation Board to consider more fully the health impacts of this proposed railroad expansion. We hope that you will agree with us that many, if not all, of these real and potentially life-threatening human health and environmental impacts are not amenable to mitigation and should

November 17, 2000

therefore constitute clear evidence to deny authorization, on environmental grounds, for this proposed railroad expansion, at least as it pertains to our community in southeastern Minnesota. We thank you for your consideration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'P. Amadio', written over a large, stylized circular flourish.

Peter C. Amadio, M.D.
Chair, Legislation Committee
Zumbro Valley Medical Society

PCA/cls

CC: Senator Paul Wellstone
Congressman Gil Gutknecht
Senator-elect Mark Dayton
George Malkasian, Jr., M.D.
Executive Director, Zumbro Valley Medical Society
Sally J. Trippel, M.D.
President, Zumbro Valley Medical Society

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

DATE 10-10-2001 BY 60322 UCBAW



Mayo Clinic
200 First Street SW
Rochester, Minnesota 55905
507-284-2511

December 20, 2000

Matthew A. Bernstein, Ph.D.
Department of Radiology

TO WHOM IT MAY CONCERN:

I am a Senior Associate Consultant in the Department of Diagnostic Radiology, who specializes in the field of Magnetic Resonance Imaging (MRI). I have been employed at the Mayo Clinic in this position since July 1998. Prior to that I was employed as a Senior Physicist in the Applied Science Laboratory of General Electric (GE) Medical Systems. I was employed at GE from 1987-1998. Overall, I have more than 15 years experience in the field of MR Physics.

The Department of Diagnostic Radiology has interest in installing a GE OpenSpeed [TM] 0.7 Telsa MRI unit at the Charlton Northeast Building. This particular MRI system has the advantage of being "open-sided", which is particularly desirable for scanning claustrophobic, very heavy, or pediatric patients. This MRI system has been advertised on television programs such as the 2000 Summer Olympics, and some of our claustrophobic patients have already requested to be scanned on such a system. Also, the maximal patient weight on this system is 500 pounds, rather than 350 pounds on our current MRI systems. This increase in the patient weight limit can increase access to our department's services.

One disadvantage of the GE OpenSpeed system is its extreme sensitivity to vibration. Vibration can cause smearing and (or) "ghosting" (spurious replicates) in the image. Severe smearing or ghosting can render the image non-diagnostic, and the MRI exam worthless. Although all MRI scanners are very sensitive to vibration, the OpenSpeed [TM] scanner is especially so. Generally speaking, the OpenSpeed [TM] scanner is approximately a factor of 10 times more sensitive to vibration than the standard, 1.5 Tesla cylindrical bore scanners that are currently sited at Charlton North and Charlton Northeast. This large difference in the maximal allowable amount of vibration between the two systems is due to the geometrical configuration of the OpenSpeed [TM] system. Its open-sided geometry means that the large structure overhanging the patient is supported by two relatively small posts.

A set of measurement techniques and specifications for siting the OpenSpeed [TM] are outlined in reference 1, the official GE siting guide for this MRI system. To summarize from pages 4-34 through 4-42 of that document, the maximal allowable vibration (as

To Whom It May Concern

-2-

December 20, 2000

measured with a Fourier transform method) is specified for several frequency bands. Those specifications given on page 4-40 are:

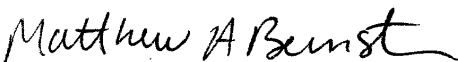
0-10 Hz..... < 1 micro G
10-13 Hz..... < 10 micro G
13-20 Hz..... < 5 micro G
20-40 Hz..... < 20 micro G
40-50 Hz..... < 15 micro G

The unit 1 micro G is equal to one-millionth of the acceleration of gravity (386 micro inch per second squared, or 9.8 micro meter per second squared). Recall acceleration is the rate of change of velocity. Since one G is the acceleration that a free-falling object experiences (at the Earth's surface, neglecting air resistance), 1 micro G is an extremely small unit of vibration.

I have been advised by Patrick J. O'Day, Installation Project Manager at GE for the OpenSpeed[TM] product, that these specifications are being revised, but there will remain a specification of < 1 micro G in the range of 0-7 Hz.

Reference 1: GE Signa OpenSpeed Pre-installation, Technical publication 2241391, Revision 1.

Signed:


Matthew A. Bernstein, Ph.D.

