F.V.E.A.A. NEWSLETTER

January 1992

NEXT MEETING
January 17th @ 7:30 pm
College of DuPage
Student Resource Center
Room 1046
Use Lambert Rd. Entrance, Lot 7 at the Northwest corner of 22nd & Lambert.
Nonmembers are always welcome!

MEETING ROOM CHANGE!

Due to a scheduling conflict at the college of DuPage we have been moved to ROOM 1046 at the student resource center. There is a map on the next page. We have simply been moved to the building across the street. This will be our permanent meeting place from now on.

PREZSEZ

I hope that last months meeting cancelation did not cause anyone any problems. I made a mad effort to reach everyone by phone and was relatively successful. This months meeting will carry the same scheduled topic as last months, with Bill Shafer presenting his latest efforts to update his Mazda.

This is also that time of year when membership should be renewed. There is a membership form on the last page of this newsletter. Please mail your $15 membership fee to Dale Corel at the above address. We hope to see everyone on this years roster with as many new names as possible.

I have recently taken over as editor of the newsletter from Richard Sachtschale, and want to thank him for performing this task for as long as he has. I realize this is a time intensive task and appreciate the time he has given. Also congratulations are in order. Rich is the proud father of a baby boy! Andrew Richard. With the addition of this new responsibility I would greatly appreciate any suggestions or comments on the newsletter as it progresses. I would like to have a regular column each month that covers members activities. So please keep in touch. I would also greatly appreciate any news clippings, no matter how small or obscure. Also don't assume that I've seen it. What usually happens is that everyone thinks that I saw that article in the TRIB and as a result I completely miss it. I have collected a very large resource of information, but the most recent news is always the best.

I am also interested in your commentary. Do you think the big three are serious this time? Do you think there will be major break throughs in battery technology that we will be able to afford? Are the smaller EV companies such as Solar Car Corporation and Solectria going to make it? What EV configuration, sports car, commutor, van, etc., is the public looking for? This industry is loaded with opinions, guessing games and controversy. Lets here it! I will publish your letters for other readers to enjoy and respond.

Fox Valley Electric Auto Association
336 McKee Street
Batavia, IL 60510

FIRST CLASS

ADDRESS CORRECTION REQUESTED

John Emde
6542 Fairmount Avenue
Downers Grove , IL 60517
USA

College of DuPage

Campus Map

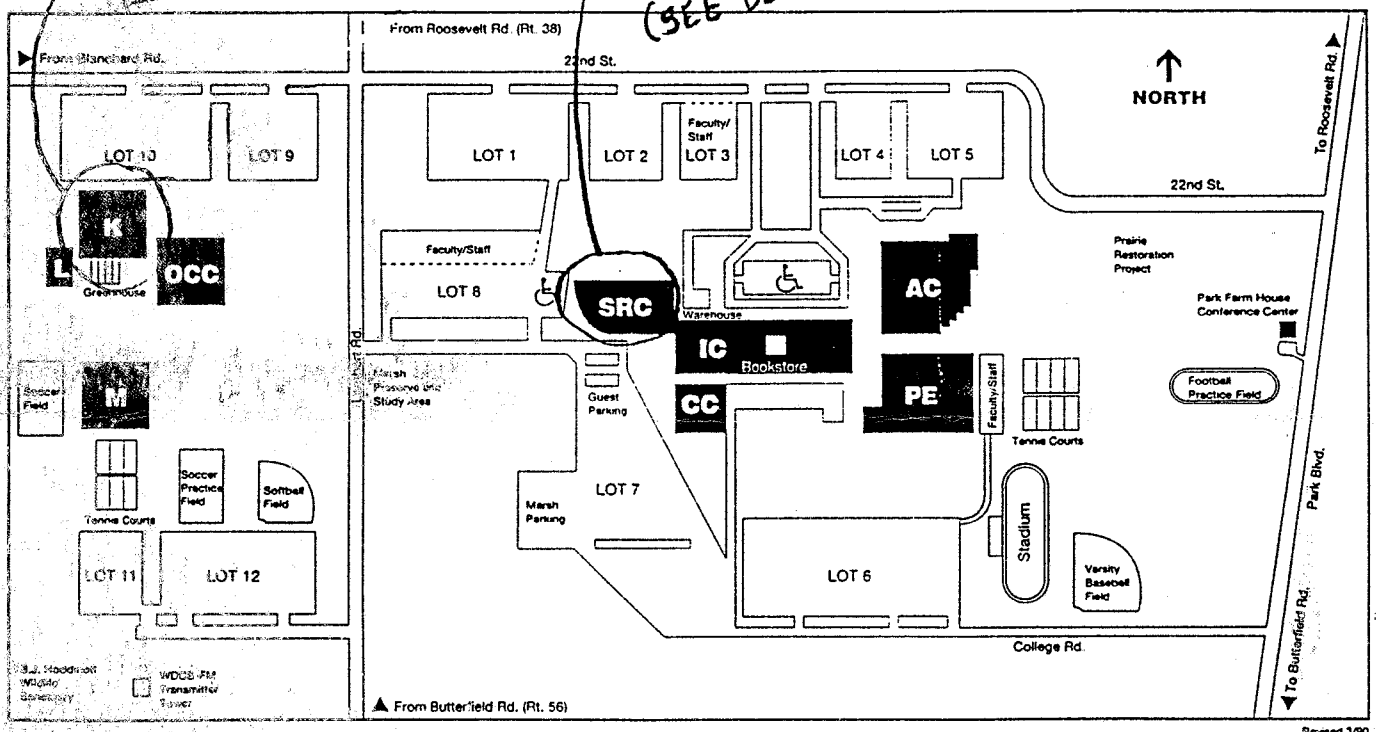
22nd Street and Lambert Road
Glen Ellyn, IL 60137-6599
(708) 858-2800

