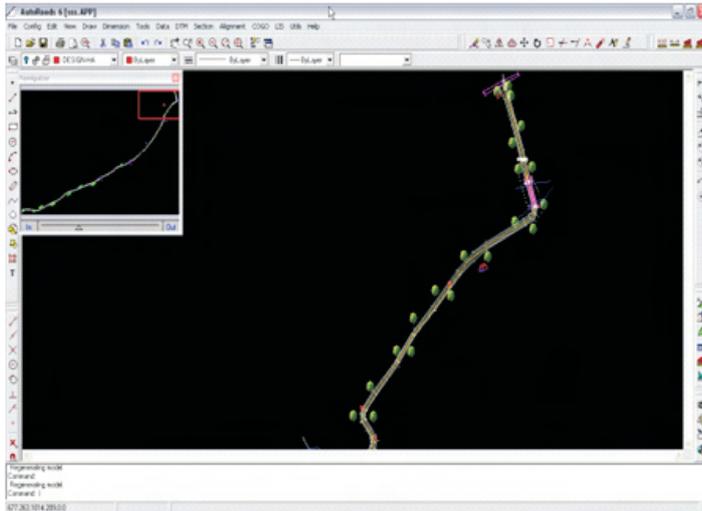


AutoRoads 6 Features

A natural choice for Rural, Urban, SH, NH and Railway route design

In today's world, design aspect of roads, perfection, accuracy and time factor plays important role in a project success. AutoRoads, a software solution developed by Infycons, automates and precise the steps involved in road design starting from the survey stage to project report preparation whether it is a N.H, S.H, Urban, Rural or Hill roads. AutoRoads inherits all the merits of **AutoPlotter** and **Road Estimator** and builds on the strength by providing a complete road design solution.



Support for various data types

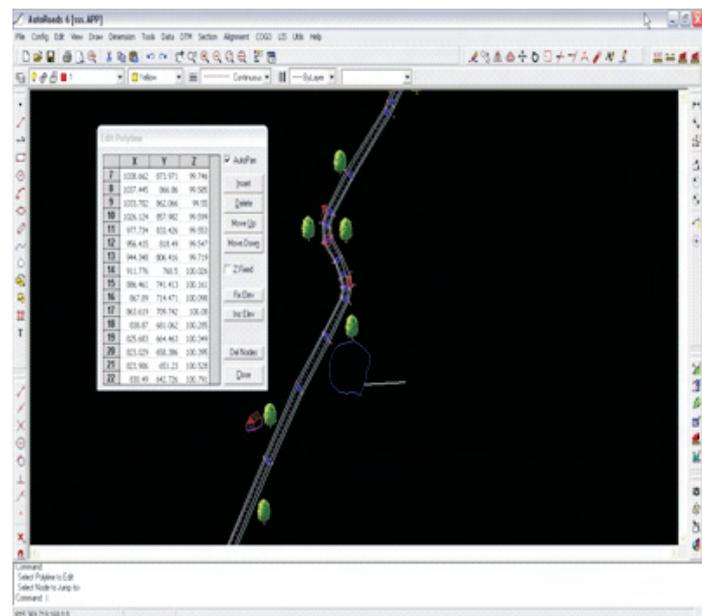
In modern times, surveyors and designers utilize modern instruments like Total station & GPS for raw data collection, which has wide formats of output data. Conventional instruments such as auto-level, compass, theodolite etc. are also used. More information is supplemented from satellite imagery and other drawing databases. AutoRoads is capable of identifying and processing various formats of data whether it is collected from modern or conventional instruments or is available in drawing database.

Auto Plan creator

General plan preparation plays a vital role in Road Design aspect as it helps designer ascertain actual ground conditions. With the Library function in AutoRoads, Plan preparation is done in a jiffy. AutoRoads has the capabilities to identify the survey coordinates and codes and prepare plan of the road considering the structures and obstacles, features like trees, electric poles, cross drainage structures etc.

