

December 14, 1927.

MEMORANDUM for Members of the National Capital Park and
Planning Commission.

SUBJECT: Thoroughfare Plan.

1. There is submitted herewith for your information the report of Mr. Tilton on the "Thoroughfare System and Traffic Circulation Problems of Washington".
2. As forwarded to you this report includes prints of only a part of the plates referred to in Mr. Tilton's report, Originals of the other plates are in the office but it has not been considered necessary to reproduce them for distribution.
3. Mr. Tilton's report is receiving consideration by the Commission's sub-committee, the results to be presented at Commission Meetings from time to time.

Carey H. Brown,
Engineer.

HARLAND BARTHOLOMEW AND ASSOCIATES

Saint Louis, Missouri.

317 North Eleventh Street

November 15, 1927.

National Capital Park and
Planning Commission,
Washington, D. C.

Gentlemen:

In behalf of your consultants I am pleased to present this final report on a Major Thoroughfare System for Washington. Part One, dealing primarily with regional highways, was submitted in December, 1926. Part Two, relating to District thoroughfares and needed improvements, was submitted in June. These early reports have been revised and extended. Part Three, in which problems of traffic flow and management are considered in their relationship to street development, has been added. The whole report has been summarized in a program of proposed improvements, Part Four.

The complete report is now ready for review and acceptance by the Commission. The drafting of final maps for publication may proceed as soon as the report and plans have been approved.

Respectfully submitted,

L. D. TILTON.

LDT:AMW

A REPORT UPON
A MAJOR THOROUGHFARE SYSTEM
AND
TRAFFIC CIRCULATION PROBLEMS
OF
WASHINGTON

L. Deming Milton
of
Harland Bartholomew and Associates
Saint Louis

National Capital Park and
Planning Commission
1 9 2 7

Thos. C. Jeffers.

INTRODUCTION.

This is to report on a system of major thoroughfares for the District of Columbia and the region around the National Capital. It embodies the results of studies to date, some of which are incomplete due to the difficulty of securing proper information and the lack of time to put upon necessary field work and the many problems of detail. Enough has been done, however, to formulate a major thoroughfare plan and a correlated program of improvements. These are submitted as a basis for discussion and eventual approval by the Commission.

The objective of the major thoroughfare plan and report is the improvement of a comprehensive system of wide, direct arteries in which the vital traffic flow of the community may freely move. To develop such a system requires an acceptance of the principle that all streets are not of equal importance in the circulation scheme, that some are of much greater value to the community than others and that it is advantageous to select these community routes and work consistently upon them until they function as a system. This requires the adoption of an official thoroughfare plan and formulation of the policies required for the effective execution of that plan.

The need in Washington and vicinity is for the promotion of the major thoroughfare idea, if it may be so called. If streets of this type can be set apart from all others in the popular mind and in the minds of officials, a notable step will be taken toward the creation of a more perfect capital city. Franchises for car or bus routes cannot be discussed intelligently without a major thoroughfare plan. Traffic regulations, such as those restricting the movement of vehicles of certain classes to marked routes, must be related to the major thoroughfare system. Street lighting plans, traffic signals, paving specifications, school and playground sites, location of neighborhood store centers, fire and police stations, tree planting policies, even deed restrictions on private property, all are dependent upon a designation of major thoroughfares. A subdivider must move somewhat in the dark if he does not know where the thoroughfares of the district in which he is operating are or will be. It will be increasingly helpful to all Washington to have an official major thoroughfare plan. The plan should be extended as far as is necessary to guide and control the future planning of streets and highways in the present undeveloped sections of Maryland and Virginia adjoining the District of Columbia.

The first part of this report deals with the highway problems of the Washington region. The importance of this phase of the study deserves emphasis. It is chiefly in the environs of the city that the full value of comprehensive planning may be demonstrated. New growth is constantly taking place here and can be directed along right lines if an effective administrative machinery

can be set up. The technical work of planning new highways, of designating their widths, of arranging them for the safe and expeditious movement of traffic at intersections is not the most difficult phase of this problem. The hard job is to get such plans carried out. The more far-sighted and sensible they are, the greater the difficulties. It often seems easier to secure acceptance of a plan for the widening of a street, involving the destruction of buildings and the expenditure of large sums, than to get action on a plan to lay out a new street which will not have to be widened.