OLD MEETING ROOM (K-127)

NEW MEETING ROOM (SEE BELOW)

LEGEND

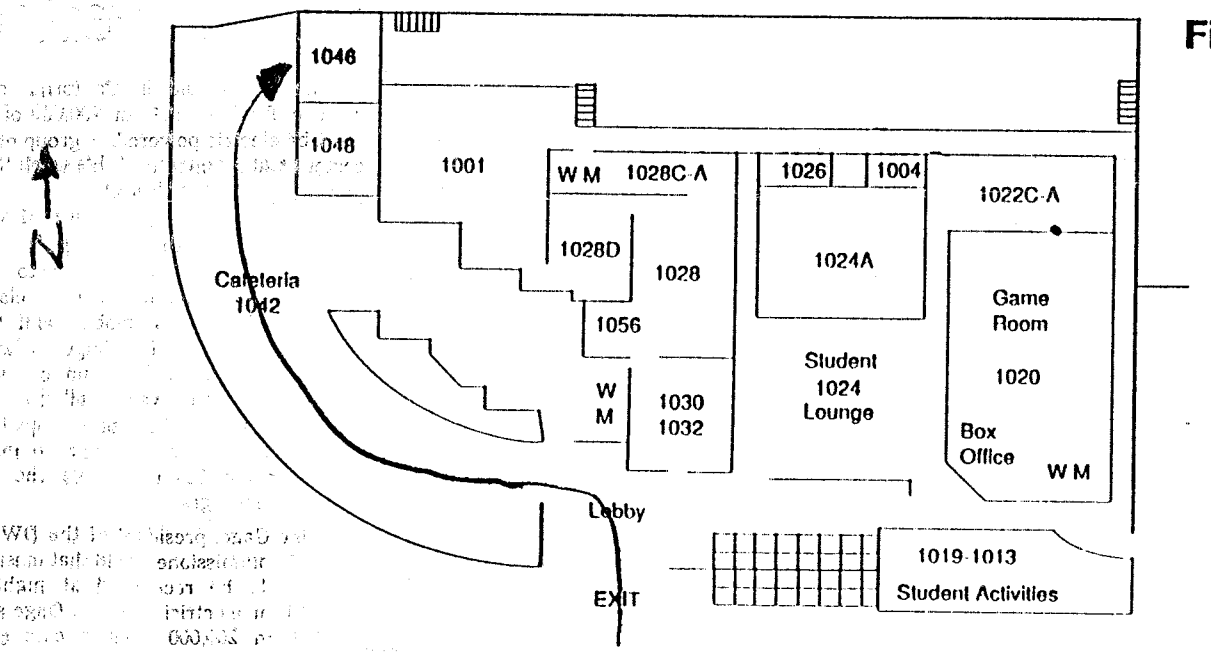
AC	Arts Center	OCC	Open Campus Center
CC	Computing Center	PE	Physical Education and Community Recreation Center
IC	Instructional Center		
K	Building K	SRC	Student Resource Center
M	Building M (Multi-University)		