MAB:lmg

100-100000-100-100

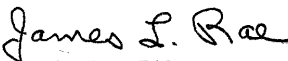
Jan. 12, 2001

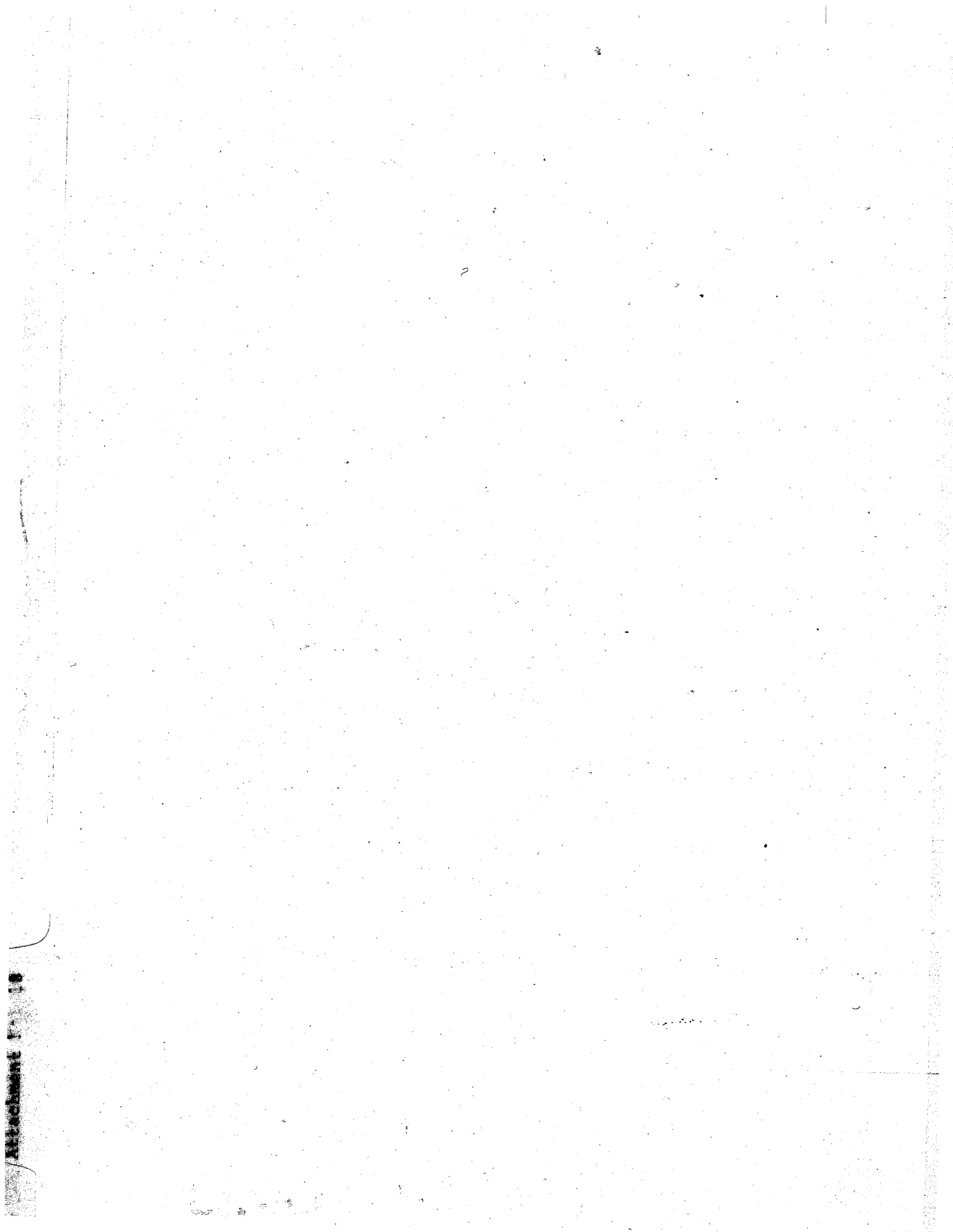
To whom it may concern:

I am an investigator at the Mayo Foundation in Rochester Minnesota. I run a research program on cells of the lens and cornea with an aim toward understanding and eventually curing cataracts and corneal dystrophies. A smaller part of my work involves trying to understand immunotherapy in blood cell cancers. My funding is won at great effort from the highly competitive grants selection process at the National Institutes of Health. My total funding amounts to about one million dollars per year. I do two major kinds of work. One is to measure in single cells, the currents that flow through ionic channels in cell membranes. These amount to only about a picoamp or so or less than one millionth of one millionth of the current in a light bulb. The instrumentation is so sensitive that in addition to recording the tiny currents, it also "hears" the sound energy of a whisper in the room. The measurement also involves placing a tiny electrode against the cell through the use of extremely fine micromanipulation equipment. Vibrational movements that exceed 50 nanometers (<2000ths of an inch) make the measurements impossible. Therefore, the measurements are done using vibration isolation equipment such as air suspension tables. The second measurement involves the optical 3-dimensional reconstruction of single cells using a \$250,000 confocal microscope. Here, the vibrational movements cannot exceed 10 nanometers.