There is a notable field of opportunity in Maryland and Virginia for the creation of model suburban communities convenient to the National Capital and reflecting its superlative character. The basis of such new development work is the regional highway plan, putting these communities and outlying centers closely in touch with the city. A first-class system of wide street highways in the metropolitan district will be as much as anything else to counteract the tenement building and overcrowding of land in the heart of Washington.

The second phase of the report deals with District highway problems. Here opportunities for preventive planning are limited. The areas of the District of Columbia in which new streets may be laid out according to modern principles have been reduced to a few hundreds of acres. In fact all vacant land in the district available for building purposes totals only 7980 acres.

The highway studies of this second part of the report therefore, have to do largely with corrective measures. The faults of the existing circulation scheme are pointed out and plans are introduced for their elimination wherever possible. In several instances, such as that of providing for cross city traffic between Georgetown and Woodley Park, a solution of the circulation problem probably cannot be found. Matters have already gone too far. A well-studied major street plan in earlier days would have prevented development of the conditions which are now so troublesome. Throughout the entire District there are multiplied evidences of the need of a master thoroughfare plan and convincing demonstrations of the futility of attempting to build a great city in a motor age without such a plan.

The third section of the report is devoted largely to a consideration of problems of vehicular flow upon the streets. Especial note is made of conditions in the central part of the city where traffic tends to concentrate and where slight deficiencies in the layout and improvement of streets throw traffic streams out of line cause delays and generally have effects far out of proportion to their size or the cost of removing them.

In this section attention will be called to the relationship between thoroughfare planning and traffic control. It is inconceivable that an effort will be made to develop a city-wide

system of major highways without a like effort to secure the most efficient use of these highways through correlated traffic regulations. Of what value is it to open and pave a commodious straight, traffic artery only to see the flow of vehicles upon it impeded by improperly timed signals and ill considered restrictions? It is one of the functions of a major thoroughfare plan to enable vehicles to move quickly and freely from one part of the city to another. The improvement of these streets and the management of traffic on them should be with this end in view.

Part Four of the report embodies the conclusions and results of highway studies to date. There is presented for consideration a program of improvements based upon the thoroughfare plan. This program is not all-inclusive for it is realized that financial limitations prevent doing more than a fraction of the work that seems to be needed to give the District an acceptable system of modern traffic arteries. Enough is indicated, however, to serve as a basis for a recommendation to proper authorities. The execution of even a small part of such a program is a step toward correction of the major faults of the circulation system. This work if organized annually in accordance with the major street plan will be a proper accompaniment of the preventive planning which is going on all the time. The effects of these endeavors will soon show in the capital.

Plate One.

THE WASHINGTON REGION AND OTHER CENTERS OF
POPULATION AND ATTRACTION.

A determination of the Washington zone of influence is a prerequisite of effective regional planning. This may be said to cover the entire nation, for whatever the capital city does or does not do in ordering an appropriate physical development will be noted from coast to coast. In a more restricted sense, however, the influence of Washington may be localized, as shown in Plate One. There is commutation daily between Washington and Philadelphia, and Baltimore, and sight-seeing trips out of the capital extend to Richmond, Harpers Ferry, Gettysburg, and the proposed Shenandoah National Park.

For planning purposes, however, a smaller territory must be considered. The region most responsive to influences of the dominant center is well included in Prince Georges and Montgomery Counties, Maryland, and Arlington and Fairfax Counties, Virginia. This embraces a territory of 1,539 square miles, with an outer boundary having a radius of approximately twenty miles from the White House. Plate One shows the boundaries of this region.

Plate Two.

JURISDICTIONAL BOUNDARIES.

Plate Two indicates broadly the Washington region and the boundaries of the various governmental units therein. The problem of carrying out comprehensive plans for the capital city has two phases. The control of physical development within the District of Columbia, especially the improvement of streets, has been simplified by adoption of an official highway plan. The entire territory of the District is subject to the requirements of this plan.