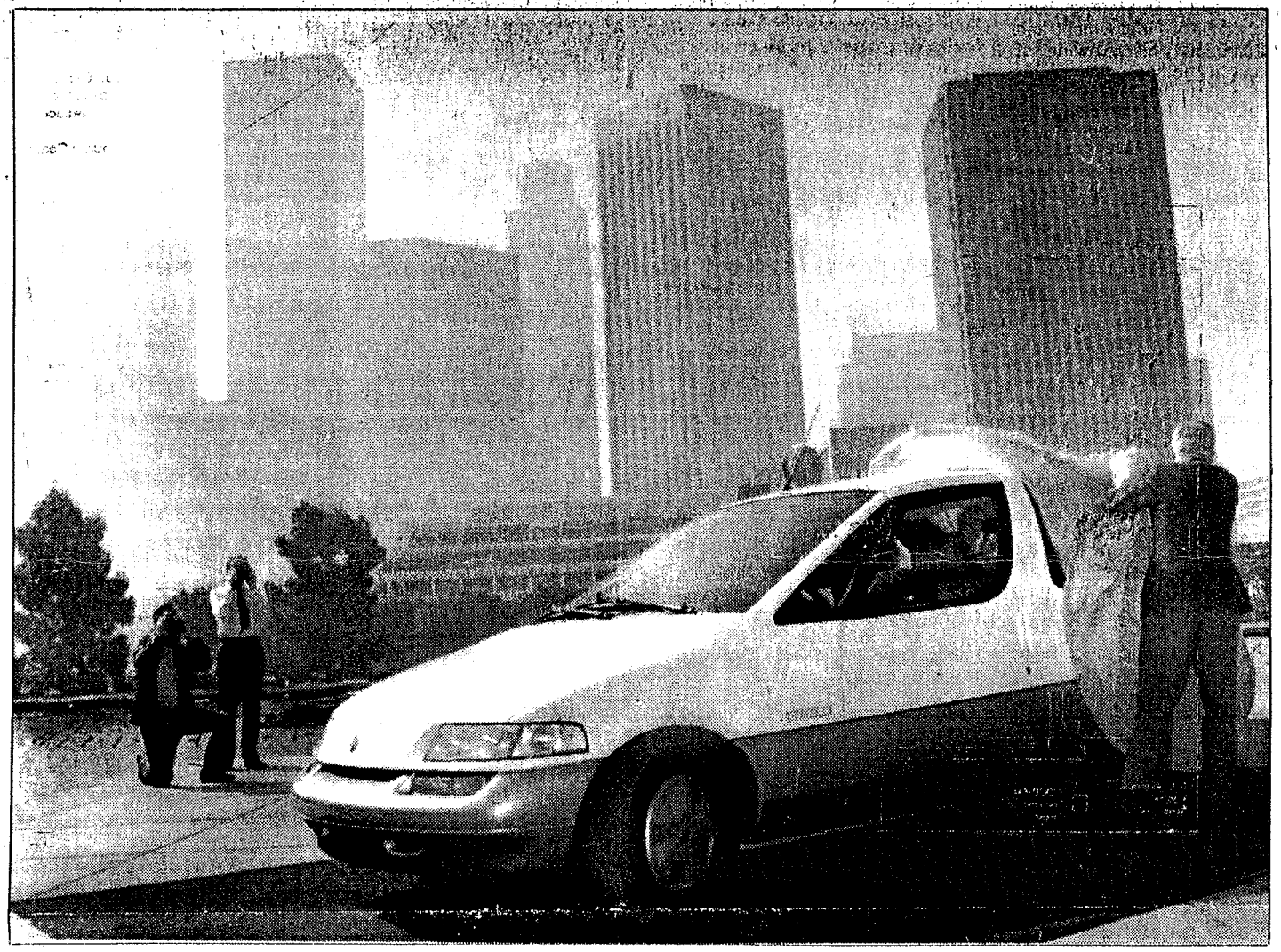


Revised 3/90

Student Resource Center

First Floor





J. ALBERT DIAZ / Los Angeles Times

The working prototype LA301 electric car is uncovered against a backdrop of smog blurring the downtown Los Angeles skyline.

Working Prototype of Electric Car Unveiled

■ Transportation: DWP has invested $7 million in venture. Swedish firm building the automobile hopes to produce 30,000 annually by 1995.

By FREDERICK M. MUIR
TIMES STAFF WRITER

Against the gray backdrop of first-stage smog alert, Los Angeles officials on Thursday unveiled the first working prototype of the LA301, an electric car they say will help carry Southern California into a pollution-free future.

The city's Department of Water and Power has invested $7 million in the venture officials say will produce a commercially viable electric car by early 1993.

CleanAir Transport, the Swedish company developing the automobile under an award from the DWP, plans to produce 1,000 of the two-door, hatchback cars in 1993 and as many as 30,000 a year by 1995, officials said.

"Today we stand on the brink of a new age—the age of the electric vehicle," said City Councilman Marvin Braude, who spearheaded the effort.

"You can see the need for it," said Braude pointing to the hazy downtown skyline. "You

John Samuel, CleanAir director of engineering, said: "Our goal has been to develop a high-quality, zero-emissions car that overcomes the size and range limitations traditionally associated with electric vehicles. . . . The LA301 is the first electric vehicle that can actually compete with conventional cars in comfort, ride and practicality."

The car, which seats four, is expected to sell for about $25,000. CleanAir, a company formed to develop the electric car, is the only manufacturer that now has a firm production date for a zero-emissions vehicle, officials said.

The DWP's electric car initiative is one of several efforts to put such vehicles on the road by the mid-1990s.

General Motors is developing a battery-powered car. A prototype can travel 120 miles at an average speed of 55 m.p.h., and go from zero to 60 m.p.h. in eight seconds. GM has not said when it will start production.

Recently, GM, Chrysler and Ford formed a consortium to develop a new generation of improved batteries to power electric cars. Similar efforts are under way in Japan and Europe.

The push to develop electric cars came last year when the California Air Resources Board approved strict new tailpipe emission standards that required manufacturers to build a minimum number of electric cars.

the new cars sold in California must be electric. By 2003, 10% or 200,000 of all cars must be electric powered. A group of Northeastern states announced this week that they will follow California's lead.

At Braude's urging and with Mayor Tom Bradley's support, the DWP agreed two years ago to award financial incentives to a company that would commit to commercially produce an electric automobile and make it available for sale in Los Angeles. Last year, the agency awarded $7 million to CleanAir to develop the car that was unveiled Thursday.

Samuel said that 90% of all trips taken by Los Angeles drivers could be accomplished in the estimated 60-mile range the car has between recharges.

Mike Gage, president of the DWP Board of Commissioners said that most electric cars would be recharged at night, when demand for electricity is low. Gage said that more than 200,000 electric cars could be accommodated in the city for recharging, without having to add any electrical generating capacity. Each recharge would cost about $1, Gage said.

If the batteries run down before reaching a desired destination, the LA301 sports an auxiliary gasoline-powered engine and a seven-gallon fuel tank to extend its range to

Ford says it will be first off line with electric vehicle

By Jim Mateja
Auto writer

DETROIT—Ford Motor Co. will make battery-powered electric vans available for fleet customers such as utility companies to test in 10 states, Illinois believed to be among them, starting early next year.

While Ford said it will be the first U.S. automaker to put electric vehicles in customer hands, General Motors Corp. refused to say when its battery-powered Impact, introduced two years ago as a concept vehicle, will become a reality.

Not only did GM President Lloyd Reuss sidestep attempts to be pinned down on the battery car, he refused to answer when asked if he or GM Chairman Robert Stempel has been told by the GM board of directors to return the automaker to profitability in a specified time period or start updating their resumes.

Rumors of a GM shakeup have run rampant in light of the automaker's huge losses and recently announced plans to close 21 plants and lay off 74,000 workers by 1994.

Observers believe the GM board may be looking for an executive scapegoat for its troubles.

"What the outside directors and the officers talk about is private," Reuss said following a media briefing on GM cars in conjunction with the Detroit Auto Show, which opens later this week.

"I'm not going to answer that question," Reuss said of a possible board ultimatum.