I have great concerns that the high speed trains that the DM&E railroad wants to run through Rochester may have an extremely negative impact on my work. I don't have access to any data that would let me predict quantitatively. My facility is about three city blocks from the tracks. One some days I can hear the low speed trains as they go by. They go by so infrequently that they have not yet caused me any problems. However, both the noise and vibration will go up a great deal as the speed and number of the trains increases. If the vibrations are sufficient, they will make my work impossible and may even destroy the precision of the micromanipulation equipment required for the work. Even the sound may be excessive for the single channel current measurement. Minimally, it would seem necessary to do sensitive sound and vibrational energy measurements as a function of distance from the tracks as high speed trains are passing and then assess the potential impact on work like mine.

My work is not entirely unique in the Mayo Foundation. The institution has spent about \$3,000,000 on confocal microscopes. Two are core resources and are used by more than 100 investigators. These microscopes are in the same building that I occupy. The kind of micromanipulation equipment that I use for channel current measurements is used by 8 other labs here that I am aware of. I would estimate that the total grant support at the Mayo foundation that relies on these imaging and micromanipulation techniques is on the order of \$20,000,000 per year. I would suggest that it is very important that the trains not do damage to these research efforts.


James L. Rae, PhD.
Professor of Physiology and Biophysics
And Ophthalmology.





Mayo Clinic
200 First Street SW
Rochester, Minnesota 55905
507-284-2511

Allen T. Bishop, M.D.
Orthopedic Surgery
Surgery of the Hand
Microvascular Surgery
507-284-4149

January 9, 2001

To Whom It May Concern:

I am the Chair of the Division of Hand and Microsurgery and am the Director of both the Microsurgical Teaching Center and the Microvascular Research Laboratory here at Mayo Rochester. We are routinely performing microsurgical procedures for resident and fellow training in the Microvascular Training Center using ceiling mounted Zeiss operating microscopes which are very vibration sensitive as well as performing experimental microsurgical procedures in the Microsurgery Research Laboratory, again with similar equipment. These two facilities are located on the 9th floor of the Stabile Building and 3rd floor of the Medical Sciences Building respectively. In addition, members of my division are routinely involved in microsurgical reconstruction at both Saint Marys Hospital and Rochester Methodist Hospital. These procedures include microvascular repair of small arteries and veins to allow replantation or restoration of circulation to severed fingers as well as microsurgical transfer of tissue from one part of the body to another to reconstruct segmental loss of bone, skin, muscle, and other tissues. All of these activities, both clinical, education, and research, use instruments that are vibration sensitive. The ceiling mounted microscopes in the Stabile Building are particularly sensitive but even the floor mounted instruments at high magnification would likely be affected by heavy equipment passing close to them such as the DM&E train. The vibration if present renders it very difficult to safely perform microsurgery and would make our activities in education, practice, and research more difficult.

Sincerely,

A handwritten signature in cursive script that reads "Allen T. Bishop".

Allen T. Bishop, M.D.
Chair, Division of Hand Surgery

ATB/kmm

12-10-1968



This Week at Mayo Clinic

Dec. 15, 2000
Vol. 11, No. 17

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Stop the coal trains

For the past two-and-one-half years, Mayo Clinic, the community and organizations from Wyoming to Winona have been studying the impact of the proposed DM&E coal train project. We continue to have serious concerns. If the project as proposed by the DM&E is approved, 37 or more one-mile-long trains will pass through Rochester each day. Simple math tells us that equals one train every 39 minutes *around the clock*. This creates uncertain and dangerous travel times for on-call medical personnel who must get to a patient emergency as quickly as possible. The heavy rail traffic also will hamper the movement of our patients and visitors as well as local emergency vehicles — fire, police or ambulance — that now routinely move from one side of the city to another.

On Sept. 27, the Surface Transportation Board (STB) released a 5,000-page Draft Environmental Impact Statement (DEIS) on the project. The report identifies the impact of the coal trains on the area's human, natural and economic environments. According to the DEIS, there will be significant environmental impact from the trains no matter where they run.