Beyond the district line however, there are numerous separate agencies having some measure of control over highway development. In Maryland there are the two counties, Montgomery and Prince Georges, the Washington Suburban Sanitary District and the villages and towns of Chevy Chase, Garret Park, Kensington, Takoma Park, Hyattsville, Bladensburg, Mt. Ranier, Capitol Heights, etc. In Virginia there are two counties, Arlington and Fairfax, and such incorporated places as Alexandria and Potomac.

Recently the legislature of Maryland, acting upon the requests of residents of Montgomery and Prince Georges Counties for authority to assist in the proper development of the Washington region, created a Maryland-Washington Metropolitan District for planning purposes and purchase and development of park areas. The boundaries of this district are shown on the map opposite.

The setting up of this cooperative planning agency in Maryland was a notable step toward placing the region under proper control. A similar type of planning administration should be sought in Virginia. There are indications that one will be created by the next legislature. This will give the National Capital the assurance of a much greater measure of coordinated planning in the adjoining states than would be possible otherwise.

The vital importance of securing an effective administration of the regional plan scarcely requires further emphasis. The plan itself, regardless of its merit, is of little value unless it becomes a useful instrument in preventing and correcting the blunders and stupidities of haphazard suburban development.

should come later. The concern now is primarily with the system or arrangement of the principal arteries serving the region.

Plate Eight.

HIGHWAY DIAGRAM.

Regional growth has its inception in the formation of suburban nuclei. Experience shows that those nuclei spring up because of certain physical improvements, such as the construction of a railroad or interurban line, or a new highway, all of which are transportation factors subject to planning and control.

Plate 8 is a diagrammatic translation of the fundamental highway needs of the region. Section A is a scheme of principal and secondary radials arranged so as to provide proper service to the territory tributary to Washington. Section B is a scheme of intercenter routes and cross connections, with certain by-pass routes emphasized. Section C is a study of existing subcenters within the region and a forecast of those which may be expected when the full highway plan is developed. This diagram expresses in one form the theory of regional development through control of nuclei which was briefly outlined above. Section D is a composite study of open spaces and traffic-ways of all classes.

An application of the general principles illustrated by the diagrams has been made and these maps which will be presented later represent the findings to date with respect to highway needs and the best means of meeting them.

PRINCIPAL RADIAL ROUTES.

For proper vehicular circulation there are required five main types of highways:

- 1 - Radials to the dominant center.
- 2 - Direct connections between subcenters, or intercenter routes.
- 3 - Bypass routes around points of possible congestion.
- 4 - Gross routes or interchange routes.
- 5 - Minor streets which make up the intermediate pattern between those above.

The highway types listed embrace all which are available for mixed traffic or general vehicular movement. Interwoven with these and of great service in the general circulation scheme are the specialized pleasure routes upon which the flow is restricted to lighter, faster moving vehicles. The principles which are followed in the selection of routes of the latter class require more extended treatment than can be given them here. The report on parkways will cover such matters.

The system of traffic ways under consideration now is that which will be devoted to the daily utilitarian service of the community. These routes will carry the busses and street cars, the loads of food, milk, ice, building material, fuel, and other necessities, in addition to the normal flow of so-called pleasure cars. For purposes of expediting movement there may be need of separating traffic according to speed or character but the principal routes, whether represented by one street or two or three, will be of the types listed above:

Plate Nine is a plan of the principal radial routes. The major lines are twelve in number. They have all been brought into the center of the city with regard for the ultimate effect upon congestion. An effort has been made to prevent the dumping of traffic from several sectors upon one popular route. The arrangement proposed will tend to favor an equable distribution of the traffic flow within the line of Florida Avenue. The L'Enfant street system here is admirably adapted to a general diffusion of traffic. Traffic counts which have been taken reveal this plainly.

This plan and others related to it will be described as briefly as possible here in order to direct attention to typical planning problems encountered in the highway survey.