"I thought we put those rumors behind us," Reuss added. "We [GM management] put together a basic operating plan, but no one could predict a war [the Persian Gulf war broke out the day Stempel succeeded Roger Smith as chairman] or the recession or the volume decline that resulted."

He also refused to elaborate on GM's plans for the debut of the Impact electric. Ford's announcement of a definite date for its battery van upstaged GM.

"We feel we have a technology lead in electrics over everyone else, and we're going to keep our production plans confidential," Reuss said.

"The others basically are putting batteries in existing vehicles, but we started from the ground up. Ford says it will make 80 battery vans available for fleet testing, yet we're talking high-volume production of cars for consumers. I'm not going to give a progress report."

Electrics have become a hot topic because states such as California have adopted laws requiring their sale in 1998 to help clean the air.

Allan Gilmour, president of Ford's automotive group, told a press conference that battery-powered Ecostar vans will be tested "in real-world business functions" starting early next year. Detroit Edison will take 10 vans. Nine other cities will join the test program. Chicago's Commonwealth Edison is expected to be another participant, but Ford wouldn't comment.

In addition to Ecostar, Ford unveiled the Connecta battery-powered concept car built off the Ecostar van platform.

However, Gilmour said it could be several years before Ford follows up with a battery-powered car for consumers, perhaps not until 1998.

"We aren't going to put Ford electric vehicles on public sale un[til] they have undergone durability [and] operational testing and we're c[er]tain they meet quality and customer satisfaction standards," he said.

John Wallace, director of electrical-vehicle programs and planning at Ford and manager of the Big Three consortium formed to develop long-life and long-range batteries, said Ford's sodium-sulfur batteries should deliver 100 miles of city driving before needing a six-hour recharge. Top speed would be 75 m.p.h. The single 800-pound battery pack would have a life of three years before it needed to be replaced for an estimated $6,000 to $7,000.

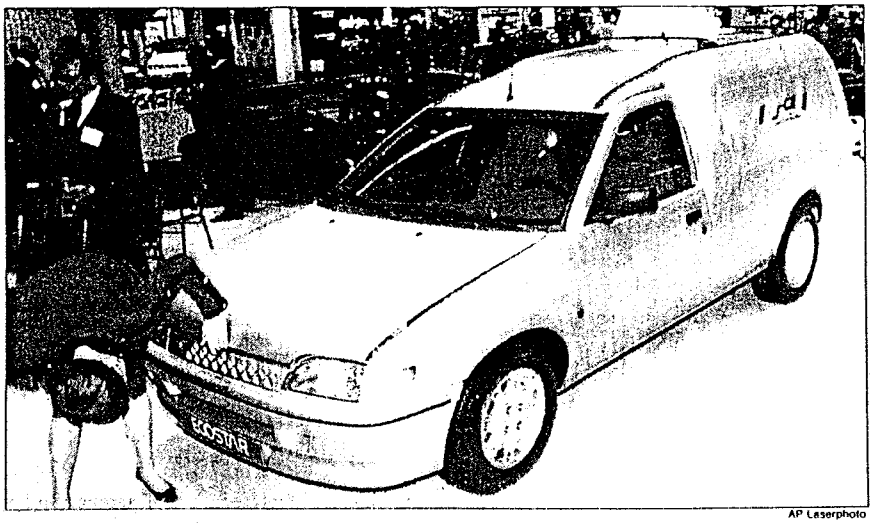
Wallace said it is hoped that Ford or the consortium will come up with five-year batteries in the near future.

Chrysler said Monday it would bring out mini-vans powered by nickel-iron batteries by the mid-90s for fleet testing; the batteries will have a 120-mile range before needing an eight-hour recharge. Those batteries would last 10 years or 100,000 miles, Chrysler said.

"Those aren't maintenance-free sealed batteries and require [that] you add water," Wallace said. "Ours don't."

Reuss said Impact is powered by less costly lead-acid batteries like those in today's cars, but with a life expectancy of 15,000 to 20,000 miles before they need to be replaced with batteries costing $2,000.

GM claims its batteries have a range of 124 miles and can be plugged into a 220-volt outlet for an eight-hour recharge.



AP Laserphoto

An onlooker at the Los Angeles Auto Show Tuesday examines an electric mini-van that Ford will make available to fleet customers in 1993 for testing in 'real-world functions.'

Chrysler batteries go distance

By Jim Mateja
Chicago Tribune

DETROIT—Chrysler Corp. has developed a mini-van powered by batteries that the automaker says will last the life of the vehicle, 10 years or 100,000 miles.

The longevity of the nickel-iron batteries would dramatically reduce one of the lingering drawbacks keeping electrics off the market—the need to replace the battery pack after several thousand miles of usage, at a potential cost of thousands of dollars.

But Chrysler officials admitted at a preview of the battery-powered EPIC mini-van, held in conjunction with the Detroit Auto Show that opens later this week, that the problems of battery range and of the need for a lengthy recharge still haven't been solved.

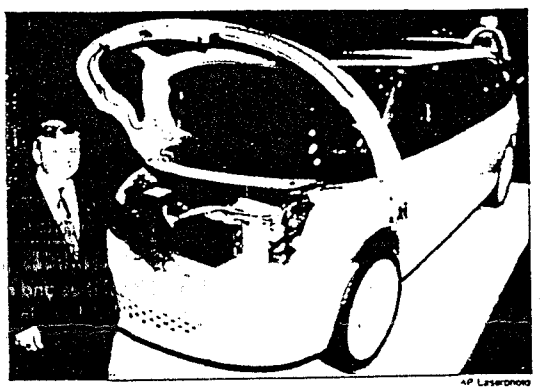
"You'd have to stop and plug the onboard extension cord into a 220-volt socket for an eight-hour battery recharge after 120 miles of driving," Robert Davis, director of engineering, electric-vehicle program, for Chrysler, said in an interview.