The document does not make any recommendations to address Rochester and Mayo's concerns. Instead, the STB has specifically asked for additional comment on two major items: the environmental impact of various alternatives, and who should bear the costs related to these alternatives. Four alternatives for Rochester and Olmsted County are:

- Deny the DM&E proposal through Rochester
- Allow the DM&E proposal to go ahead as the railroad plans
- Allow the existing train traffic (3–4 trains per day) to continue through Rochester but require all coal trains to go around Rochester
- Require all trains (existing and future) to go around Rochester

The STB says option one (above) is not acceptable since it does not meet the needs of the railroad. The board is asking for comment on which of the other three is preferred. In addition, if alternative three or four is preferred, the STB is asking for input about who will pay for the alternative route. The STB believes that communities along the rail line should bear the cost of alternative routes, since the communities benefit from them to the

(continued on next page)

This Week at Mayo Clinic, Dec. 15, 2000

Surface Transportation Board
Chairman Linda J. Morgan
Commissioner William Clyburn, Jr.
Vice-Chairman Wayne O. Burkes
1925 K Street NW
Washington, DC 20423-0001

Senator Paul Wellstone
136 Hart Senate Office Building
Washington, DC 20510-2303

Senator-Elect Mark Dayton
3030 Lexington Avenue South
Eagan, MN 55121

Governor Jesse Ventura
130 State Capitol
St. Paul, MN 55155

Representative Gil Gutknecht
425 Cannon House Office Building
Washington, DC 20515-2301

*Note: Mayo staff may not use
Mayo letterhead, supplies or
e-mail to correspond with the
STB or elected officials.*

detriment of the railroad. Importantly, the converse is not true. The STB proposes *no* financial solutions for the reduced property values, noise, vibration or other environmental damage incurred when the coal trains increase markedly in number and speed through the center of communities. So regardless of which option is chosen, much of the costs of minimizing the adverse impact of the DM&E proposal will be borne by our community, and taxes will likely increase.

Now is the time to make our concerns known both to the STB and our elected officials. We have a 90-day public comment period to express our views; this period ends on Jan. 5, 2001. This may be the last opportunity the citizens of Rochester and the surrounding area will have to submit their concerns to members of the STB and elected officials.

The magnitude of this railroad project, and its negative impact on southern Minnesota, is unique. It will pose a serious health risk and safety threat to our patients. No U.S. city our size comes close to having the same number of patients in hospital beds affected by such a project.

Of 1,000 acutely ill patients in Rochester hospital beds every day, nearly 150 of them are in intensive care. There are more intensive care beds in Rochester than exist in all the cities and towns along the entire DM&E line, from Wyoming to Winona combined. It would be impossible to evacuate them safely in the event of a derailment, possibly involving toxic materials. And, while coal dust may pose a threat to air quality, an even greater threat comes from the harmful emissions of diesel locomotives and the long lines of automobiles waiting for trains to pass.

The largest concentration of MRI machines in the world — 13 by the end of 2001 — is in buildings adjacent to the tracks. New MRI technology is increasingly susceptible to vibration. Continual vibration from the passing trains may interfere with the delicate operation of these machines and put our patients at risk.

The DM&E coal train proposal, the largest U.S. rail project in 100 years, threatens the economic viability of Mayo Clinic and the economic vitality of the region. Patients, visitors, students, physicians and other healthcare workers come to Mayo Clinic Rochester from throughout the world (all 50 states and more than 100 other countries). They stay in hotels, eat in the restaurants, shop in the stores and buy homes and major consumer goods. Many factors affect our patients' and staffs' decisions to come to Rochester, but positive feelings toward our community rank high among them. If these people find the city noisy, filled with traffic congestion, and less safe and more inconvenient than it is now, they may choose not to come. We know they consider our total environment — demand for our healthcare declines in the winter months.

Mayo Clinic is the major economic driver of Rochester and Southeastern

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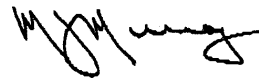
This Week at Mayo Clinic, Dec. 15, 2000

Minnesota. As we gradually add more staff, programs and facilities, Mayo's economic impact will increase. Today, Mayo Clinic Rochester's payroll alone has an annual \$1 billion impact on the city and the area. The success of Mayo and the success of Rochester are clearly interdependent. An economic downturn at Mayo Clinic caused by decreasing patient registrations will mean loss of jobs in Rochester and southeastern Minnesota. Because this affects every sector of our economy, all of us are vulnerable. A solution that harms the least number of people must be identified.

Mayo Clinic supports the efforts of the "Citizens to Stop the Coal Trains" to ensure that everyone fully understands the impact these coal trains will have on Rochester and the region. Regardless of which option you favor, we urge you, during this public comment phase, to write to the STB and elected officials (addresses listed on page 2). All letters responding to the STB report must be submitted by Jan. 5, 2001.