MASSACHUSETTS AVENUE is a dominant line. Great Falls is its local objective but the highway is designed to serve Potomac, Darnestown, Dawsonville, Beallsville, Dickerson, and by a connection with Buckeystown Turnpike across the Monocacy River reach

Frederick. The distance from Frederick to the capital over this route would be forty-five miles.

CONNECTICUT AVENUE is a second route northwest toward Frederick serving the communities of Sonoma, Rockville, Poolesville, Gaithersburg, and Urbana. The distance to Frederick is forty-one miles, but traffic flow over this line would be somewhat handicapped by the necessity of passing through or around several well settled communities. Further refinement of these route studies will be made for the purpose of suggesting improvements in grade, increase of highway capacity and proper entry into or passage around subsidiary centers.

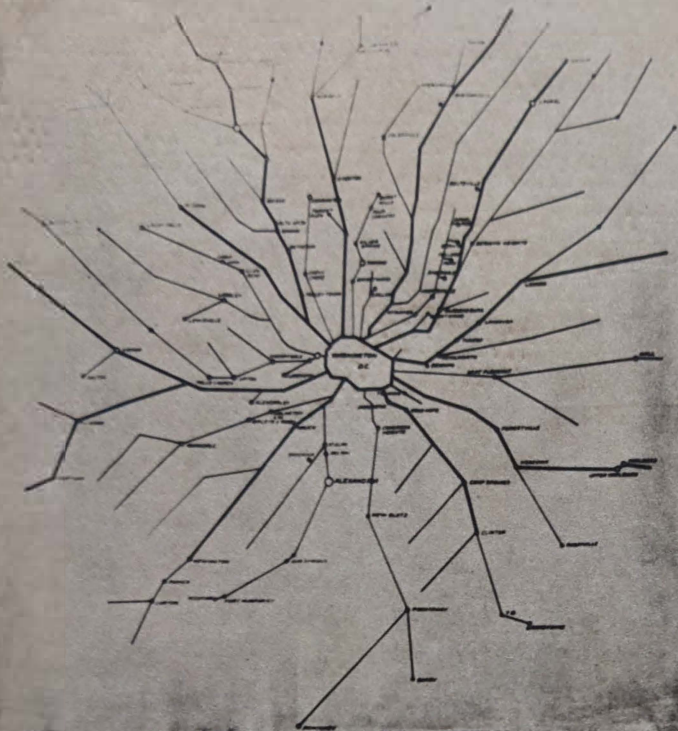
Two features of the route as shown are recommendations for its relocation. The ultimate route should cross the Chevy Chase Country Club grounds from the intersection of the Rockville Road and Bradley Lane to a junction with Magnolia Parkway which enters Chevy Chase Circle. Planning authorities of the region should be prepared to execute this plan when the Country Club finds it advisable to give up its course in Chevy Chase. The second change is at Alta Vista where the Georgetown and Rockville Electric leaves the highway. It is proposed that the main road be opened along the railroad rather than follow the line of the present Rockville Road. In this location the highway will be in better location for service to a tributary area of favorable terrain, will do less injury to possible park acquisitions along Rock Creek and the present Rockville Road, and can be improved at adequate width for less perhaps than it would cost to widen the right-of-way of the existing Rockville Road.

SIXTEENTH STREET is proposed as the north route to the Washington region. The principal improvement shown on the plan is the extension of Sixteenth Street north of the District line to a connection with the Brookville Road. This can be made with little difficulty and should have early consideration by planning authorities outside the District.

NORTH CAPITOL STREET with Michigan Avenue and 14th Street, N.E., is proposed as one of the two new major routes to Baltimore. A cut-off is called for from North Capitol and Douglas Street along the west line of Glenwood Cemetery. From the District line north, a new wide right-of-way of easy gradient is shown. North of Fairland this right-of-way is proposed parallel to Columbia Road. The latter is a ridge road with considerable development that may interfere with the opening of a major highway of suitable width.