General Motors also talks about an eight-hour recharge of its lead-acid battery-powered Impact concept car after 100 miles of driving. Lead-acid batteries would need replacing after 15,000 miles.

EPIC, which stands for "Electric Power Interurban Commuter," is powered by a bank of 30 6-volt nickel-iron batteries. They are housed under the floor of this working prototype of one of the concepts for the next generation Chrysler mini-van for 1995.

Those 30 batteries weigh 1,800 pounds, "which is like strapping a small car underneath the van," Davis said.

Tuesday, January 7, 1992



AP Laserphoto

Thomas Gale, vice president-product design for Chrysler Corp., discusses the Dodge EPIC mini-van, which is powered by nickel-iron batteries that will last 100,000 miles or 10 years.

Top speed is 65 m.p.h., though Davis said the word "speed" may not be the right word for a battery-powered van that holds up to six people.

It performs like a diesel-engine van, with a 0-to-30 m.p.h. time (as if accelerating from a stop light) of 8 seconds and a 0-to-60-m.p.h. time (as if trying to keep up with traffic on the expressway) of 25 seconds. A subcompact gas-powered car such as a Ford Escort would do 0 to 30 in about 5 seconds and 0 to 60 in about 16.

"We're hoping to come up with batteries that would increase driving range to 200 miles by the mid-90s and 300 miles eventually," said Francois Castaing, vice president of engineering for Chrysler.

The Big Three automakers have formed a consortium to develop more powerful yet lighter and less costly batteries.

"Right now we consider extending the range to be more important than reducing the recharge time or increasing the vehicle's power. Too many people have been intoxicated by reports of batteries from Japan that you can recharge in one hour," Castaing said.

"If you use a copper wire this big," he said, shaping his hands to resemble a soccer ball, "and use 600 volts you can recharge any battery quickly."

Castaing said he considers 300 miles an ideal driving range before a recharge. "That way you can still take your family vacation because 300 miles would be plenty of driving for one day," he said.

Castaing said Chrysler will build some EPIC vans before 1995 for extensive on-the-road testing. "We'd begin with fleet testing first to work the bugs out before giving them to consumers," Castaing said.

California has mandated that all automakers market a zero-emissions vehicle in that state starting in 1998, a law that basically dictates battery-vehicle development.

"The fact that many Northeast states are now adopting the California zero-emissions law will open the market for electrics even more," Castaing said.

The zero-emission regulations are the reason most automakers have resisted suggestions to build hybrids—battery-powered cars with a small gasoline engine that would take over when the batteries drain, to increase range. "According to California's zero-emissions [law], you can't even have a Bic lighter in your vehicle and comply with the law," Davis said.

GM's Impact reportedly will be ready for market sooner than Chrysler's electric van or an electric van being developed by Ford Motor Co.

"That's okay, this isn't a race," Castaing said. "If GM gets there first, fine. What we all have to do yet is convince people that battery-powered vehicles are good for them."

The EPIC is basically the same size as a current Chrysler mini-van: 119.3-inch wheelbase, 190.1-inch length.

It also boasts power brakes and steering, a two-speed automatic transmission, air conditioning and that on-board electrical cord.

In other developments Monday at pre-Detroit Auto Show events, Nissan's luxury Infiniti division unveiled a J30 four-door sedan and said it would discontinue the M-30 two-door coupe after this year. Cadillac introduced its 1993 Allante, due out in April, with a 4.6 liter V-8 engine that will automatically cool itself without damage even if all engine coolant is lost.

Pontiac displayed a car called the Salsa, a concept of a coupe it hopes to offer within three years that's like a mini Mazda Miata but seats five adults.

On Tuesday, Saturn is preparing to unveil a new addition to its lineup, a station wagon.

Transportation

IEEE Spectrum Jan.

In October the U.S. Advanced Battery Consortium (USABC) and the U.S. Department of Energy (DOE), Washington, D.C. announced an agreement to jointly research and fund a four-year, $260 million project t[o] develop a new generation of batteries fo[r] electric vehicles.

USABC is a partnership among Chrysler Ford Motor, and General Motors, with participation from the Electric Power Research Institute. It was formed last January to develop advanced batteries capable of providing future generations of electric vehicles with much greater range and performance than is now possible.

Earlier in the year, Japan's Nissan Motor Co. said that it had built an electric car that could be fully recharged in 15 minutes, compared to the hour or more needed for other electric cars. But the Nissan vehicle, which uses a nickel-cadmium battery, has a range of just 160 km on each charge if driven at 70 km/h. Nissan subsequently announced that in the spring of 1993 it intends to market in Japan an electrically powered version of the Cedric/Gloria sedan that would have a range of 190 km.

Taking a different approach, the Southern California Edison Co. and the Los Angeles Department of Water and Power announced plans to build a road that uses magnetic induction to transfer electric energy from underground cables to cars and buses. The energy would be used not only to run a electric motor propelling the vehicles but also to recharge small batteries that would keep the cars running between [in]fie segments of roadway.

In the $2 million demonstration project aluminum-stranded, rubber-insulated cable buried in the concrete of a 0.3-km length of road would create an alternating magnetic field above the surface of the road. Induction coils on the underside of the vehicle provide electromagnetic coupling and non-contact energy transfer.

PRODUCT DEVELOPMENT

GM: ALL CHARGED UP OVER THE ELECTRIC CAR

A special team is hustling to get out a mass-market electric auto

After the 1979 energy crisis, Kenneth R. Baker headed General Motors' half-hearted effort to design an electric car. His team crammed batteries and electronic gear into a Chevrolet Chevette. Presto: a lumbering, inconvenient vehicle with zero appeal that never made it to showrooms.