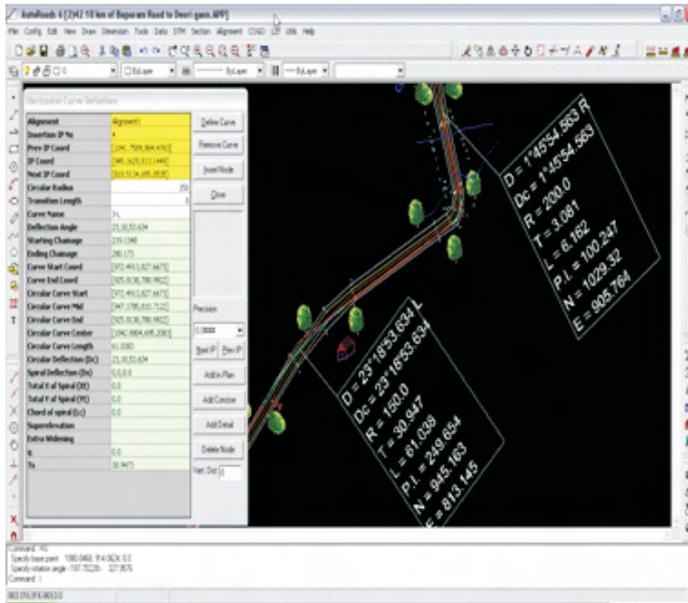
Data rectification

Survey data collected is prone to minor error as far as code, arrangement etc. is concerned and in most of the cases, the raw data collected needs to be rectified, AutoRoads has some powerful tool for data correction. User can utilize this tool to easily rectify survey data like zigzag lines, wrong crossings, elevation information, re-location of points, re-referencing of line order etc.



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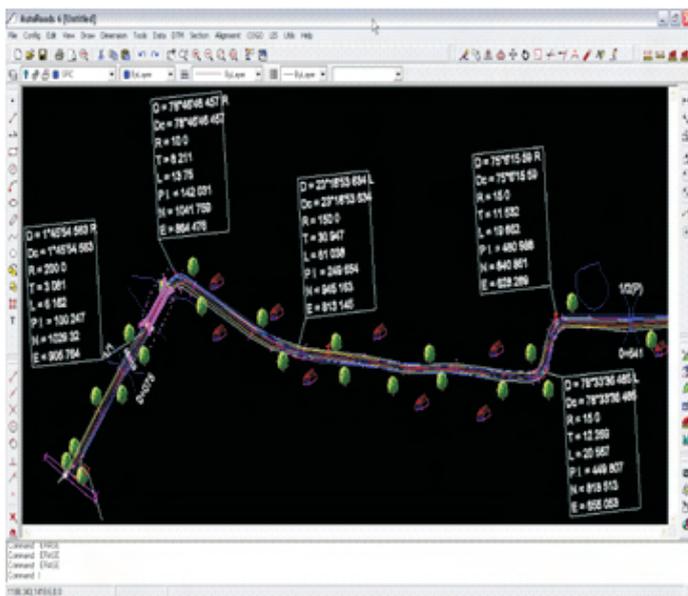
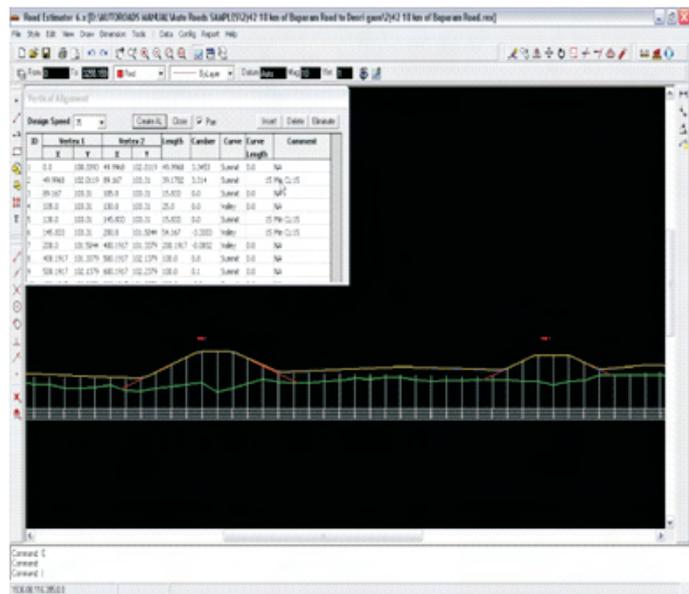


Horizontal alignment design

Horizontal alignment Design is the one of the most important aspect of any road design which involves various tedious calculations and considerations of guidelines depending on the type of road/rail being designed. In AutoRoads, horizontal road design has been automatized with interactive curve and transition insertion facility. Design checks are performed as per the guidelines and user can fix the alignment with just a couple of clicks. Real time update of plan facilitates the user to ascertain best alignment.