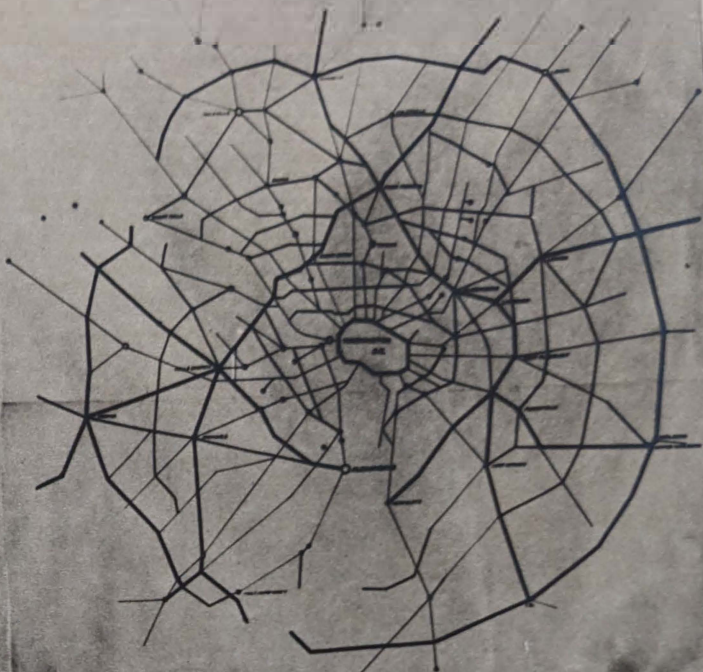
In such cases, considering future traffic requirements, it is undoubtedly better to plan and make every effort to secure a new right-of-way which can be controlled as to grade and alignment from the start. The time will come when it will be found advantageous to have every major intercity or overland route composed of two or three parallel continuous highways. If plans showing the need of such parallel streets are not presented early, the platting of unrelated subdivisions on either side of the existing highway will soon