A decade later, Baker, 44, is back in the driver's seat. This time, he's leading GM's dash to design from scratch the world's first mass-market electric car. With innovative research and engineering techniques, his current team of 200 aims to design and build a nimble, attractive two-seater, called the Impact, by the mid-1990s. The 18-month-old program represents a feverish push by General Motors Corp., says Baker, "to recapture the reputation for international automotive leadership."

GM's long-term health could depend on that. The Impact won't be a high-volume car, but GM needs a racy hit to bring back youthful customers lost during the last 15 years, when its U.S. car-market share plummeted 13 points, to 35%. The electric car's inherent drawbacks make Baker's task tough. The limited capacity of its batteries caps the Impact's range at 125 miles per charge. Any extra weight, aerodynamic drag, or power-hungry accessories cut that. And the Impact will be so crammed with new technology that it could cost up to $30,000.

To minimize those drawbacks, Baker is using a variation of concurrent engineering, a design technique pioneered by the Japanese that trims costs and development time by having disparate groups such as marketing and manufacturing work together, instead of sequentially, to design a car. Baker has eschewed GM's usual army of engineers, forming instead a small, youthful team. Some 40% have fewer than 10 years of experience, and 20% are production workers who will help make the Impact. Baker hopes to produce the car in four years, vs. eight for Saturn, GM's all-out effort to design a new small car from scratch. To free the team from stifling GM protocol and meddlesome brass, Baker initially had it work in the basement of Our Lady of Redemption Melkite Catholic Church in Warren, Mich. It has since moved to GM's nearby technical center. But it's still separated from the divisions that usually create new cars.

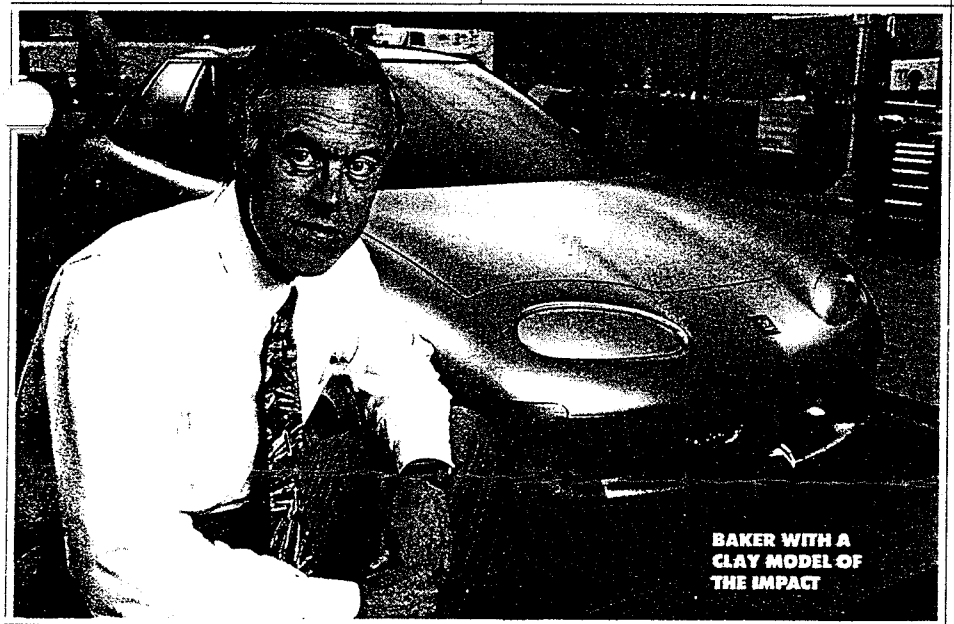
The Impact's unique characteristics demand new market-research methods. Most potential customers know nothing about electric cars. So instead of poring over data on buyer preferences, the team relies on "gut-feel research," says John R. Dabels, GM's director of market development for electric vehicles. Team members find this on the streets.

Last year, team leaders studied the daily travel habits of two dozen Southern Californians. That led to the conclusion that trying to conserve battery power by skimping on amenities would ruin the Impact's appeal. So the new car will get a high-efficiency heat pump for heating and cooling. And Baker is shooting for a range of at least 100 miles a charge—even with the radio and air-conditioning cranked up.

EUROPEAN BENT. On another occasion, team members crisscrossed Los Angeles on a treasure hunt, collecting items such as a classic rock album by the Doors and a signed business card from a salesman at Longo Toyota, the country's top dealership. They thus learned firsthand why Southern Californians value comfort features—key intelligence since California is the Impact's biggest potential market. By 2003, the state will require carmakers to sell about 1 million electric autos there annually.

The Impact will also be the first U.S.-built GM car that is aimed at Europe as well. It will come with either left- or right-hand drive and meet European safety standards. Team members have enlisted help from GM's German affiliate, Adam Opel, to study ways to ease recharging, since few Europeans have garages. And they've also researched such critical local questions as whether a case of half-liter beer bottles can slip easily in and out of Impact's rear hatch.

Still, "a lot of this will be guesswork."



BAKER WITH A CLAY MODEL OF THE IMPACT

A BETTER IMPACT?

A 200-member team is trying to ensure that the GM's Impact electric car, due in the mid-1990s, will be a hit

CONSUMER RESEARCH By commuting with drivers in Los Angeles, designers and suppliers are learning what power-conserving tradeoffs they can make without killing the appeal

DESIGN FOR ASSEMBLY GM is trying to hold down the number of parts in the car and stay within its ultralight weight target

EASIER RECHARGES The team is discussing with utilities and regulators whether electrical hookups in garages and parking lots—and even the car's batteries—can be financed at least in part through electric company rates

DATA: BW

says Dabels. That's because electric cars will have undreamed-of features such as regenerative braking. Each time a driver steps off the accelerator, the car's electronic brain turns the two drive motors into generators, recharging the batteries. The resulting drag slows the car. The team is unsure how much braking to use, and whether to let drivers modulate it with a dashboard control.