Vertical alignment design

For smooth transit of vehicles at grade change of a road, vertical alignment design plays a vital role in road design depending on the design speed the curve length changes. AutoRoads has been designed keeping this mind and gives the user a powerful facility for vertical design. User also has provision to design the vertical curve at bridge and CD structure location as per the guidelines user can secede on multiple vertical alignments and then choose the appropriate one for his final road Level



Alignment curve detailing

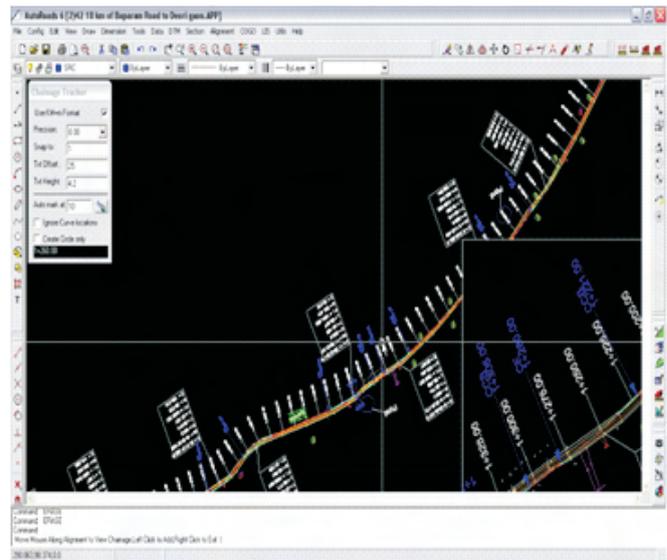
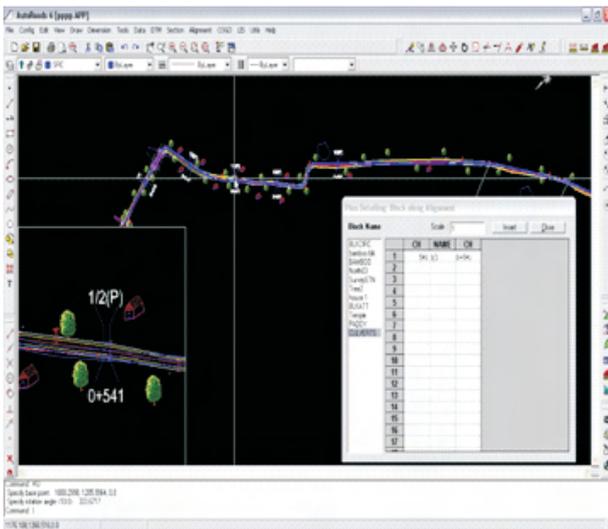
Once the horizontal alignment is designed, the curve detail such as deflection angle, circular radius, curve start chainage, end chainage etc. can be instantaneously displayed on the plan with AutoRoads feature for alignment detailing. In case of design changes, the detailing is automatically updated saving a lot of drafting effort and time.

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Dynamic chainage tracking & marking

Dynamic chainage tracking facility in AutoRoads helps user in locating features such as culverts, bridges etc. easily and there is a facility to mark the chainage at required intervals and curve locations which can be done with a single click. Markings are automatically aligned to the alignment. This particular feature is a real time saver and reduces a lot of drafting effort as well.