RADIALS
WASHINGTON REGION
REGIONAL HIGHWAY DIAGRAM



CONNECTIONS
WASHINGTON REGION
REGIONAL HIGHWAY DIAGRAM

1928



OPEN SPACES
WASHINGTON REGION
REGIONAL HIGHWAY DIAGRAM

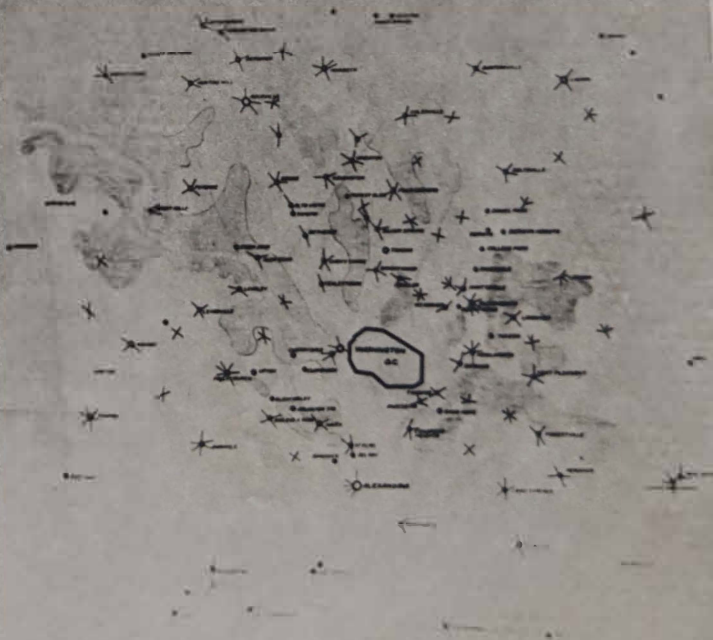
1926

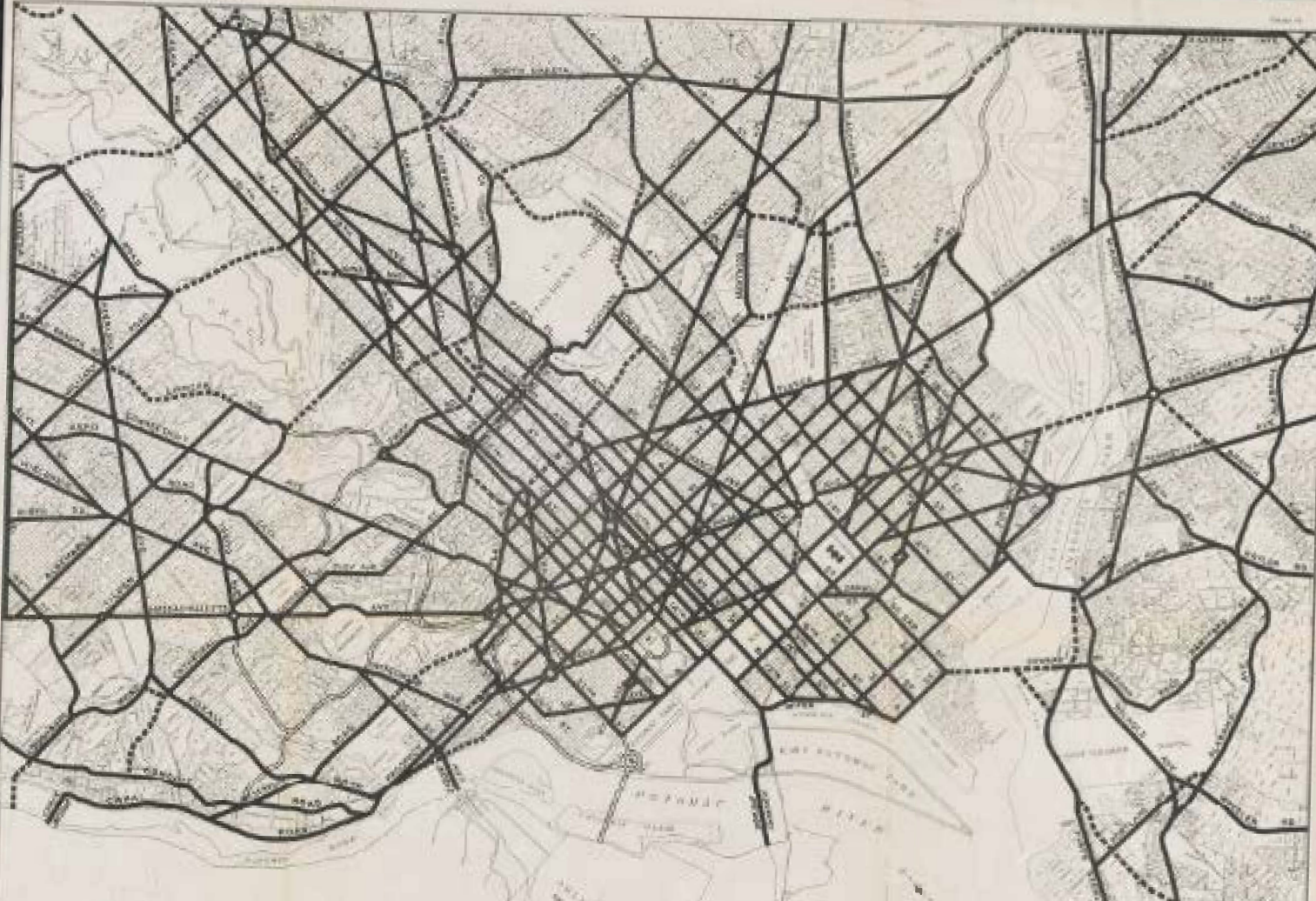


CENTERS
WASHINGTON REGION
REGIONAL HIGHWAY DIAGRAM

Scale in Miles

1925








THOROUGHFARE PLAN DISTRICT OF COLUMBIA

NATIONAL CAPITAL PARK AND PLANNING COMMISSION -
LIEUT. COL. U.S. GRANT 2ND. EXCLUSIVE AVE. DESIGNING OFFICER
MAJOR CAREY H. DODD, ENGINEER
CHARLES W. ELIOT 2ND., CITY PLANNER

SEPTEMBER - 1920

HARLAND BARTHOLOMEW AND ASSOCIATES, CONSULTANTS

- LEGEND -

-  ACCEPTED ROUTES
-  ROUTES UNDER STUDY
-  PARKWAY ROUTES

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1920