The designers are also uncertain how best to tell drivers they are running low on juice. On four computer-equipped Buick Reattas that simulate the Impact's limited range, the message "Stop Driving Now!" flashes on the dashboard, and a warning chime sounds. Team members take turns driving the cars home to evaluate the warning system.

PIT STOPS. Since this car is entirely new, Baker encourages the team to jettison conventional thinking. They even considered eliminating the hood, since there'll be no need for routine maintenance, such as checking the oil. But they decided to keep it anyway, so proud owners can show off the car's innards.

Dabels must also address what carmakers usually take for granted: where the Impact's fuel will come from. To recharge an electric car in two to three hours will require a 220-volt outlet—a rarity in public places or in homes. So GM wants utilities to put the outlets in private garages and parking lots.

To speed development and keep weight down, Baker is getting help from GM's Hughes Electronics subsidiary. Using computer simulation, Hughes engineers are helping to design factory layouts and assembly processes. They're also simulating such things as the Impact's crashworthiness and how well different kinds of metal bend without losing strength. This eliminates most old-style trial-and-error testing and may be essential to keep the Impact below its ultralean, 2,200-pound weight target.

GM also is using a technique called design for assembly to slash the number of parts in components to simplify manufacturing and shave weight. The latest design has hundreds fewer drivetrain parts than the Impact's original prototype. And its electronic brain has 4,000 fewer switching devices.

Even with a headstart, GM has to keep moving fast. Every major carmaker in the world has a crash program for electric vehicles. Nissan Motor Co. already displayed its prototype, the FEV, at the Frankfurt auto show in September. Even so, if the quick little electric test cars are any clue, the Impact has a chance of captivating consumers. Snappy acceleration and the nifty regenerative brake system make them a gas to drive. And quite an improvement over the clunky electric Chevette.

By David Woodruff in Detroit

An Excerpt from PAUL HARVEY COMMENTARY

November 2, 1991

Yes we have the makings of an ALL ELECTRIC automobile. Detroit had better stop complaining about how bad the car business is and get busy delivering a whole new generation of all new cars and if Detroit doesn't Japan will.

The electric commuter car is already ten years overdue but now it is being forced by California law mandating zero emission vehicles, by environmental pressures opposing pollution, and by improved battery technology.

And this past week, President Bush promised a government industry effort to accelerate development of a better battery. Australian scientists announced development of a new electric battery which promises to deliver 50% more power at half the cost and it can be recharged in one-eighth the time, VANADIUM REDOX (phonetic) cells. Theoretically this battery could be used forever.

Now the batteries are still less than perfect but we're going to have to go with less than perfect because Japan's already ahead of us in technology allowing recharge in minutes. So General Motors and Ford and Chrysler are now promising electric powered cars within three years. Within ten years they'll be selling them in the tens of thousands. Some of us consider that a conservative scenario.

At least thirteen major American, European and Japanese auto makers have accelerated development programs right now. The winner of the race will harvest an enormous advantage. In our country new federal legislation will help. The National Electric Vehicle Act will help fund research and development and it will provide incentives to states which require alternative fuel vehicles.

A Swedish company, Clean Air Transport, is betting its money on a hybrid vehicle, the LA301, to be available to consumers within fifteen months. It will feature a combustion generator to extend the range. The LA301 will have a range of 150 miles between recharging, a top speed of 70 mph, acceleration from 0 to 30 in nine seconds -- price $25,000.

Annually I meet with members of the Electric Information Council about this and related matters and this year for the first time I hear a majority conviction that the new generation of electrics will not have to be hybrid, that all-electric technology is now more than adequate. And this year for the first time I was able to extract the promise that I will be driving to work in an ALL-ELECTRIC car within three years.

Understand there are many electric vehicles on the road right now. The present best, however, has a range of approximately 120 miles. That's the T-VAN, a mini-van developed by Chrysler and the Electric Power Research Institute. It uses nickel iron batteries. In California a thousand shade-tree mechanics and some more sophisticated body shops are hand making prototype electric cars but most of these cost upwards of $50,000, and some as much as $150,000! So if Americans are to revitalize our own auto industry it will take big league production know-how. Historically, Detroit is better at competing than cooperating, but this time they'll have to.

Paul Harvey - Good Day

Automakers To Appeal N.Y. Decision on California Rules

from
AIR/WATER pollution report
September 1991

Automakers say they will appeal a New York State Supreme Court judge's ruling that paves the way for the state and other smog-plagued states to adopt strict California automobile emission standards.

Justice George Cobb's ruling gives the white flag to New Jersey and the six New England states, that have agreed to adopt the California program, and to Delaware, Maryland, Pennsylvania, Virginia and the District of Columbia, that are strongly considering adopting the standards. New York is to hold hearings on proposed Low Emission Vehicle regulations later this month with Massachusetts to follow in October.

But the Motor Vehicle Manufacturers Association, that with the big three automakers filed suit arguing that the New York State legislature had to approve the standards, said in a statement that the Department of Environmental Conservation "has failed to establish the need to adopt the California program."

The California program adopted in New York "will impose significant cost and inconvenience upon automobile customers and New York dealers," MVMA said.

Automakers have fought having the so called California car adopted in other states since the 1990 Clean Air Act amendments gave the 49 other states the right to adopt stringent California emissions standards.

Electric Vehicle Computer Bulletin Board

Charles Harrison of Adelphi Maryland is maintaining a an EV-related database that can be publicly accessed. The database is periodically uploaded to the public network service called Compuserve.