Hugh C. Smith, M.D.
Chair, Rochester Board of Governors



Michael J. Murray, M.D., Ph.D.
Chair, State Public Affairs
Committee

Mayo News**New Mayo study
questions benefit of
smoking reduction**

Heavy cigarette smokers who cut back their smoking — rather than quit — might not see any health benefits, according to a Mayo Clinic study published in the Dec. 15 issue of *Nicotine and Tobacco Research*.

"Many people — smokers and medical professionals alike — assume that if smokers can simply cut back, there will be some health benefits," says Dr. Richard Hurt, Mayo Clinic Nicotine Dependence Center, principal researcher on the study. "Our results didn't show that."

The study included 23 heavy smokers — adults who smoked more than 40 cigarettes a day. Over the course of nine weeks, they tried to cut back gradually to 10 cigarettes a day. Participants received information and counseling on strategies to help deal with stress, hunger and other typical signs of nicotine withdrawal. Participants also could use a nicotine inhaler to help reduce their desire for cigarettes. (With an inhaler, nicotine stays in the mouth and does not produce the ill health effects associated with tobacco products.)

At the end of 12 weeks, researchers measured several biomarkers in each participant that indicate harm from cigarettes. "One biomarker improved, showing less harm," says Dr. Hurt. "Four stayed the same, meaning no health benefits, and one got worse, indicating increased harm. We don't know why results were so varied."

07 2/1/1970



Mayo Clinic
200 First Street SW
Rochester, Minnesota 55905
507-284-1187

January 5, 2001

530 Hilton Building
Mayo Clinic
Rochester, Minnesota, 55905

Lester E. Wold, M.D.
Chair, Department of Laboratory
Medicine and Pathology
Fax 507-284-1599
wold.lester@mayo.edu

To Whom It May Concern:

This letter is written to express concern regarding the potential impact of the expansion of the DM&E Railroad on clinical practice delivered by the Department of Laboratory Medicine and Pathology (DLMP), Mayo Clinic, Rochester, Minnesota. As Chair of the DLMP, I have responsibility for the oversight of clinical practice, education, and research delivered by our department. In 2000, over seven million tests or services were delivered by our department to patients being seen as outpatients or hospitalized inpatients in Rochester, as well as providing reference laboratory services for healthcare facilities world wide. Much of the equipment we use to provide these services contains sophisticated electronic components or mechanical components which are sensitive to vibration. We have had to place microscopes, microtomes, and automated equipment on special vibration-dampening platforms to ensure appropriate function of the equipment. In our department, there are over 100 microscopes and over 30 microtomes which can be affected by vibration. Special analytic equipment is used in many of the 60 specialty laboratories which provide reference laboratory services for our clients. Equipment such as tandem mass spectrometers, automated cell counting systems, and automated chemical analyzers are also vibration sensitive.

The potential impact of vibration related to expansion of the DM&E Railroad through Rochester threatens the ability of our department to continue to meet the laboratory needs of patients coming to Mayo for medical care. Relocation of our laboratories is NOT an option. We are able to currently provide efficient service because we are linked to patient care areas by a pneumatic tube system which rapidly delivers specimens from Rochester Methodist and Saint Marys Hospitals to the Hilton Building. Delays in returning test results to physicians caring for critically ill patients would result from relocation of our labs. Such delays would compromise quality care for the sick.