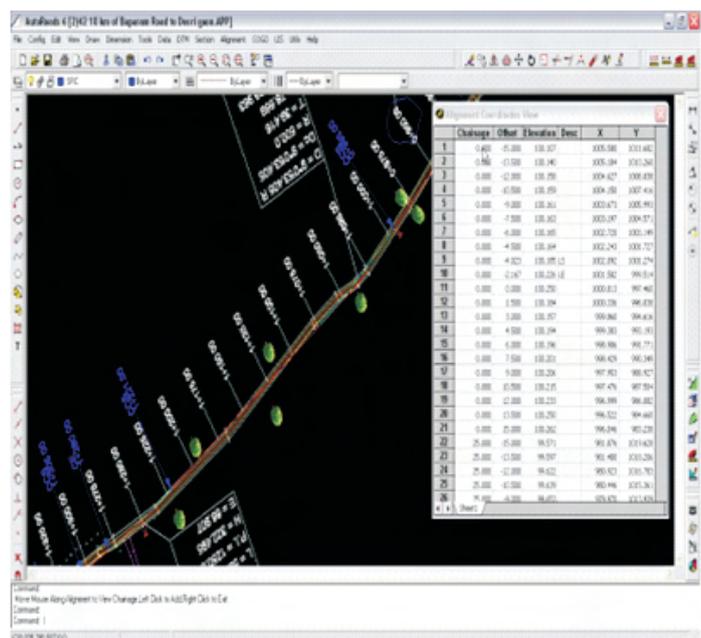


Cross drainage structures in plan

Existing and proposed cross drainage structures can be inserted on the plan automatically by specifying the chainage of the CD location. User has the facility to add attribute information along with the structure which will be reflected on plan. Symbols are user defined, providing you with the desired flexibility.

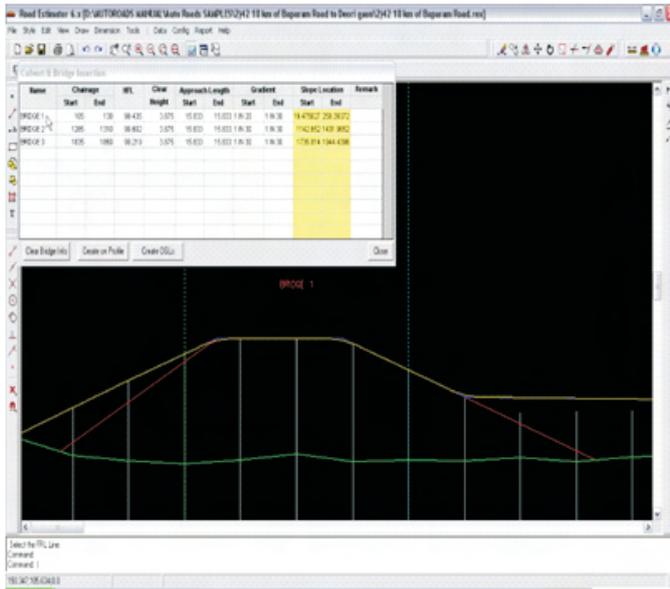
Seamless dataflow of coordinates to OGL

AutoRoads has powerful tool for conversion of coordinate data into other formats of data like OGL (Chainage, Offset, RL) data. User can utilize this facility at different stages of design and quantity calculations.



AutoRoads 6 Features

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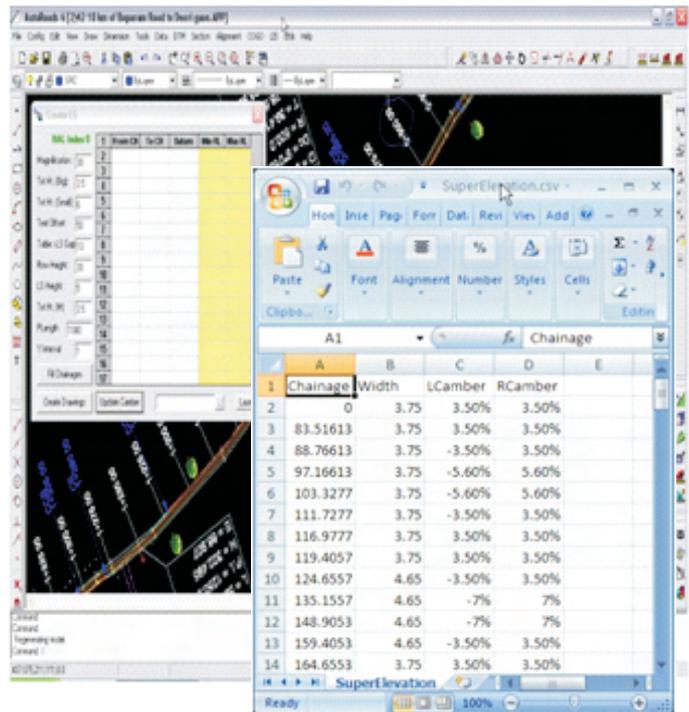