Compuserve is the world's largest personal-computer information netowrk. People sign on to "forums", or interest groups, from around the country and around the world. There are many other services, too, including e-mail & a gateway into internet, the nationwide university & research network.

An existing Compuserve forum, on energy-efficiency issues, has invited EV enthusiasts to meet and network "on-line". It's a great way to trade information, support novices, and stay abreast of the latest developments. Post a question & watch the answers & comments roll in. The more people, the better it works.

Compuserve is commercial service, and it does cost money: $2/month plus an hourly charge for the time your're on-line. Modem access is a local call in the Chicago area. You can get a complimentary sign-up kit as follows:

> Call 1-800-848-8199
> ask for "Operator 190"
> ask for a complimentary membership, referring to
> 'TBS Network Earth'

You will get a possword, user number, and a $15 usage credit (free time) to get used to the system. After the $15 are used up, you'll have to pay.

You can log onto the Compuserve system with any communications software (Crosstalk, ProComm, BitCom, Red Ryder, etc.) However, it is suggested that you get Compuserve's "CIM" software (available for IBM compatibles or Macintosh) which makes life somewhat easier. It costs $15, but comes with $15 of free time. To get to the Network Earth /Energy forum simply type "GO EARTH", and select section 13: Energy.

Charles Harrison also points out that the Michigan Public Service Commission has an Energy and Regulatory Matters Bulletin Board available for public access. The service itself does not charge for access, however it is a long distance phone call at (517) 882-1421.

F.V.E.E. MEMBERS WITH VEHICLES FOR SALE

Pinto with 4-step voltage switching 48-volt system. With extra motor. Needs new batteries. $1000 Contact Bob Kyp at 469-8121.

1976 Chevette. New batteries & controller. 48 volt, 400 amp system hybrid addition possible. $2500 Contact Carl Swick at 429-4955.

1975 Honda Civic. New batteries, tires. 54 volt controller system. Hybrid addition possible. $3500 Contact Everitt Harris at 232-0344.

1980 Dodge Omni. 4-step 48 volt switching system. One year since conversion. $3500 Contact Bill Wilcox at (815) 634-4605.

1974 Hornet. Free Contact Jack Cahill at 629-3989.

Some of these cars offer an opportunity to get started with an electric car at a very modest cost. Some wish to sell because they want to do an improved conversion. In some cases, the price is what the electrical components would cost today.

Clean California Cars Heading East Along with Reformulated Gasoline

Nine Eastern states and the District of Columbia agreed last week to adopt California's stringent clean-vehicle standards and emissions program, drawing praise from clean-air advocates and fire from automakers.

And eleven states and the District called for adoption of the stringent reformulated gasoline standards developed by the federal government in August, drawing criticism from the oil refining industry.

California and the Northeastern and Mid-Atlantic states make up 35 percent of the automobile market. The two moves by the states signal the largest single leap ahead for the region's assault on air pollution, according to regulators.

However, automakers say the region will see little environmental benefit while consumers will see more expensive cars. And oil companies warn of higher gasoline prices.

"It's a precedent-setting decision," Michael Bradley, executive director of Northeast States for Coordinated Air Use Management, told *A/WPR*. "Very few states have ever cooperated on this level to reach an agreement of this magnitude."

The California program requires new emissions control equipment on vehicles bought later this decade and the stepped-up introduction of vehicles powered by methanol, natural gas and electricity.

Representatives of the District, New York, New Jersey, Pennsylvania, Massachusetts, Virginia, Maryland, Delaware, New Hampshire and Maine agreed to adopt the California program at a Northeast Ozone Transport Commission meeting in Philadelphia.

Other States Expected to Join

Proponents expect Rhode Island and Vermont, which asked for more time to decide, to sign on, as well as the more reluctant Connecticut.

All 12 states but Delaware, which is expected to follow suit, said they would join the new federal reformulated gasoline program, now required only in three northeastern metropolitan areas.

Automakers have fought the adoption of the California car in the Northeast for several years as states one by one expressed support. They were joined recently by oil refiners, who contend that California cars must be accompanied by California fuel, which has far more stringent specifications and higher costs than federally regulated fuel.

Fox Valley Electric Auto Association, Inc.

Rev. October 19, 1990

MEMBERSHIP

A membership in the FOX VALLEY ELECTRIC AUTO ASSOCIATION (FVEAA) is open to everyone. Currently there is only one grade of membership regardless of the members degree of participation in association activities. Membership in the FVEAA is contingent upon payment of the annual membership fee. The membership fee can only be waived by special vote of the board of directors. Each member in the FVEAA receives a copy of the FVEAA NEWSLETTER each month. They are also entitled to attend and vote at all association meetings.

All memberships in the FVEAA run from November 1st to October 31st of the following year. The dues are $15.00 per year payable at the November meeting. "NEW" members joining after November shall only pay $1.25 for each month remaining before the following November. (see chart below)

Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
15.00	13.75	12.50	11.25	10.00	8.75	7.50	6.25	5.00	3.75	2.50	1.25

The following form may be used to apply for membership or to renew your membership.

-------- cut ---------- cut --------

APPLICATION FOR MEMBERSHIP OR RENEWAL

Date _____

Name _____

Address _____

City _____ State _____ Zip _____

Phone # _____Include Area Code

- ☐ Just interested in electric vehicles
- ☐ I have an electric vehicle (describe)_____
- ☐ I wish to build an electric vehicle

Amount enclosed $_____ for _____ months.

Make checks payable to: FOX VALLEY E.A.A.

Mail to: MR. Dale Corel, FVEAA TRES.
595 Gates Head North
Elk Grove Village, Il 60007