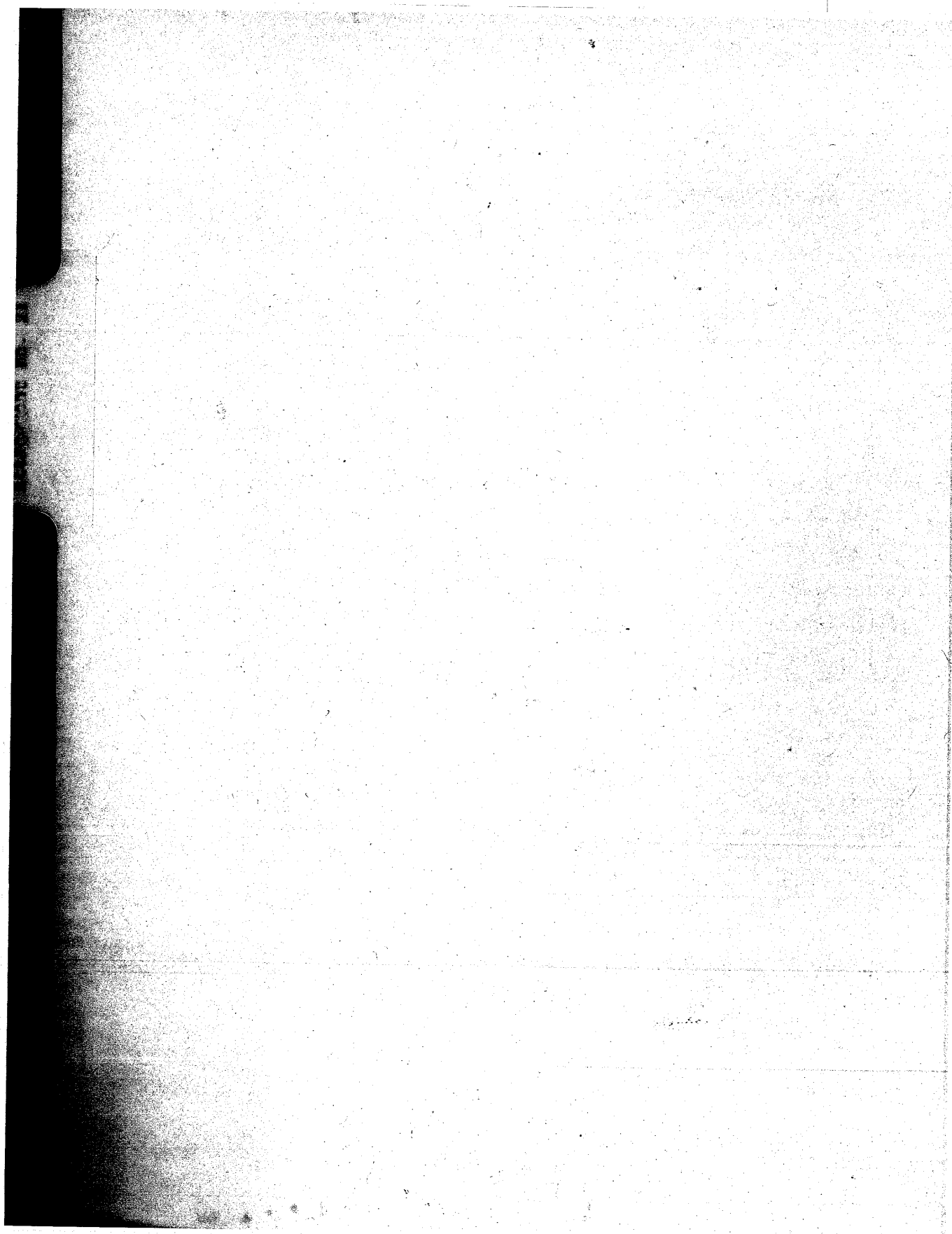
In summary, the negative impact of vibrations related to expansion of the DM&E Railroad through Rochester threatens quality care because of the affect of vibration on sensitive equipment used in the DLMP. An alternative route which avoids the threat of vibration-related problems is not just desirable but essential to ensure continued efficient, high-quality delivery of services from our department.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lester E. Wold", written over a circular stamp or seal.

Lester E. Wold, MD
Chair, Department of Laboratory Medicine and Pathology
Mayo Clinic

cc: Mr. John G. Pelkey





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Virginia Smith
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Marilyn B. Stewart
Walter Stobaugh
Don Supalla
George Thompson
Jane Toft
Gene Treichel
Al Tunland
Joan Dahn Walters
Karel Weigel
Joe Weiss
Paul Wilson
John Withers
Ron Yaggy

January 8, 2001

Honorable George Govalla
Associate Administrator for Safety
Federal Railroad Administration
1120 Vermont Avenue, N.W. Mailstop 5
Washington, DC 20590

Dear Mr. Govalla:

Re: **STB Docket No. 33407**
Dakota, Minnesota & Eastern Railroad Corporation
Construction into the Powder River Basin
Request for Requirement of Safety Integration Plan

The people of Rochester, Minnesota are very concerned about serious safety and community impacts directly related to the proposed expansion of the Dakota, Minnesota & Eastern Railroad ("DM&E") currently pending before the Surface Transportation Board (STB). Due to these concerns, community leaders from the business, civic, and private sectors recently came together to form "Citizens to Stop the Coal Trains" ("CSCT"). The purposes of this coalition are to:

1. Educate the public about the DM&E proposal and the STB process; and
2. Organize a community response to the Draft Environmental Impact Study issued by the STB on September 27, 2000.

In our investigations, CSCT has been alarmed by the safety history of the DM&E. For compelling reasons as set forth below, CSCT urges the FRA to require DM&E to submit a Safety Integration Plan ("SIP") concerning its proposed construction project and to commit to a comprehensive safety program deemed adequate by FRA to assure safe operation of its railroad in the public interest.

Background

On February 20, 1998, the DM&E filed an application with the STB seeking authority to construct and operate a new 262-mile railroad line into the Powder River Basin. Related to the new construction, DM&E also proposes to extensively upgrade its existing rail line across Minnesota and South Dakota. This proposed project would have the effect of converting DM&E from a 1,120-mile regional railroad into a 1,400-mile Class I rail carrier of major significance extending from the Powder River Basin of Wyoming to the Mississippi River.