Bridge and CD structure in vertical design

For the smooth transit of vehicles at bridge location and CD structures the design level at these points has to be correlated accurately with the vertical alignment with appropriate grading. AutoRoads has inbuilt facility to design the grades at such locations which makes it easy for the user during design stage to ascertain these locations.

Super elevation data generation

Super Elevation in curve location is another important parameter for a road design to overcome the centrifugal forces in curve locations as per the design speed and horizontal curve design. AutoRoads calculates the super elevation and camber (cross slope) at different chainage and produces the report in usable data format automatically.



PCC consideration Widening and upgrading

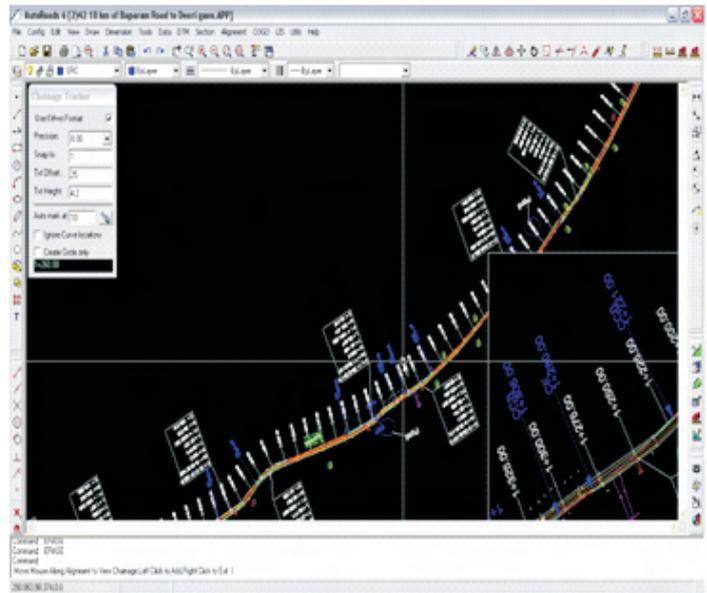
Profile Corrective course (PCC) is the important factors to the designers and constructors during widening and upgradation of existing roads. Designers are required to adopt this from the beginning stage of design itself since the PCC effects the project cost considerably. AutoRoads has inbuilt capabilities to insert profile corrective course and calculate the PCC quantity automatically. AutoRoads has various options for PCC consideration involving edge levels, edge offsets and PCC layers.

AutoRoads 6 Features

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Flexibility of data modification any instance

In some cases, modification in initial design becomes necessary. Keeping this thing in mind, AutoRoads has been architected in such a fashion that design changes at any stage can be performed seamlessly and user do not have to struggle from the scratch. Updates to the design is reflected immediately.