If the DM&E proposal is approved, train traffic through Rochester would increase from the current 3-5 trains per day to 37 or more each day. This 10-fold increase in train traffic, traveling at speeds of 45-50 MPH, would create potentially significant health and safety issues for the community.

Honorable George Govalla
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In its decision served on December 10, 1998, the STB found that DM&E's application satisfied the transportation related requirements of 49 U.S.C. 10901. However, the Board deferred action on DM&E's construction application pending completion of the environmental review process by the Section of Environmental Analysis ("SEA"). The 5,000 page draft Environmental Impact Statement ("DEIS") was issued by the STB on September 27, 2000. The Executive Summary of the DEIS states that the primary benefit of the DM&E proposal would be to enhance the safety record of the railroad. However, the DEIS also says the proposed project would have significant environmental impacts on both the natural and human environment, many of which cannot be mitigated.

We understand that railroads play an important role in the entire transportation spectrum. The prospect of 37 or more trains per day rumbling through the center of Rochester has also made us realize this resource can also be a real threat to our community. In particular, we have focused on the public interest and safety issues this proposal will have. We have found it necessary to learn a great deal about railroads and the authority of the FRA and STB.

CSCT has learned that rail carrier participants in recent merger and acquisition proceedings have been required to submit proposed Safety Integration Programs ("SIPS") and to satisfy both FRA and the STB as to the adequacy of their safety commitment. These requirements are formalized in proposed rules that are currently pending adoption by both agencies.¹

CSCT also notes that FRA's proposed rules concerning submission and development of Safety Integration Plans encompass start up operations involving establishment of a new line generating income that would exceed the Class II railroad threshold. CSCT submits that the dramatic increase in rail traffic and directly related safety issues which overshadow the DM&E construction proposal clearly warrant a requirement for submission and development of a comprehensive Safety Integration Plan by the DM&E as a prerequisite to any approval by the STB.

Statement

From records compiled and maintained by FRA and other sources, CSCT has learned that the DM&E safety record is among the worst in the US as demonstrated by the following.

Train Accident Rates

1995: In 1995, DM&E had 25 derailments and 2 other accidents - approximately one every two weeks. The national mean for U.S. railroads was 3.67 accidents per million miles traveled. The DM&E's accident rate of 41.41 was more than eleven times higher than average. In 1995, only one railroad in the FRA study performed worse than the DM&E: the Belt Railway of Chicago (BRC), which is a switching terminal railroad with less than 30 miles of main line track.

¹

Fed. Reg., December 31, 1998. Proposed Rules p 72225-72242.

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1996: In 1996, DM&E again had 25 derailments and one other accident. That year, the national accident rate was 3.64 and DM&E's rate was nearly ten times higher, reaching 36.00.² In 1996, BRC and the Union Railway were the only carriers in the FRA study with higher rates.

1997: DM&E was responsible for 27 derailments. This was the second worst accident rate among the 40 largest railroads in the United States. Only BRC posted a more dangerous record. In 1997, DM&E's rate of 38.39 accidents per million miles was approximately eleven times the national average of 3.54 accidents per million miles.

1998: DM&E posted the second worst accident rates in the FRA study with only the BRC performing worse. DM&E had 15 derailments during the course of the year, posting an accident rate of 23.79, which was more than six times higher than the national average of 3.77.

1999: In 1999, the DM&E's train accident rate was the ninth worst at 14.85. Though its ranking was an improvement over previous years, the DM&E's accident rate still remained extremely high at nearly four times the national rate of 3.83.

2000: Through October 2000, the DM&E train accident rate increased to 32.13. This places the DM&E with one of the highest accident rates through October 2000.

The DM&E's safety record does not appear to be improving. Within the last year, the DM&E had a derailment between Dover and Eyota, Minnesota, just east of Rochester. Cleanup costs for this spill were estimated at \$250,000.

Federal and State Inspection Results

Since January 1995, federal and state railroad inspectors have identified the following defects in DM&E's operations:

- 318 reports for unsafe operating practices
- 1,509 reports for motive power and equipment problems
- 48 reports for mishandling hazardous materials
- 1,235 reports for defects in its signals
- 2,357 defects in the track

Hazardous Materials Incidents

In 1998, several DM&E cars jumped the tracks in Kasson, Minnesota, a small town about 12 miles west of Rochester. One of the cars was a tanker carrying highly explosive liquid propane. Fortunately, since the train was traveling at a slow speed, the tanker did not rupture and there was no fire. However, it took hours to evacuate a half-mile radius around the accident site, during which time the public was at significant risk of harm.