Multiple alignments

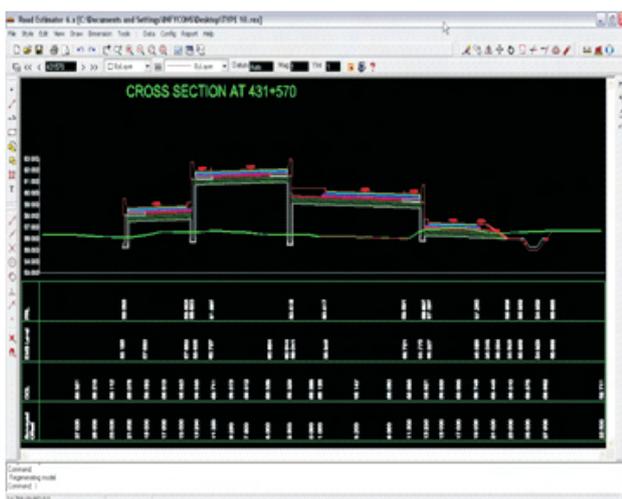
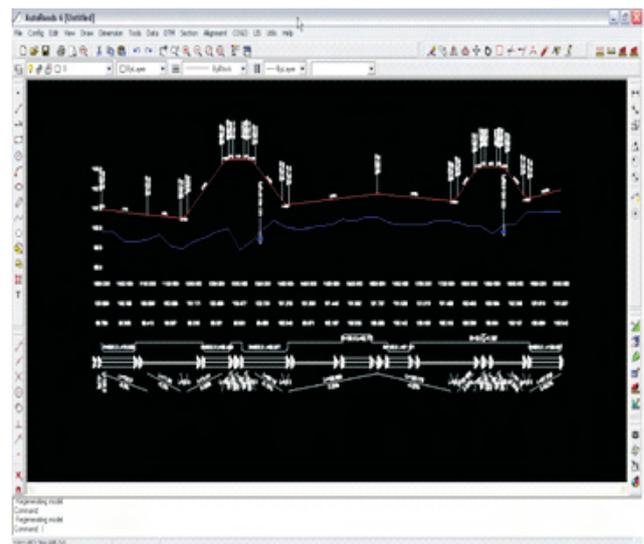
AutoRoads supports design of multiple alignments for a project. This option can be used to optimize the design based on various alignment options. Switching from current alignment to other is seamless.

Auto creation of Proposed Road Level

AutoRoads is capable of analyzing the Original Ground Condition and propose an appropriate final level (also known as target level). This helps the user in creating an optimum design.

Auto creation of Longitudinal profile

Considering the Plan and cross section AutoRoads can create Longitudinal profile for the alignment as per the requirement of the project various details like vertical profile, super elevation details, horizontal curve details, vertical curve details etc. The process of profile creation is automatic.



Retaining walls, Breast walls, Gabions & Drain

Various slope stability structures such as Retaining walls, Breast walls, gabion walls can be easily defined in AutoRoads. AutoRoads also features powerful drain definition utility with which conventional & unconventional drains can be easily defined. Individual quantity for structures are automatically generated.

AutoRoads 6 Features

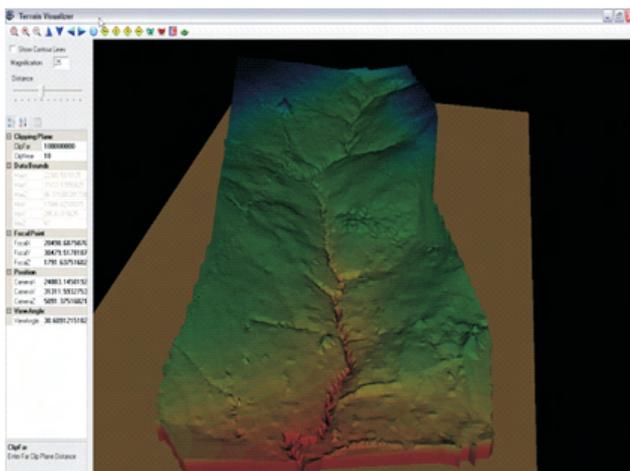
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Auto calculation of Earthwork Quantities

The most important thing of any project is DPR and it decides the success of the project all the quantities required for cost estimation like earthwork, Design layers, shoulders, median fill, PCC are calculated automatically and AutoRoads has utility to automatically update these quantities to Excel and other formats. Autoroads also calculates the Approach quantities of the bridges and presents them in separate sheet for bridge quantities estimation.

Bridge and CD structure consideration during quantity report

When cross drainage structures such as Bridge and Culverts are considered in alignment, Quantities for earthwork and base layer needs to take the same into account and quantity should be removed from the Road earthwork and Design layer Quantities. AutoRoads remove these type of quantities automatically and present them under separate quantities.



3D Visualizer

3D view is the very useful to visualize the terrain of the road or landscape. Autoroads comes with powerful 3D visualizer which enhances the perspective view of the design for presentation. One can visualize the terrain in any orientation and magnification.

Various utilities for final output

Autoroads features many tools and utilities for simplifying the process and reducing the overall time and increases the clarity of the final output whether it is a plan, profile or final report.