Kasson is only a small town. Rochester, on the other hand, is a city of over 80,000 people. In addition, over 1.5 million people come to Rochester each year, most to receive medical care at Mayo Clinic and its affiliated

² During 1995 FRA records indicate that DM&E was operating over 652,000 miles of track while in 1996 it operated 727,000 miles of track.

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hospitals. The potential consequence of an incident such as the one in Kasson occurring in Rochester is chilling to imagine.

In Rochester, a half-mile radius could include hospitals, nursing homes and assisted living centers, a federal prison and medical facility, hotels, schools, and hundreds of homes and businesses. Such an incident would necessitate a massive evacuation effort. At any given time, many of Mayo Clinic patients are in intensive or critical care units. There are simply not enough ambulances in the immediate area to evacuate over 150 intensive care unit beds. Even if enough ambulances could be found, other surrounding hospitals just don't have the facilities to accept that many patients. Clearly, there would not be enough ambulances or staff available to conduct a full-scale evacuation of the hundreds of other non-critical patients. In addition, each patient typically brings several family members with them to Rochester. These people bring significant business to the local hotel and hospitality industry. A rail accident would also place hotel guests and various hotel and hospitality staff in danger and require that they too be evacuated.

Toxic Spills

In addition to the Kasson incident, the DM&E has been responsible for numerous spills of toxic substances over the past ten years. Federal and state officials have documented releases of jet fuel, diesel fuel, lube oil and petroleum during DM&E's accidents. In 1999, DM&E was responsible for two toxic spills designated by Minnesota State authorities to be "high priority." In January 1999, DM&E spilled 1,000 gallons of diesel fuel in Waseca, Minnesota during a derailment. In May 1999, the DM&E released 3,500 gallons of diesel fuel in another derailment in Lamberton, Minnesota. Diesel fuel contains carcinogens such as benzene and polycyclic aromatic hydrocarbons (PAH), both of which could pose a serious threat if they seeped into the drinking water supply.

In addition to spills from derailments, DM&E's Roundhouse in Huron, South Dakota has been placed on the national CERCLIS or Superfund database because of extensive contamination.

New Track Will Not Solve DM&E's Safety Problems

DM&E has argued that rebuilding the track will eliminate most of DM&E's safety problems. However, over 56% (3,110 of the 5,467) of the defects cited by federal and state officials have been unrelated to tracks. In addition, 100 of the 340 derailments have been unrelated to the track condition. Since 1989, even when track defects are not considered, DM&E has had one of the top ten worst accident rates among railroads that operate within the United States. The only exception was 1999. The following is the DM&E's accident rate and its rank among the 40 major railroads monitored by FRA when track defects are not considered:

<u>Year</u>	<u>Accident rate</u>	<u>Rank</u>
2000	9.71	9th
1999	2.48	26th
1998	5.95	6th tie
1997	11.37	3rd
1996	16.62	2nd
1995	7.67	9th
1994	18.72	2nd

P.S.

MAR 05 '01 10:21AM ST.MARYS CRIT. CARE

Honorable George Govalla
STB Docket No. 33407
Dakota, Minnesota & Eastern Railroad Corporation
Construction into the Powder River Basin
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1993	14.03	4th
1992	13.50	3rd
1991	10.74	8th
1990	16.94	5th
1989	6.48	10th

Based on the evidence we have found, DM&E's argument that rebuilding tracks will make DM&E a safe railroad is unpersuasive. The long list of non-track related defects, the CERCLIS site, and over 90 derailments unrelated to track condition all demonstrate that the DM&E has a much deeper problem than just its old rail line.

In view of the abysmal safety record set forth above and as shown in the attachments to this letter, CSCT believes FRA has compelling reasons, and the requisite authority, to require DM&E to:

1. Submit a thorough Safety Integration Plan relevant for its substantially increased operations that would result from their proposed construction project;
2. Coordinate with FRA in developing and refining an appropriate safety plan and;
3. Make an unequivocal commitment to a comprehensive safety program deemed adequate by FRA to assure safe operation in the interest of all concerned.

We also urge both the FRA and the STB to require the submission and development of this comprehensive Safety Integration Plan as a condition of any approval by the STB. Even though the rules requiring such a plan are only in the proposed status, not to require a plan for the largest railroad project in the last 100 years would be a travesty.

CSCT looks forward to your response concerning this matter.

Sincerely,
Citizens to Stop the Coal Trains

John Wade

John Wade, Co-chair

Sandy Keith

Sandy Keith, Co-chair

cc: Linda Morgan, Chair
Surface Transportation Board